



Accelerating the Economic Transformation of Perlis

Strategic Development Plan for Perlis

Project Briefs

STRATEGIC DEVELOPMENT PLAN FOR PERLIS

**ACCELERATING THE ECONOMIC
TRANSFORMATION OF PERLIS**

Project Briefs

To:



Prepared by:

PE Research Sdn Bhd

In association with:

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Strategic Development Plan for Perlis
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TABLE OF CONTENTS

PROJECT BRIEFS

GLOSSARY OF ACRONYMS vi

A. AGRI-FOOD

AG1	Scaling Up and Strengthening Productivity of Padi Farming in MADA (Perlis) Areas	A-1
AG2	Increasing Farm Income of Rice Farmers in Non-MADA Padi Areas through Crop Integration during the Off-season	A-6
AG3	Cultivation of Fragrant Rice in Non-Granary Padi Areas.....	A-12
AG4	Production of Certified Padi Seeds in Mini-Granary of Perlis.....	A-17
AG5	Development of the Fruit Cluster, with Emphasis on Mango and Jackfruit	A-22
AG5a	Tropical Seed Industry Development Centre	A-27
AG6	Development of a Dairy Cluster	A-35
AG7	Establishment of Aquaculture Industrial Zone in West Diversion Canal	A-45
AG8	<i>Kampung</i> Chicken Breeder Farming	A-49
AG9	Development of the Herbal Cluster in Perlis as Flagship Herbal Products.....	A-53
AG10	Establishment of a Marine Finfish Seed Production Zone	A-58
AG11	Establishment of a Marine Shrimp Production Zone	A-62

B. HALAL MANUFACTURING

HM1	Halal Food Park	B-1
HM2	Health Beverages, Functional Foods, Milk & Juices Processing	B-7
HM3	Halal Snack Foods & Sauces Processing.....	B-13
HM4	Halal Gelatin Manufacturing	B-19
HM5	Halal Meat Processing	B-24

C. AGRI-FOOD HIGHTECH FARMING

HT1	Agri-Bio Tech Park (Phase 1 & Phase 2).....	C-1
HT2	Promoting Upstream Mushrooms Farming for High Value-Added Halal Downstream Processing	C-5
HT3	Establishment of a Spirulina Farm.....	C-11
HT4	EBN Integrated Processing Centre with Swiftlet House Programme	C-16

D. INDUSTRIAL DEVELOPMENT PARK

IP1	Pauh-Putra Technology Park (Phase 1 & Phase 2).....	D-1
IP2	Renewable Energy- Solar Farm	D-6
IP3	Bio-Technology Processing Plant from Upstream Raw Materials	D-11

Strategic Development Plan for Perlis
Accelerating the Economic Transformation of Perlis

IP4	Rubber Processing Industrial Cluster (RPIC) Development.....	D-17
IP5	Minerals & Resources Mining	D-22
IP6	Plastic to Fuel Technologies.....	D-26

E. TOURISM

TM1	Transforming Sungai Batu Pahat into a Major Family Fun-Tourism Destination and Privatising these Facilities	E-1
TM2	Development of the Agro-Tourism Corridor as Scenic Route.....	E-6
TM3	Setting Up of Small Scale Tourism Enterprises and Incubators to Produce Handicrafts for Langkawi Tourism Market.....	E-12
TM4	Setting up of the Wang Kelian Tourism Town	E-17
TM5	Establishment of Kuala Perlis Tourism Complex	E-21
TM6	Upgrading of Tourist Facilities at Perlis State Park and Gua Kelam for Group Based Activities	E-25
TM7	Development of Recreational Fishing Centre	E-29
TM8	Development of a high-end Perlis Hillside Resort & Spa and 21st Century Village	E-33
TM9	Organisation of Signature Tourism Events of International Standards	E-37
TM10	Perlis River Promenade Development.....	E-41

F. EDUCATION & TRAINING

ED1	Establishing a Reputed International University Branch.....	F-1
ED2	Strengthening Industry-Academia Collaboration for Socio-economic Benefits.....	F-4
ED3	Training and Human Resource Development	F-7
ED4	Establishing an Agro and Technology University Branch Faculty.....	F-11

G. TRADING & SERVICES

TS1	Free Industrial Zone	G-1
TS2	ICD and Its Future Expansions.....	G-5
TS3	Wholesale & Retail Zone	G-10

H. MULTI-PURPOSE MARITIME TERMINAL

MT1	New Fish Landing Point at Kuala Perlis Maritime Terminal to be a Fisheries Transshipment Hub.....	H-1
MT2	Boat Building & Repair Base	H-5

I. ENVIRONMENT & UTILITIES

EU1	Flood Mitigation Scheme	I-1
EU2	Central Sewerage System.....	I-3
EU3	Solid Waste Disposal Facilities.....	I-5

EU4	Natural Gas Service Area Extension	I-7
EU5	Water Supply System.....	I-9
EU6	Electrical Distribution System	I-11

J. INFORMATION TECHNOLOGY

IT1	Perlis MSC EduNet	J-1
IT2	Perlis MSC Technology/ICT Development Programme	J-6

K. HIGHWAY LINK

HW1	New Expressway (Alor Setar-Kangar-Padang Besar).....	K-1
HW2	New Highway (Kuala Perlis-Satun).....	K-5

L. URBAN TRANSPORT

UT1	Bus Rapid Transit (Arau-Kuala Perlis-Kangar)	L-1
UT2	Ring Road for Kangar.....	L-5
UT3	Integrated Transport Terminal (Kangar Sentral)	L-9
UT4	Upgrading Kaki Bukit-Wang Kelian Road	L-12

M. URBAN DEVELOPMENT

UD1	Kangar Maya Smart City	M-1
UD2	Padang Besar Border Town	M-6
UD3	Chuping New Township	M-11
UD4	Pauh-Putra Edu-City	M-17
UD5	Kuala Perlis Maritime Terminal.....	M-23

N. IMPLEMENTATION PROGRAMME & POLICIES

PRG1	Perlis Malay Reserve Land Trust Initiative.....	N-1
PRG2	Perlis-Songkhla/ Satun Business & Trade Association	N-3
PRG3	Squatter Relocation Programme	N-6

Glossary of Acronyms

AIZ	Aquaculture Industry Zone	ICD	Coordination Committee
ADSL	Asymmetric Digital Subscriber Line	ICT	Inland Container Depot
AUCMS	Alliance University College of Medical Sciences	ILP	Information and Communication Technologies
AVA	Alliance University College of Medical Sciences	IMTGT	Institut Latihan Perindustrian
BCIC	Agri-Food and Veterinary Authority	IMF	Indonesia-Malaysia-Thailand Growth Triangle
CAPEX	Bumiputera Commercial and Industrial Community	ISO	International Monetary Fund
CPC	Capital Expenditure	IPC	International Organization for Standardization
CPPC	Collection, Processing Centres	ITT	Integrated Processing Centre
CAGR	Collection and Processing Centres	IWK	Integrated Transport Terminal
CIQ	Compound Annual Rate Growth	JAKIM	Indah Water Konsortium Sdn Bhd
CUCMS	Customs, Immigration and Quarantine	JAS	Jabatan Kemajuan Islam Malaysia
CFZ	Cyberjaya University College of Medical Sciences	JBA	Jabatan Alam Sekitar
DE	Cyberjaya Flagship Zone	JMG	Jabatan Bekalan Air
DOA	Development Expenditure	JPS	Geoscience Department Malaysia
DOC	Department of Agriculture	JKR	Jabatan Pengaliran dan Saliran
DoF	Day-old-chicks	JPBD	Jabatan Kerja Raya
DVS	Department of Fisheries	JPP	Jabatan Perancangan Bandar dan Desa
DOE,	Department of Veterinary Services	KEMAS	Jabatan Perkhidmatan Pembedungan
DID	Department of Environment	KLIA	Jabatan Kemajuan Masyarakat
EBN	Department of Irrigation and Drainage	KGFP	Kuala Lumpur International Airport
EIA,	Edible Bird Nest	KPI	Kilang Gula Felda Perlis
EPP	Environmental Impact Assessment	KKR	Key Performance Indicator
ETP	Entry Point Project	KPKT	Kementerian Keaja Raya
ERL	Economic Transformation Programme	LBT	Kementerian Perumahan dan Kerajaan Tempatan
FAMA	Express Rail Link	LCP	Lekir Bulk Terminal
FMD	Federal Agriculture Marketing Authority	LKIM	Laporan Cadangan Pemaju
FIT	Foot and Mouth Disease	LUCCT	Lembaga Kemajuan Ikan Malaysia
FIZ	Free Independent Travellers	LME	Limkokwing University College of Creative Technology
FCZ	Free Industrial Zone	LMT	Liquid Milk Equivalent
FMCG	Free Commercial Zone	LLM	Lumut Maritime Terminal
GAP	Fast Moving Consumer Goods	LTE	Lembaga Lebuhraya Malaysia
GLC	Good Agriculture Practices	LPP	Long Term Evolution
GMP	Government-Linked Companies	MADA	Lembaga Pertubuhan Peladang
GMSB	Good Manufacturing Practice	MARDI	Lembaga Kemajuan Pertanian Muda
HACCP	Gas Malaysia Sdn Bhd	MDeC	Malaysia Agriculture Research and Development Institute
HSSB	Hazard Analysis Critical Control Points		Multimedia Development Corporation
HDC	High Speed Broad Band		
ICC	Halal Development Corporation Implementation and		

MIDA	Malaysian Investment Development Authority	SEZ	Special Economic Zone
ML	Manufacturing Licence	SME	Small and Medium Enterprise
MITI	Ministry of International Trade and Industry	SMIDEC	Small and Medium Industries Development Corporation
MOF	Ministry of Finance	SEDC	State Economic Development Corporation
MOU	Memorandum of Understanding	TPM	Technology Park Malaysia
MOSTI	Ministry of Science, Technology and Innovation	TNB	Tenaga Nasional Berhad
MPK	Majlis Perbandaran Kangar	TM	Telekom Malaysia
MOT	Ministry of Transport	UPEN	Unit Perancang Ekonomi Negeri
MMEA	Malaysian Maritime Enforcement Agency	UNIMAP	Universiti Malaysia Perlis
MMU	Multimedia University	VFR	Visiting Friends and Relatives
MOHE	Ministry of Higher Education Malaysia	UAE' s	United Arab Emirates
MNOs	Mobile Network Operators	UiTM	Universiti Teknologi Mara
MCMC	Malaysian Communication and Multimedia Commission	UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
MRR	Middle Ring Road	TCP/IP	Transmission Control Protocol/ Internet Protocol
MRL	Malay Reserve Land	VOIP	Voice over IP
MSC	Multimedia Super Corridor	APMM	Agensi Penguatkuasaan Maritim Malaysia
NCIA	Northern Corridor Implementation Authority	EPU	Economic Planning Unit
Koridor Utara	Northern Corridor Economic Region	UKAS	Unit Kerjasama Awam Swasta
NSE	North-South Expressway	1MH	1Malaysia Housing Corporation
OECD	Organisation for Economic Co-operation and Development	VCUQ	Virginia Commonwealth University
OE	Operating Expenditure		
OLNOs	Other Local Network Operators		
OPEX	Operational Expenditure		
SPV	Special Purpose Vehicle		
PEMANDU	Performance Management and Delivery Unit		
PPK	Pertubuhan Peladang Kawasan		
PME	Perlis Marine Engineering Sdn Bhd		
PKENPs	Perlis State Economic Development Corporation		
PDRM	Polis DiRaja Malaysia		
PAAB	Pengurusan Aset Air Berhad		
PSDC	Penang State Development Cooperation		
PPIT	Pusat Perkhidmatan Industri Tenusu		
PR1MA	1Malaysia Housing Programme Corporation		
RFID	Radio Frequency Identification		
RPIC	Rubber Processing Industrial Cluster		
RKK	Rancangan Kawasan Khas		
SDP	Strategic Development Plan)		
SRI	Strategic Reform Initiatives		
SPS	Sanitary and Phyto-Sanitary		
ST	Suruhanjaya Tenaga		

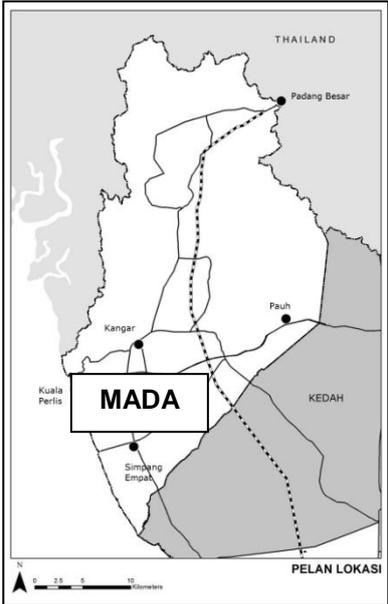
Strategic Development Plan for Perlis
Accelerating the Economic Transformation of Perlis

A. AGRI-FOOD

Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG1	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Scaling up and strengthening the productivity of padi farming in MADA areas			
Project Description	<ul style="list-style-type: none"> • Scaling up and strengthening productivity of padi farming in the MADA Perlis area project has three components i.e. <ol style="list-style-type: none"> 1) Improvement of irrigation intensity in MADA from 18m/ha to 30 m/ha at the rate of 800 ha/ yr. Total area for 10 years is 8,000 ha (50% of MADA Perlis). 2) Establishment of padi mini-estates through consolidation of farms in MADA Perlis about 8,000 ha by 2020. 3) Adoption of new technologies such use of certified and hybrid seeds, and the Clearfield Planting System to eradicate weedy rice (padi angin). • The improvement of irrigation intensity programme will be implemented in phases over 10 years starting 2011. Possible extension of programme to 2030. • Establishment of mini-estate padi with the following objectives: <ul style="list-style-type: none"> - To adopt good farming practices to increase average yields from 4-5 tons/ ha to 8-10 tons/ha - To turn padi farming into a commercial industry that can increase the farming family's annual income to at least RM 24,000 by 2020. - To improve farm management efficiency so that it will be a sustainable industry. - To modernize rice farming industry through the latest technology application • The padi mini-estates will be managed by an SPV under MADA. PPK will be involved in organizing the padi farmer. The project will be supported with an improved seed development programme (inbred and hybrid seeds). • Encourage downstream processing of value-added products. 			
Issues	<ul style="list-style-type: none"> • Small-scale rice farming • Inefficiencies, high production costs, low yields and low incomes of small-scale farmers • Encroachment of urban development into rice cultivation areas in MADA • Low rate of adoption of progressive technology and agronomy practices 			
Rationale	<ul style="list-style-type: none"> • Project will contribute to food security objectives under the National Agro-food Policy 2011-2020. Malaysia is about 70% self-sufficient in rice. In 2009/2010 Malaysia imported about 829,000 metric tons of rice, mainly from Thailand and Vietnam. • MADA is the major producer of rice, producing about 25% of total. • Total physical area under rice cultivation in MADA is 96,558 ha, of which about 16,158 ha (16.73%) is in PERLIS • Padi yield in MADA Perlis is estimated at 4.5 tons/ ha. Although this yield is comparatively higher compared to other granary areas (eg. Krian-Sg Manik 3.0 ton/ha. KADA 3.5 tons/ha, Sabah 3.5 tons/ha and Sarawak 2.0 tons/ha), it is low compared to yields in Sekinchan Selangor (6.0 tons/ha) and Australia (about 9 tons/ ha). • Major issues include low irrigation intensity (average 18 m/ha) and low padi productivity 			

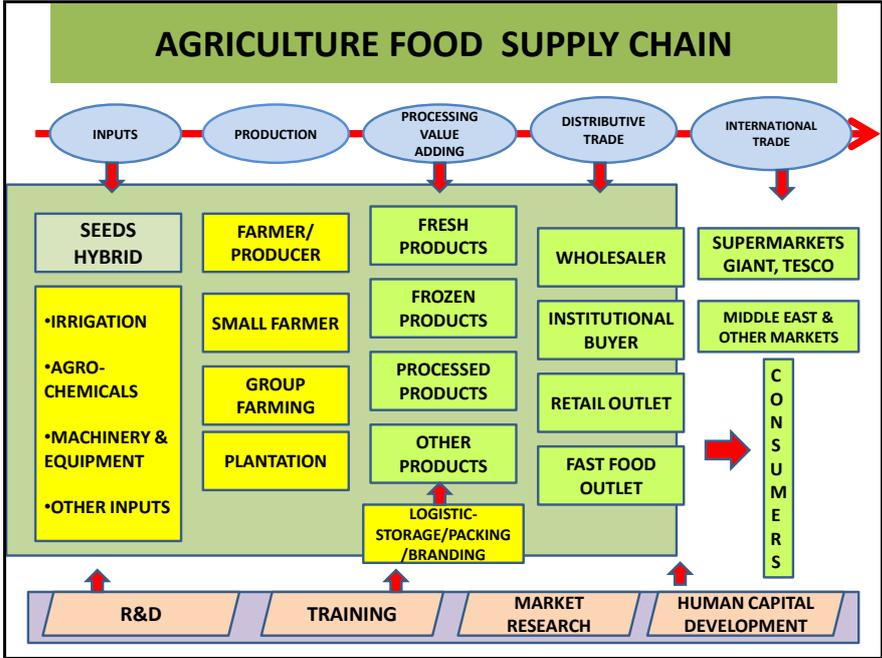
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

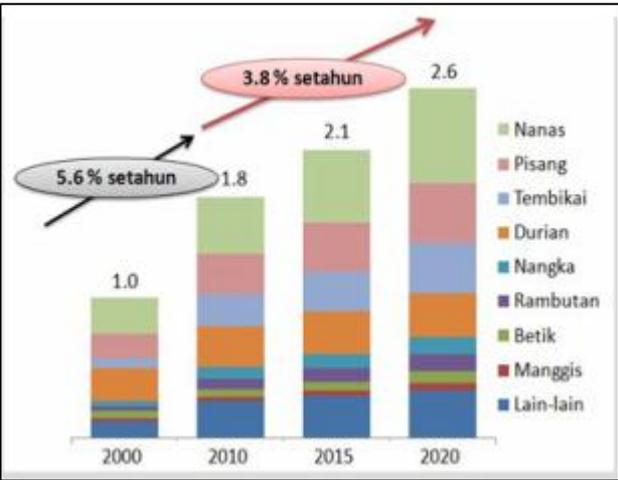
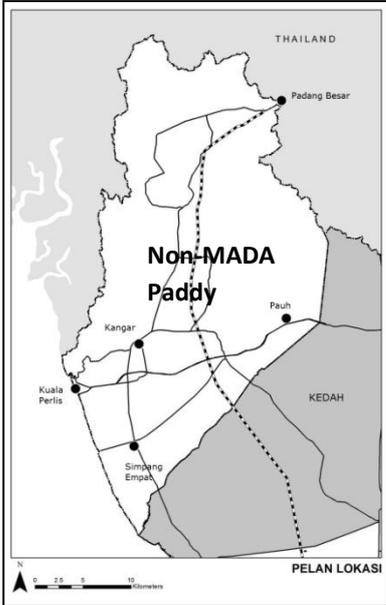
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • The steady growth in demand due to population growth in developing countries drives an expansion in the global rice trade. World rice production is projected to grow at only 3.4 % per year from 2010 to 2019 • World trade as a share of world consumption is very thin, estimated about 7 to 8 % • Production of rice in MADA estimated at 405,000 Mtons, of which 60,750 Mtons (15%) come from Perlis • Market is not an issue since most of the rice produced will be consumed locally as part of import substitution strategy. • The SSL target for rice by 2020 is to be maintained at 70% under the National Agrifood Policy (2011-2020)
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Location: MADA Perlis</p> <p>Land Size: 16,158ha (Average land size about 2.1ha per smallholder)</p> <p>Land Ownership: Smallholders</p> </div> </div>
<p>Depiction</p>	<p>Implementation of MADA Mini Estates</p> <div style="display: grid; grid-template-columns: 1fr 1fr; gap: 10px;">     </div>

Project Benchmark	Murrumbidgee Rice Irrigation Scheme (NSW Australia)				
Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name		Role & Responsibilities	
	Main Agencies	MADA		NA	
	Other Agencies	1. DOA 2. MARDI		<ul style="list-style-type: none"> • Production Certified Padi Seeds • R&D on improved padi seeds (hybrid seeds, weedicide resistant seeds, etc) 	
	Private Sector	1. SPV 2. Pertubuhan Peladang Kawasan (PPK)		<ul style="list-style-type: none"> • Management of padi estates • Organisation of farmers 	
BERNAS		Marketing of Padi			
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> • Sale of padi seeds • Sale of padi • Sale of rice 			
	Operating Expenditures Description	<ul style="list-style-type: none"> • Land preparation • Padi seeds • Planting 	<ul style="list-style-type: none"> • Weeding • Fertilizer • Harvesting 		
	Capital Expenditures Description	Total funding for MADA from public funding is estimated at RM 565 million, of which RM 485 million is for irrigation intensification (construction of tertiary canals and drainage system and farm roads) and RM 80 million for incentives to farmers who are willing to participate in land consolidation.			
	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Cumulative Area for irrigation intensification (Ha)	800	2,400	3,200	5,600
	Area for Padi mini-estate	800	2,400	3,200	5,600
	Production (000' MT/year)	129	139	149	180
	Estimated CAPEX (RM million)	119.5	130	-	-
	Estimated OPEX (RM million)	0.5	-	-	-
	Investments / Funding Sources	Investments (RM million)			
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
Development Expenditure / CAPEX		239.5	10	100	0
Operating Expenditure	0.5	-	-	-	

<p>Preliminary Business Model</p>	<ul style="list-style-type: none">• The padi estates will be implemented based on 3 models:<ol style="list-style-type: none">1) Management by an SPV under MADA2) Management by PPK with farmers as shareholders3) Management by private sector with land lease and rebate to farmers• Padi estates will be managed either by Subsidiary body under MADA, PPK or private sector• Establishing a Rice Estate must have the approval from the said PPK Board of Directors.• PPK must provide the Rice Estate implementation budget in the PPK Service Plan.• Credit facilities must be provided by PPK/ Agrobank in accordance to the Farm Production Credit Guide.• The minimum size of the Rice Estate is 40 hectares/project.• In implementing the Rice Estate, an integrated approach among MADA/LPP and the related agencies must be emphasized.
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Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG2	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Increasing farm income of rice farmers in non-MADA padi areas through crop integration during the off-season with emphasis on watermelon and sweet corn			
Project Description	<ul style="list-style-type: none"> The project involves increasing farmers income through crop diversification during the off-season through the cultivation of watermelon and sweet corn These two crops are chosen because of their suitability in terms of soil and climate as off-season crops in padi areas in Perlis and due to the high demand for these fruits both locally and for export. A dedicated supply chain involving anchor companies will be established to ensure project sustainability and an improved marketing system. <div style="text-align: center;">  <p>The diagram illustrates the 'AGRICULTURE FOOD SUPPLY CHAIN'. At the top, five blue ovals represent the main stages: INPUTS, PRODUCTION, PROCESSING VALUE ADDING, DISTRIBUTIVE TRADE, and INTERNATIONAL TRADE, connected by red arrows. Below these, a large green box contains various components: <ul style="list-style-type: none"> Inputs: SEEDS HYBRID, *IRRIGATION, *AGRO-CHEMICALS, *MACHINERY & EQUIPMENT, *OTHER INPUTS. Production: FARMER/PRODUCER (including SMALL FARMER, GROUP FARMING, PLANTATION), FRESH PRODUCTS, FROZEN PRODUCTS, PROCESSED PRODUCTS, OTHER PRODUCTS. Processing/Value Adding: LOGISTIC-STORAGE/PACKING/BRANDING. Distributive Trade: WHOLESALER, INSTITUTIONAL BUYER, RETAIL OUTLET, FAST FOOD OUTLET. International Trade: SUPERMARKETS GIANT, TESCO, MIDDLE EAST & OTHER MARKETS. Consumers: A vertical bar labeled 'CONSUMERS' with an arrow pointing to it from the retail outlets. At the bottom, four orange boxes represent support functions: R&D, TRAINING, MARKET RESEARCH, and HUMAN CAPITAL DEVELOPMENT, with red arrows pointing up to the main supply chain components. </p> </div> <ul style="list-style-type: none"> Target production area by 2030 is: <ul style="list-style-type: none"> - 3,000 ha Watermelon - 1,000 ha sweet corn 			
Issue s	<ul style="list-style-type: none"> Small-scale farming Low output of agriculture produce Low income of padi farmers Low rate of adoption of progressive technology and agronomy practices 			
Rationale	<ul style="list-style-type: none"> Income of padi farmers in the non-granary areas totalling 6,587 ha are generally low compared to those in the granary and mini-granary areas There is potential for crop integration with fruits, vegetables, herbs and livestock during the off-season crop in the non-granary areas. Perlis's location in the tropical belt with an annual average rainfall of 1,500 millimetres and good soils are ideal for the farming of premium tropical fruits and vegetables At present some farmers are already planting watermelon and sweet corn during the off season to boost their income Integration during the off-season will increase land productivity Development of fruits and vegetables are promoted under EPP 7 of ETP 			

<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • There is a steady growth in demand for tropical fruits due to population growth and health awareness. • Under the National Agrifood Policy, focus is given for the development of fruits and vegetables which have potential for export. These include water melon and sweet corn • The potential for the export of water melons is bright not only for traditional markets such as Singapore, Hong Kong, Indonesia and Netherlands but also new markets such as China and the Middle East. • In 2010 Malaysia exported fruits valued at RM 520 million. The export of fruits is expected to increase from 830 thousand metric tons in 2010 to 1.04 million tons in 2020, with a growth rate of 2.3% annually • The market for sweet corn is also good both for the local market and overseas. • Overall, the production of fruits is expected to increase at a rate of 3.8% annually for the period 2010- 2020 <p>Production of Fruits 2000-2020(million tons metric)</p>  <table border="1"> <caption>Production of Fruits 2000-2020 (million tons metric)</caption> <thead> <tr> <th>Year</th> <th>Total Production (million tons)</th> </tr> </thead> <tbody> <tr> <td>2000</td> <td>1.0</td> </tr> <tr> <td>2010</td> <td>1.8</td> </tr> <tr> <td>2015</td> <td>2.1</td> </tr> <tr> <td>2020</td> <td>2.6</td> </tr> </tbody> </table>	Year	Total Production (million tons)	2000	1.0	2010	1.8	2015	2.1	2020	2.6
Year	Total Production (million tons)										
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2010	1.8										
2015	2.1										
2020	2.6										
<p>Location Plan / Land Size</p>	 <p>Location: Non-MADA minor irrigation schemes and rainfed areas</p> <p>Land Size: 3,000ha (Average land size about 2 ha)</p> <p>Land Ownership: Smallholders</p> <ul style="list-style-type: none"> • Cultivation of watermelon and sweet corn in the minor JPS Schemes and rainfed padi areas as an off-season crop 										

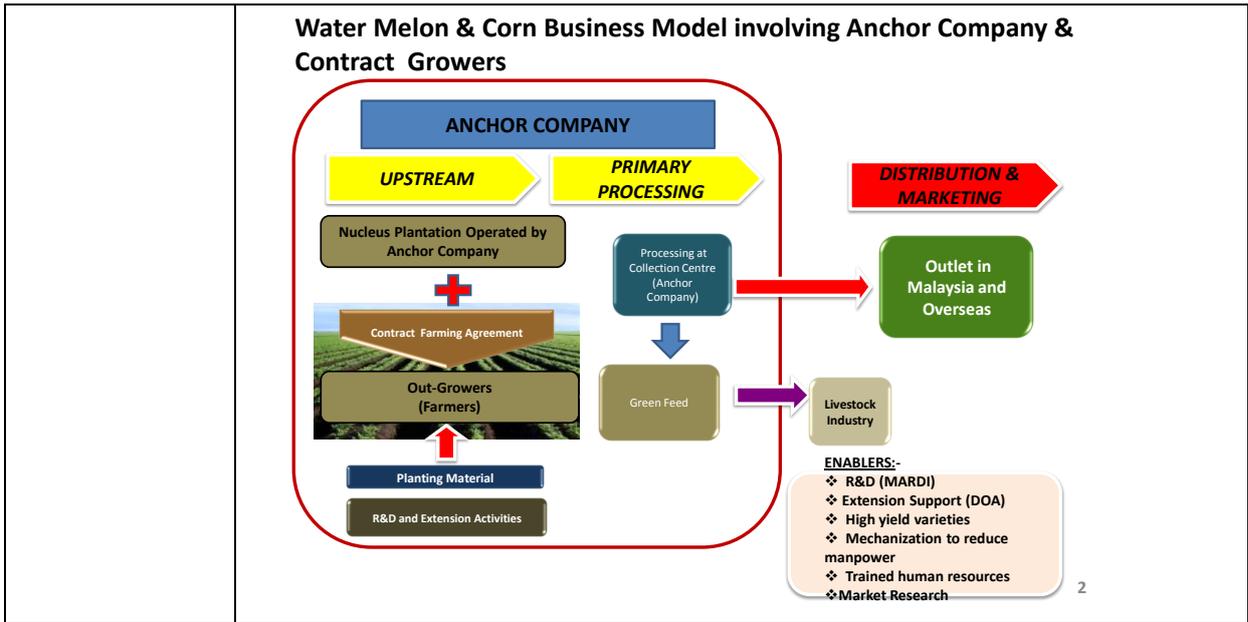
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Accelerating the Economic Transformation of Perlis**

<p>Depiction</p>	<p>Jagung Manis (Sweet Corn)</p>  <p>Water Melon</p> 																					
<p>Project Benchmark</p>	<p>NA</p>																					
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3"> Role and Responsibilities of Implementing Body </th> </tr> <tr> <th> Description </th> <th> Name </th> <th> Role & Responsibilities </th> </tr> </thead> <tbody> <tr> <td> Main Agencies </td> <td> LPP </td> <td> <ul style="list-style-type: none"> - Implementation of group farming schemes </td> </tr> <tr> <td rowspan="3"> Other Agencies </td> <td> DOA </td> <td> <ul style="list-style-type: none"> - Extension services - Pest & disease control </td> </tr> <tr> <td> FAMA </td> <td> <ul style="list-style-type: none"> - Contract marketing of product </td> </tr> <tr> <td> MARDI </td> <td> <ul style="list-style-type: none"> - R&D on hybrid seeds </td> </tr> <tr> <td> Private Sector </td> <td> PPK Anchor Companies </td> <td> <ul style="list-style-type: none"> - Provision of credit facilities - Provision of inputs such as seeds, fertilizer etc - Supply chain management and marketing - Contract marketing - Possible anchor companies include: <ul style="list-style-type: none"> • Nelson Corn Sdn Bhd 7, Jalan Penyelenggara, UI/77, Taman Perindustrian Batu Tiga, 40150 Shah Alam, Selangor • Exotic Star (M) Sdn Bhd 17-18, Jalan SC 4, Pusat Perindustrian Sungai Chua, Kajang Selangor, 43000 03-8733-2299 </td> </tr> </tbody> </table>			Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	LPP	<ul style="list-style-type: none"> - Implementation of group farming schemes 	Other Agencies	DOA	<ul style="list-style-type: none"> - Extension services - Pest & disease control 	FAMA	<ul style="list-style-type: none"> - Contract marketing of product 	MARDI	<ul style="list-style-type: none"> - R&D on hybrid seeds 	Private Sector	PPK Anchor Companies	<ul style="list-style-type: none"> - Provision of credit facilities - Provision of inputs such as seeds, fertilizer etc - Supply chain management and marketing - Contract marketing - Possible anchor companies include: <ul style="list-style-type: none"> • Nelson Corn Sdn Bhd 7, Jalan Penyelenggara, UI/77, Taman Perindustrian Batu Tiga, 40150 Shah Alam, Selangor • Exotic Star (M) Sdn Bhd 17-18, Jalan SC 4, Pusat Perindustrian Sungai Chua, Kajang Selangor, 43000 03-8733-2299
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Main Agencies	LPP	<ul style="list-style-type: none"> - Implementation of group farming schemes 																				
Other Agencies	DOA	<ul style="list-style-type: none"> - Extension services - Pest & disease control 																				
	FAMA	<ul style="list-style-type: none"> - Contract marketing of product 																				
	MARDI	<ul style="list-style-type: none"> - R&D on hybrid seeds 																				
Private Sector	PPK Anchor Companies	<ul style="list-style-type: none"> - Provision of credit facilities - Provision of inputs such as seeds, fertilizer etc - Supply chain management and marketing - Contract marketing - Possible anchor companies include: <ul style="list-style-type: none"> • Nelson Corn Sdn Bhd 7, Jalan Penyelenggara, UI/77, Taman Perindustrian Batu Tiga, 40150 Shah Alam, Selangor • Exotic Star (M) Sdn Bhd 17-18, Jalan SC 4, Pusat Perindustrian Sungai Chua, Kajang Selangor, 43000 03-8733-2299 																				

			<ul style="list-style-type: none"> • Mascorn (Marine Gold Marketing Sdn. Bhd.) 8, Jalan SU 24, Taman Perindustrian Selayang Utama, 68100 Batu Caves, Selangor, Malaysia. • Malai Fresh Fruit Trading (Watermelon) 478, Mukim 6, Bandar Balik Pulau, 11000, Penang 			
Programme Costing Assumptions	Description of the Programme Costing					
	Revenue Streams	<ul style="list-style-type: none"> • Sale of Padi seeds • Sale of normal rice • Sale of Fragrant Rice • Sale of Off-season crops (sweet corn, vegetables, herbs, etc) 				
	Operating Expenditures Description	<ul style="list-style-type: none"> • Land preparation • Padi seeds • Planting • Weeding • Fertilizer • Harvesting 				
	Capital Expenditures Description	Total funding from public funding is estimated at RM 40 Million for the development of basic infra such as roads and irrigation facilities				
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4	
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030	
	Area (Ha)					
	- Water melon	200	500	1,000	2,000	
	-Sweet Corn	100	500	800	1,000	
	Production					
	-Water melon (MT/year)	6,000	15,000	30,000	60,000	
	-Sweet corn (million cobs)	4	20	32	40	
Estimated CAPEX (RM million)	22.75	7.75	1.25	1.25		
Estimated OPEX (RM million)	0.5	-	-	-		
Investments / Funding Sources	Investments (RM million)					
		Public Sector	Private Sector			
			Private Sector	Local (%)	Foreign (%)	
	Development Expenditure / CAPEX	20.0	13.0	100	0	
	Operating Expenditure	0.3	-	-	-	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

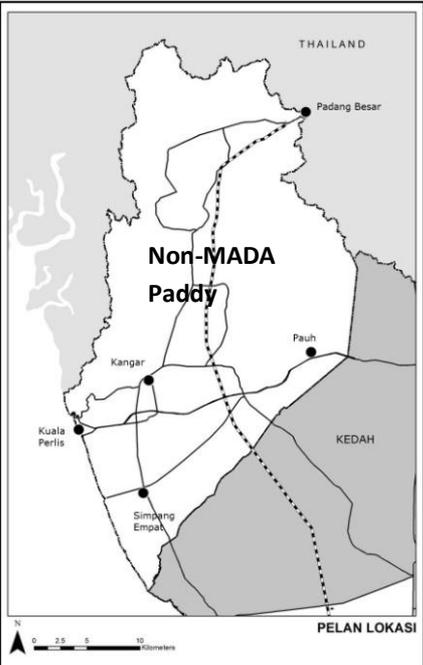
Implementation Action Plan	Initiator	Actions	Year													
	JPS	Infra development e.g. roads, irrigation	2014													
	LPP	Establishment of Supply chain network	2013													
		Planning of areas for water melon and sweet corn	2014													
		Campaigning for farmers participation in off-season crops	2013													
	MARDI	R& D on hybrid seeds	2016													
	DOA	Training and extension services	2016													
FAMA	Contract marketing	2016														
Implementation Timeline	<p> Feasibility Study/Approval/Planning - Milestone: Project Launch Design/Land Acquisition - Milestone: Project Ground-breaking Infrastructure/Incubation - Milestone: Infra-to-site completion Construction/Project Development - Milestone: Project Completion Revenue Start Peak Production Revenue/Investment </p>															
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs												
	77	33	2180	-Increase farmers income from RM 600 /month to RM 3,000 / month by 2020												
Drivers & Enablers	<ul style="list-style-type: none"> Improved seeds/planting materials Efficient supply chain management for water melon and sweet corn Assured market for products by anchor company Extension activities to farmers to ensure product quality and food safety 															
Possible Barriers & Threats	<ul style="list-style-type: none"> Farmers reluctant to participate in mini-estate schemes Possible shortage of irrigation water for cultivation Shortage of farm mechanization facilities 															
Preliminary Business Model	<ul style="list-style-type: none"> LPP is the implementing agency Credit facilities must be provided by PPK/ Agrobank DOA will provide extension support services <p>To ensure project sustainability, preferably project should involve anchor company or entrepreneurs as growers. Farmers will become either shareholders or lease their land to anchor companies or entrepreneurs.</p>															



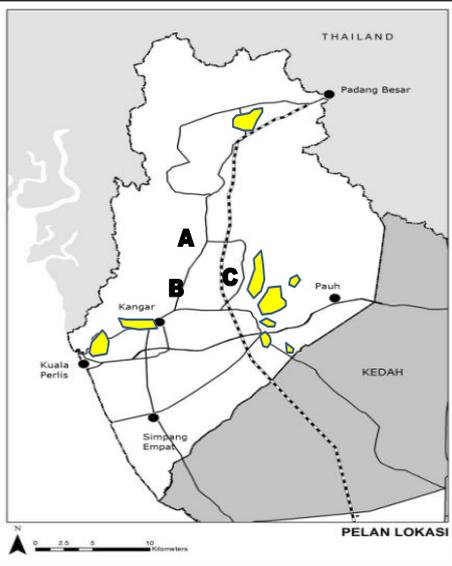
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG3	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Cultivation of fragrant rice in non-granary padi areas			
Project Description	<ul style="list-style-type: none"> The project involves increasing farmers' income in dedicated non-granary rainfed padi areas of about 6,587 ha through production of fragrant (MRQ 76) and crop integration during the off-season. The areas involved will include: <ul style="list-style-type: none"> Minor Irrigation Schemes (Small JPS Skim): 2,500 ha. Others (Rainfed): 2,500 ha A new rice variety (MRQ76) has been developed by MARDI, which has 80 per cent similar attributes to foreign fragrant rice, thereby enabling it to tap the higher-end rice market. The focus is to cultivate this variant in rain-fed areas, leveraging its drought tolerant attributes. The project has the following objectives: <ul style="list-style-type: none"> Planting of fragrant rice during the main season and off season in the non-granary areas Crop diversification in single cropping areas MARDI appointed Sime Darby to spearhead the commercialization of MRQ76 Establishment of dedicated rice mill by PPK for fragrant rice Production of 20,000 tons of fragrant padi (or 13,000 metric tons of fragrant rice) by 2020. 			
Issues	<ul style="list-style-type: none"> Small-scale farming Low output of agricultural produce Encroachment of rice cultivation area Low rate of adoption of progressive technology and agronomy practices 			
Rationale	<ul style="list-style-type: none"> Other major issues include low irrigation intensity, low padi productivity and low income. Ensuring food security objectives. Malaysia is about 70% self-sufficient in rice. Total area under rice cultivation in non-MADA areas in Perlis is quite large ie 10,345 ha. About 3,000 ha of padi land is double-cropped per year. The rest of about 6,587 ha are mostly single-cropped due to the lack of irrigation facilities. At present Malaysia imports a lot of fragrant rice, about 150,000 tons annually from Thailand, to meet the local demand. Fragrant rice commands a premium price. 54% out of 4.6 million household surveyed showed preference for fragrant rice. Need to reduce import bill of RM 400 – 500 million annually for importation of fragrant rice. Cultivation of fragrant rice has been included as under the Government Transformation Programme. 			

<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • The steady growth in demand due to population growth in developing countries drives an expansion in global rice trade. World rice production is projected to grow only at 3.4 % per year from 2010 to 2019 • World trade as a share of world consumption is very thin, estimated about 7 to 8 % • Malaysia relies almost exclusively on imports for its fragrant rice, some 150,000 tons annually, most of it from Thailand; this number has grown dramatically over the last two decades, moving it from a niche market to a commercially-attractive one. • Market is not an issue since most of the fragrant rice produced will be consumed locally as part of import substitution strategy. At present the amount of fragrant rice produced locally is negligible. • The market of fragrant rice is lucrative, retailing at 30% above the normal padi price. At present the FOB price of Thai fragrant rice is US 800/ ton (RM2, 500/ton). The price is expected to increase to RM 4,650/ ton in 2013 	
<p>Location Plan / Land Size</p>		<p>Location: Non-granary areas covering an area of 6,587 ha</p> <p>Land Size: About 2 ha per smallholder)</p> <p>Land Ownership: Smallholders</p>
<p>Depiction</p>	<p>Non-MADA Padi Areas in Paya</p> 	<p>Fragrant Rice Fields</p> 

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<p>Minor Irrigation Schemes (3,656 ha)</p> 																				
<p>Project Benchmark</p>	<p>NA</p>																				
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Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4											
		2012 – 2015	2016 – 2020	2020 – 2025	2026 - 2030											
	Area	1,000	3,000	5000	5000											
	Production (padi)(MT/year)	4,000	12,000	20,000	20,000											
	Estimated CAPEX (RM million)	19.5	10.5	1.25	1.25											
	Estimated OPEX (RM million)	0.3	-	-	-											
Investments / Funding Sources	Investments (RM million)															
		Public Sector	Private Sector													
			Private Sector	Local (%)	Foreign (%)											
	Development Expenditure / CAPEX	12.5	20	100	0											
Operating Expenditure	0.3	-	-	-												
Implementation Action Plan	Initiator	Actions			Year											
	JPS	Planning of areas for improvement of irrigation intensity			2012											
	LPP	Establishment of SPV			2013											
		Planning of areas for mini-estate padi			2013											
		Campaigning for farmers participation in mini-estate padi			2013											
	MARDI	R& D on hybrid seeds in Tambun Tulang			2016											
DOA	Production of certified padi seeds			2917												
Implementation Timeline																
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Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs												
	58	33	2000 jobs reduction	<ul style="list-style-type: none"> - Production of fragrant -rice padi at 20,000 tons/ yr by 2020 - Increased farmers income from RM600/month to RM3,000/ month by 2020 												

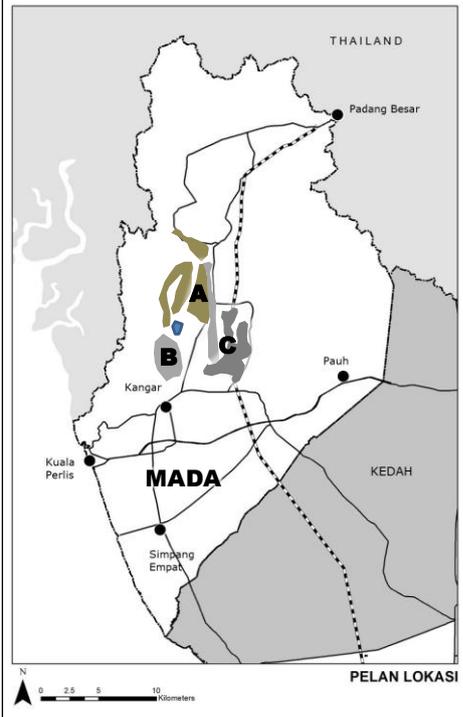
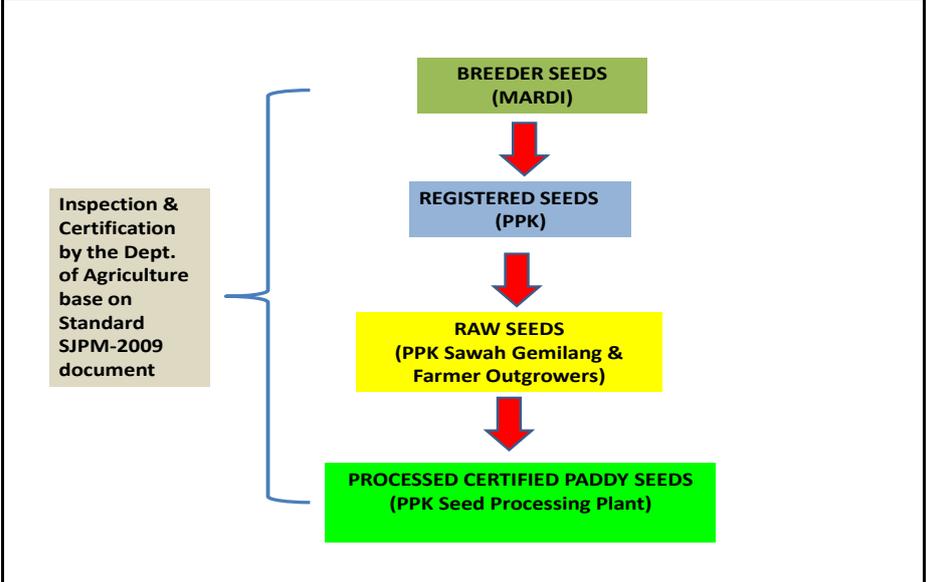
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Drivers & Enablers	<ul style="list-style-type: none"> • Improved padi seeds • Economies of scale
Early Steps Necessary	<ul style="list-style-type: none"> • Identification of areas for cultivation of fragrant rice • Sourcing of fragrant padi seeds from MARDI • Construction of dedicated fragrant rice mill
Possible Barriers & Threats	<ul style="list-style-type: none"> • Farmers reluctant to participate in mini-estate schemes • Possible shortage of irrigation water for rice cultivation • Shortage of farm mechanization facilities
Preliminary Business Model	<ul style="list-style-type: none"> • The project will involve LPP as the implementing agency
	<p>Project Management</p> <ul style="list-style-type: none"> ▪ Implementing agency is LPP Perlis ▪ Farm activities run by individual farmers ▪ Training provided by Anchor Company , PPK & DOA ▪ Planting material & fertilizer will be supplied by PPK on credit ▪ Milling of fragrant rice by PPK ▪ Marketing of produce will be by anchor company ▪ Market guaranteed price of paddy by PPK

Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG4	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Production of certified padi seeds in mini-granary of Perlis			
Project Description	<ul style="list-style-type: none"> The main objective of the project is to produce certified seeds of about 10,000 metric tons per season (or 20,000 metric tons/yr) to meet the requirements of padi farmers in Kedah and Perlis The project will involve an area of 2,500 ha in the mini-granary areas of Perlis The project has three components: <ol style="list-style-type: none"> Improvement of irrigation intensity in the Mini Granary (irrigated): 2,500 ha, Conversion of the mini-granary areas into certified padi seeds production areas Establishment of a padi-seeds processing mill <p>A: Scaling up of Irrigation Intensity</p> <ul style="list-style-type: none"> Improvement of irrigation intensity in mini-granary areas from 18m/ha to 30 m/ha at the rate of 500 ha/ yr. Total area for 5 years is 2,500 ha. Costs per ha estimated at RM10,000 <p>B. Conversion into certified padi seeds production areas</p> <ul style="list-style-type: none"> The padi areas will be converted into certified seeds product areas involving farmers as padi seed outgrowers Some of the padi areas will be converted to 'Sawah Gemilang' for the production of certified padi seeds by PPK. The padi mini-estates will be managed by PPK <p>C. Establishment of dedicated Padi seeds processing plant</p> <ul style="list-style-type: none"> This involves the establishment of a dedicated rice mill for padi seeds processing <p>Organization</p> <ul style="list-style-type: none"> Foundation seeds (MR 211, MR 219, MR220 & MR 232) will be sourced from MARDI PPK will produce the registered seeds from their 'Sawah Gemilang' schemes. PPK will distribute the registered seeds to outgrower farmers for the production of certified seeds Certified seeds will be processed by dedicated mills owned by PPK The Department of Agriculture will be the certification body for the certified seeds. Farm inspection will be conducted at four stages - pre-planting, cutting, flowering and pre-harvesting. It aims to ensure that the planted variety's follows the main variety characteristic's and is in compliance to farming standard for certified seeds as stipulated in the Malaysia Department of Agriculture Standard SJPM-2009 document. DOA will also inspect the Padi Seedlings Processing Plant to ensure compliance to standards 			
Issues	<ul style="list-style-type: none"> Low padi yields Shortage of certified padi seeds Low rate of adoption of progressive technology and agronomy practices 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Rationale</p>	<ul style="list-style-type: none"> • To ensure food security objectives, the productivity of the rice sector need to be increased. One of the measures to increase the productivity of the rice sector is through the use of high yielding certified padi seeds • The Mini Granary (Irrigated) padi areas in Northern Perlis totalling 3,758 ha, is suitable for padi seeds production • Major issues include low irrigation intensity and low padi productivity 	
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • The demand for certified padi seeds in Kedah & Perlis is estimated at 31,000 metric tons per year. • At present the production of padi seeds estimated at 10,000 metric tons per year is not sufficient to meet the requirement of the state of Kedah and Perlis 	
<p>Location Plan / Land Size</p>	<p>Irrigated Mini-Granary Padi Areas in Perlis</p> 	<p>Location: Non-MADA mini granary areas of 3,758 ha</p> <p>Land Ownership: Smallholders</p>
<p>Depiction</p>	<p>Flow Chart Seed Certification Scheme</p> 	

<p>Depiction</p>	<p>Nursery</p>  <p>Padi Seeds at the farm level</p>  <p>Certified Padi Seeds</p> 																		
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	Capital Expenditures Description	Total funding from public funding is estimated at RM 25 million for irrigation intensification (construction of tertiary canals and drainage system and farm roads)																																																																																							
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		2012-2015	2016-2020	2021-2025	2026-2030																																																																																				
	Production of seeds (MT/yr)	5,000	10,000	15,000	20,000																																																																																				
	Estimated CAPEX (RM million)	17.13	7.13	0.38	0.38																																																																																				
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Implementation Action Plan	Initiator	Actions			Year																																																																																				
	JPS	<ul style="list-style-type: none"> - Planning of areas for improvement of irrigation intensity - Improvement of irrigation intensity 			2012-2020																																																																																				
	LPP/ PPK	Implementing agency for the certified padi seed project			2012																																																																																				
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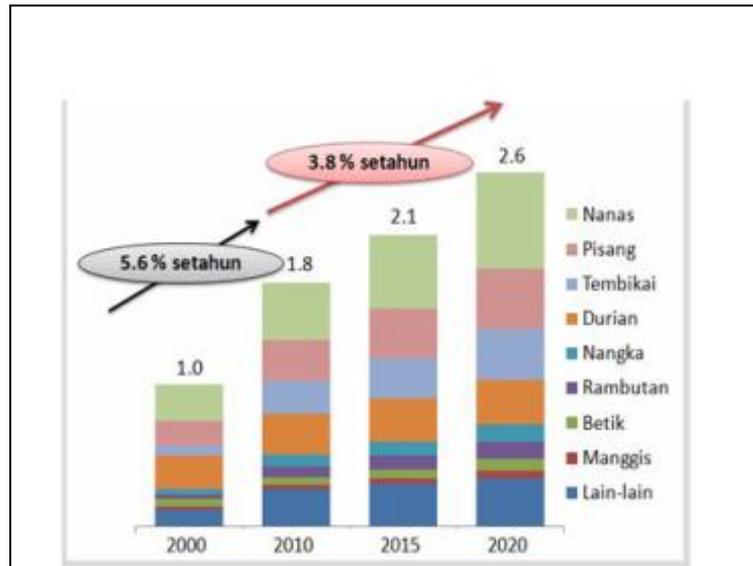
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	46	25	1000 jobs reduction	<ul style="list-style-type: none"> - Increased yield of padi from 3 tons/ ha to 4.5 tons/ ha - Certified seed production 10,000 tons / season or 20,000 tons/yr
Drivers & Enablers	<ul style="list-style-type: none"> • Improved irrigation intensity • Improved management by seed outgrowers • Mini-estate management • Certification scheme by DOA 			
Early Steps Necessary	<ul style="list-style-type: none"> • Getting farmers approval to participate in padi seed production • Improved irrigation intensity and land leveling by DID 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Farmers reluctant to participate in padi seed schemes due to the extra work involved • Possible shortage of irrigation water for rice cultivation • Shortage of farm mechanization facilities • Seed farms badly managed and unable to meet expected standards. 			
Preliminary Business Model	<div style="border: 1px solid black; padding: 10px;"> <pre> graph TD A[Certification by Department of Agriculture] --> B((Seed Processing Plant PPK)) C((Paddy Seed Outgrowers PPK & Farmers)) --> B B --> D[LPP Perlis] </pre> <p style="text-align: center; background-color: black; color: white; padding: 5px;"> TARGET PRODUCTION = 10,000 TONS/ SEASON; TARGET AREA = 2,500 ha LOCATION – PERLIS MINI GRANARY AREAS </p> <div style="background-color: yellow; padding: 5px; margin-top: 10px;"> <p>Project Management</p> <ul style="list-style-type: none"> ▪ LPP is the implementing agency ▪ Paddy seed outgrowers will include both PPK and paddy farmers ▪ Raw seeds bought from farmers at guaranteed prices (normally 30% higher than normal paddy + price subsidy) ▪ PPK will run the seed processing plantThe anchor company will work with PPK to manage the farmers ▪ Foundation seed to be supplied by MARDI ▪ Planting material & fertilizer will be supplied by PPK on credit ▪ Certification by DOA </div> </div>			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

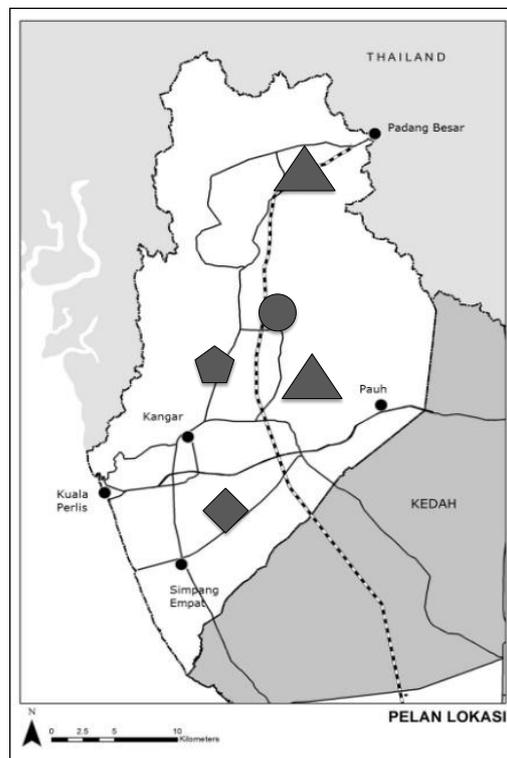
Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG5	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Development of the fruit cluster with emphasis on mango and jackfruit			
Project Description	<ul style="list-style-type: none"> • Expansion of cultivation areas of Harumanis mangoes, Sala Mangoes, and Jack Fruit (J32 and J33 --Madu) in existing areas. Target for 2030: <ul style="list-style-type: none"> - 1,500 ha Harumanis - 1,500 ha Sala - 1,000 ha Jack Fruit • Pursue export of Harumanis & Sala mangoes, and processed Jackfruit • Encourage processing of fruits • Encourage smallholders to plant mangoes, and jackfruit as side income • Develop Bukit Bintang Station (60 ha) as Centre of Excellence for mangoes • Anchor Companies amongst medium-sized SMEs to be identified to establish minimum processing • R&D to improve yield of Harumanis and longer fruiting season under controlled environment by UNIMAP • Expansion of Harumanis under controlled environment in Agrotech Park in Chuping Valley 			
Issues	<ul style="list-style-type: none"> • Low productivity of existing farmers • Low value added in agri produce in Perlis • Lack of constant supply leading to marketing challenges • Lack of efficient supply chain management 			
Rationale	<ul style="list-style-type: none"> • Perlis has an agro-climatic advantage for fruit cluster development • Perlis well known for its Harumanis Mangoes and Sala Mangoes (Perlis Sunshine) and water melon • High potential for value-added products of fruits eg snack foods, juice, dried fruits 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> • Generally the supply of Harumanis mangoes averaging 100 tons per annum is not enough to meet local demand and export • Farm-gate price of Harumanis average RM7-8 per kilogram. Average retail price is RM18.00/ kilogram • Sala mangoes sold as fresh fruit at RM1.00/ kg (ex-farm) has ready market for processed fruits (eg dried fruits, pickle, and juice) • Ex-farm prices of Jackfruit is on the increase and can go as high as RM 2.50/kg. • Jackfruit products such as ready to eat fresh jack fruit (J33 Madu) and, juice and vacuum-fried chips are growing in local and export markets. • Under the National Agro-food Policy 2011-2020, the fruit industry is expected to grow at 3.8% per year 			

Growth Projection of Various Fruit Types 2000-2020 (Million Metric Tons)



Location Plan / Land Size



Location: Whole of Perlis

Land Size: 2,500 ha

Land Ownership: Smallholders

- Cultivation of Harumanis mangoes in Northern Perlis
- Cultivation of Sala Mangoes in MADA areas
- Cultivation of Jackfruit (J32 & J33 variety) in Mata Air areas
- Processing of jackfruit and industrial grade mango fruits for snack food, juice & pickle

- Jackfruit
- Mata Ayer
- ◡ Mangoes Harumanis
- Non MADA Padi Areas
- ◊ Mangoes Sala
- MADA Areas
- ▲ Watermelon
- Minor JPS Schemes
- Rainfed padi areas

Strategic Development Plan For Perlis
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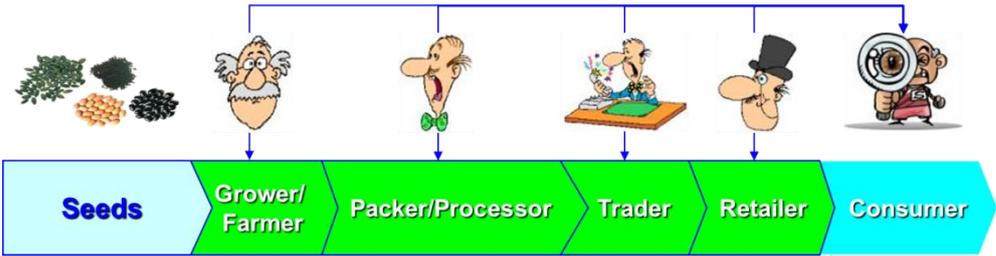
<p>Depiction</p>	<p>Harumanis Mangoes Planted by the Roadsides and Padi Bunds</p>  <p>Mangoes Under Controlled Environment</p>  <p>Jack Fruit</p> 																
<p>Project Benchmark</p>	<p>Okinawa Japan Mangoes under controlled structure</p>																
<p>Implementing Agencies</p>	<p style="text-align: center;">Role and Responsibilities of Implementing Body</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Description</th> <th style="width: 30%;">Name</th> <th style="width: 40%;">Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td>Dept of Agriculture, Perlis</td> <td> <ul style="list-style-type: none"> - Coordination of the fruit cluster - Supply of planting materials - Extension services </td> </tr> <tr> <td rowspan="2">Other Agencies</td> <td>UNIMAP</td> <td>R&D to improve productivity of Harumanis Mangoes</td> </tr> <tr> <td>FAMA</td> <td>Marketing of fruits</td> </tr> <tr> <td>Private Sector</td> <td>Frutania, TPM</td> <td>Processing</td> </tr> </tbody> </table>			Description	Name	Role & Responsibilities	Main Agencies	Dept of Agriculture, Perlis	<ul style="list-style-type: none"> - Coordination of the fruit cluster - Supply of planting materials - Extension services 	Other Agencies	UNIMAP	R&D to improve productivity of Harumanis Mangoes	FAMA	Marketing of fruits	Private Sector	Frutania, TPM	Processing
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Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	Sale of fresh mangoes & Jack Fruits Sale of Processed fruits (juice, snacks, dried fruits, pickles)			
	Operating Expenditures Description	<ul style="list-style-type: none"> - Land preparation - Planting materials - Fertilizer & chemicals - Labour for planting, fertilizing & harvesting& processing - Transportation - Packaging boxes 			
	Capital Expenditures Description	<ul style="list-style-type: none"> - Processing Centres - Machineries & equipments 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 -2030
	Area (Ha)cumulative				
	- Harumanis	100	400	700	1000
	- Sala	100	400	700	1000
	- Jack Fruit	50	100	200	500
	Production (MT/year)				
- Harumanis	500	2,000	3,500	5,000	
- Sala	1,500	6,000	9,000	12,000	
- Jack fruit	1,000	2,000	4,000	10,000	
Estimated CAPEX (RM million)	13.75	9.75	0.25	0.25	
Estimated OPEX (RM million)	0.25	-	-	-	
Investments / Funding Sources	Investments (RM)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	10.0	14.0	100	0
Operating Expenditure	0.3	-	-	0	
Implementation Action Plan	Initiator	Actions		Year	
	DOA	Selection of participants & training		2013	
		Preparation of Planting materials		2013	
UNIMAP	R& D on yield improvements and control structures		2014		

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementation Timeline																
	<p> Feasibility Study/Approval/Planning - Milestone: Project Launch Design/Land Acquisition - Milestone: Project Ground-breaking Infrastructure/Incubation - Milestone: Infra-to-site completion Construction/Project Development - Milestone: Project Completion Revenue Start Peak Production Revenue/Investment </p>															
Impact & Specific KPIs	GDP (RM million)		Total Investment (RM million)		Jobs Created		Other KPIs									
	81		24		5,000		<ul style="list-style-type: none"> - Fruit cluster developed all over Perlis of high standard - Achieving tonnage of fruits; Harumanis (5,000 tons), Sala (12,000 tons) and Jackfruits (10,000 tons) by 2030 									
Drivers & Enablers	<ul style="list-style-type: none"> • R&D on mango production under controlled environment • Efficient supply chain management for fruits • Assured market 															
Early Steps Necessary	<ul style="list-style-type: none"> • Selection of villages and farmers involved • Training of farmers 															
Possible Barriers & Threats	High labour input for wrapping fruits															
Preliminary Business Model	<p style="text-align: center;">Business Model involving Anchor Company and Farmers</p>															
Other Related Projects	Halal Food Park Health Beverages, Functional Foods, Milk & Juices Processing															

Strategic Project Brief[Agri-Food High Tech Farming]

Project Code	AG5a	New Project?	Existing?	Quick Win?
		Y	Y	Y
Project Name	Tropical Seed Industry Development Centre			
Project Description	<p>Driving the total food supply chain through the development of Seed Industry. The transformation of agriculture processes to support the new bioeconomy agenda for a new approach to be put in place the total supply chain. New approach is to look at total supply chain as the saying goes "Agriculture feeds the nation, and seed feeds the agriculture".</p> <p>The modern agriculture will start with production and utilization of quality seeds or starting planting materials where the modern biotechnological tools will be adopted.</p> <p>The control and linkage for the total food supply chain (from germplasm, breeding of premium high value seed, seed production, industry farming, marketing or distribution to consumers) is very important for the industry development to ensure the quality and market acceptance of crops.</p>  <p>Northern Corridor Implementation Authority (NCIA) under its biotechnology initiative is facilitating a BioNexus Company, Green World Genetics Sdn Bhd (GWG), which develops and produces new breed of quality and value-added seeds via latest biotechnology tools (like molecular marker assisted selection) to establish 1st Tropical Seed Industry Development Centre in Koridor Utara for global tropical seed markets.</p> <p>Establishment of Tropical Seed Industry Development Centre</p> <p>A. Infrastructure Required</p> <p>Long term leasing of 50 hectares land for the establishment of Tropical Seed Development Centre which has the following components:</p> <ul style="list-style-type: none"> • Human Capital Development Centre for the training to students/ graduates who are interested in seed production and breeding activities; • Processing plant for the treatment of seeds and grains and cold room warehousing for the collection from the contract farmers/ agripreneurs; • Regional hub and winter nursery for breeding and seed development • Platform for research and development activities with Universities and Institutes <p>B. Conceptual Framework</p> <p>The key factors for the creation of ecosystem is the Innovation and Human Capital Development which would drive the transformation of agriculture to modern agriculture with technology tools, modern agriculture's techniques and knowledge to increase the efficiency of farming, productivity, value and quality of crops.</p> <p>(i) Research and Development of New Breed of high quality and value-added seeds</p> <ul style="list-style-type: none"> • GWG will provide expertise and infrastructure for collaborative research focusing on industry needs. • The feasibility of the seed developed will be proven through a series of farm trials and market studies prior to the industrial seed production by contract farmers. • GWG will be the satellite, guarantee buy-back the premium high value seed produced by contract farmers at mutually agreed price. 			

	<p>(ii) Human Capital Development Program</p> <ul style="list-style-type: none"> • The creation of agripreneurs (better management of manpower) will be undertaken together with the universities, colleges of agriculture and existing programme being initiated by various organizations such as UiTM, UniMAP, National Agriculture Training Centre and BiotechCorp through their BEST (Biotechnology Entrepreneur Special Training) Programme. • Full-pledged practical training will be provided by GWG to trainees (students, interns, graduates and farmers) in different profession based on their capabilities. • Each of the trainee will be trained to operate at least 2 hectares of land and to be able manage up to 50-100 hectares of seed production farm. • The company envisage that graduates and trainees that have successfully gone through the program with them will have the opportunities to be their contractors/ entrepreneurs for seed production in the country as well as overseas. <p>Characteristics of new breed of quality and value-added seeds</p> <ul style="list-style-type: none"> • Consistency in quality • Able to meet sophisticated supply chain and global market • Seed quality improvement / Higher yielding genetics • Improved production technology / acreage contraction <p>Project Outputs</p> <ul style="list-style-type: none"> • To develop an accredited seed industry in the country and the region through strategic private-public sector partnership. • The supply of certified seeds in sufficient numbers to support the food production. • The production of value-added food products for local and international markets • To develop technically qualified human capital (breeders, agripreneurs and professional farmers etc.) engaged in seed production industry with per capita income exceeding RM 2,500 per month. • Enhance local farmers with technology (biotechnology) towards maximizing return on investment in agriculture and related business. Seed production as newoption for farmers. • Supports the government’s initiative to promote the use of biotechnology to enhance the delivery system in farming practice. • Provide the domestic market with the benefits of locally produced high quality food at a cheaper price.
<p>Issues</p>	<ul style="list-style-type: none"> • Small scale farming area • Low quality and value of crops • Low productivity of harvest • High reliance on foreign supply of hybrid seeds • Lack of private sector investments • Aging Farmers • Lack of participation and awareness in seed industry • Low rate of adoption of progressive technology and agronomy practices
<p>Rationale</p>	<ul style="list-style-type: none"> • Prime Minister, YAB Datuk Seri Najib Abdul Tun Razak has recognised that food security and health nutrition have become increasingly critical issues in Malaysia during Global Science and Innovation Advisory Council (GSIAC) on 1st Nov 2012. • Prime Minister’s opening speech at GSIAC inter-sessional meeting at parliament, he highlighted that the key to sustaining food security was to boost food production through innovation, better technology, improved irrigation and quality of manpower. • The slogans: “Agriculture Feeds the Nation” and “Seed Feeds the Agriculture”. Innovations in food production technology by the establishment of Tropical Seed Industry Development Centre to produce the starting material (hybrid seed/high quality and value seed), and better management of manpower will have to be in place as solutions to food security issues and ensure sustainability. • Recognising the potential of this sub-industry coupled industry know-how and conducive weather in northern region of Malaysia, GWG has proposed to establish the 1st Tropical Seed Industry Development Centre in Koridor Utara (Perlis, Kedah, Penang and North of Perak). • The plan is in line with YAB Prime Minister’s mandate for Koridor Utara to be the Modern

	<ul style="list-style-type: none"> • Food Zone and Food Security Hub for Malaysia. • In realizing this, GWG has identified UiTM Perlis as one the leading institutions of higher learning in Malaysia to partner in this initiative. 																																																																																																																									
Existing Demand & Current Supply	<p>Existing Demand</p> <p>(i) Example: Top Import Bill – Tonnage and Value of Maize Imported in Year 2010 show the potential market for seed industry. (Source: Food and Agriculture Organization , FAO)</p> <table border="1"> <thead> <tr> <th>Rank</th> <th>Area</th> <th>Quantity (tonnes)</th> <th>Flag</th> <th>Value (USD 1000)</th> <th>Flag</th> <th>Unit value (\$/tonne)</th> </tr> </thead> <tbody> <tr><td>1</td><td>Japan</td><td>16,192,571</td><td>1</td><td>3,955,650</td><td>2</td><td>244</td></tr> <tr><td>2</td><td>Republic of Korea</td><td>8,540,967</td><td>1</td><td>1,989,860</td><td>1</td><td>233</td></tr> <tr><td>3</td><td>Mexico</td><td>7,848,998</td><td>1</td><td>1,583,297</td><td>2</td><td>202</td></tr> <tr><td>4</td><td>China</td><td>6,213,149</td><td>2</td><td>1,417,915</td><td>7</td><td>228</td></tr> <tr><td>5</td><td>Iran (Islamic Republic of)</td><td>5,790,014</td><td>1</td><td>1,353,793</td><td>1</td><td>234</td></tr> <tr><td>6</td><td>Egypt</td><td>6,170,460</td><td>2</td><td>1,271,480</td><td>2</td><td>206</td></tr> <tr><td>7</td><td>Spain</td><td>3,955,005</td><td>2</td><td>968,045</td><td>7</td><td>245</td></tr> <tr><td>8</td><td>Colombia</td><td>3,613,900</td><td>1</td><td>805,756</td><td>1</td><td>223</td></tr> <tr><td>9</td><td>Malaysia</td><td>3,076,957</td><td>1</td><td>766,550</td><td>6</td><td>249</td></tr> <tr><td>10</td><td>Netherlands</td><td>2,911,583</td><td>5</td><td>688,473</td><td>15</td><td>236</td></tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Import of Maize (2010)</th> </tr> <tr> <th>Area</th> <th>Tonnes</th> <th>Value (USD)</th> </tr> </thead> <tbody> <tr> <td>Asia</td> <td>52.02 Million</td> <td>12.43 Billion</td> </tr> <tr> <td>World</td> <td>1.07 Billion</td> <td>25 Billion</td> </tr> </tbody> </table> <p>(ii) Market Seed Requirements for ASEAN</p> <ul style="list-style-type: none"> • Malaysia - 6,800 tons (to meet 3.076 million tons of grain requirement) • Indonesia - 50,000 tons • Thailand-15,000 tons • Vietnam - 10,000 tons • Cambodia-3,000 tons • Myanmar-10,000 tons <p>(iii) Malaysia Seed Industry Scenario</p> <ul style="list-style-type: none"> • 100 % Hybrid seed are imported • 95% seed are imported. • Fragmented. • Very few players, mainly in Trading. • Rich in Biodiversity. • Rich in sunlight and rainfall. <p>Current Supply of Seed The World's Top 10 Seed Companies (Source: ETC Group)</p> <table border="1"> <thead> <tr> <th>Rank</th> <th>Company</th> <th>2007 seed sales (US\$ millions)</th> <th>% of global proprietary seed market</th> </tr> </thead> <tbody> <tr><td>1</td><td>Monsanto (US)</td><td>\$4,964m</td><td>23%</td></tr> <tr><td>2</td><td>DuPont (US)</td><td>\$3,300m</td><td>15%</td></tr> <tr><td>3</td><td>Syngenta (Switzerland)</td><td>\$2,018m</td><td>9%</td></tr> <tr><td>4</td><td>GroupeLimagrain (France)</td><td>\$1,226m</td><td>6%</td></tr> <tr><td>5</td><td>Land O' Lakes (US)</td><td>\$917m</td><td>4%</td></tr> <tr><td>6</td><td>KWS AG (Germany)</td><td>\$702m</td><td>3%</td></tr> <tr><td>7</td><td>Bayer Crop Science (Germany)</td><td>\$524m</td><td>2%</td></tr> </tbody> </table>	Rank	Area	Quantity (tonnes)	Flag	Value (USD 1000)	Flag	Unit value (\$/tonne)	1	Japan	16,192,571	1	3,955,650	2	244	2	Republic of Korea	8,540,967	1	1,989,860	1	233	3	Mexico	7,848,998	1	1,583,297	2	202	4	China	6,213,149	2	1,417,915	7	228	5	Iran (Islamic Republic of)	5,790,014	1	1,353,793	1	234	6	Egypt	6,170,460	2	1,271,480	2	206	7	Spain	3,955,005	2	968,045	7	245	8	Colombia	3,613,900	1	805,756	1	223	9	Malaysia	3,076,957	1	766,550	6	249	10	Netherlands	2,911,583	5	688,473	15	236	Import of Maize (2010)			Area	Tonnes	Value (USD)	Asia	52.02 Million	12.43 Billion	World	1.07 Billion	25 Billion	Rank	Company	2007 seed sales (US\$ millions)	% of global proprietary seed market	1	Monsanto (US)	\$4,964m	23%	2	DuPont (US)	\$3,300m	15%	3	Syngenta (Switzerland)	\$2,018m	9%	4	GroupeLimagrain (France)	\$1,226m	6%	5	Land O' Lakes (US)	\$917m	4%	6	KWS AG (Germany)	\$702m	3%	7	Bayer Crop Science (Germany)	\$524m	2%
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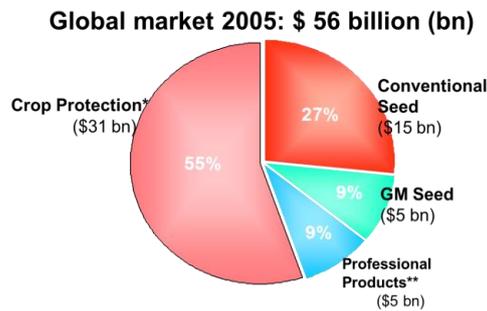
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Accelerating the Economic Transformation of Perlis

8	Sakata (Japan)	\$396m	<2%
9	DLF-Trifolium (Denmark)	\$391m	<2%
10	Takii (Japan)	\$347m	<2%
Total Top 10 Seed Companies contributed		\$14,785m	67% [of global proprietary seed market]

- The world's largest seed company, Monsanto, accounts for almost one-quarter (23%) of the global proprietary seed market.
- The top 3 companies (Monsanto, DuPont, Syngenta) together account for \$10,282 million, or 47% of the worldwide proprietary seed market.
- ETC Group conservatively estimates that the top 3 seed companies control 65% of the proprietary maize seed market worldwide, and over half of the proprietary soybean seed market.

- Seeds production is dominated by US, Japan and Europe. Seeds production cost is getting too high to be produced in these three countries.
- The trend is moving toward production in Asia Pacific region. Most of the activities are concentrated in China, Thailand and India but mainly on low value crops.

Source: *Phillips McDougall*



Location Plan / Land Size

Location: Agro Bio-Tech Park in Chuping Valley. Perlis

Land Size:

- (i) Preferably 50 hectares for the establishment of Tropical Seed Industry Development Centre
- (ii) 100-200 hectares of land for Agripreneurs' Program (each > 2ha)

Land Ownership: State Government

Depiction



Infrastructures: Greenhouse and Farm Development



Farm trials and fresh produce of new breed in greenhouse (eg: melon variety)

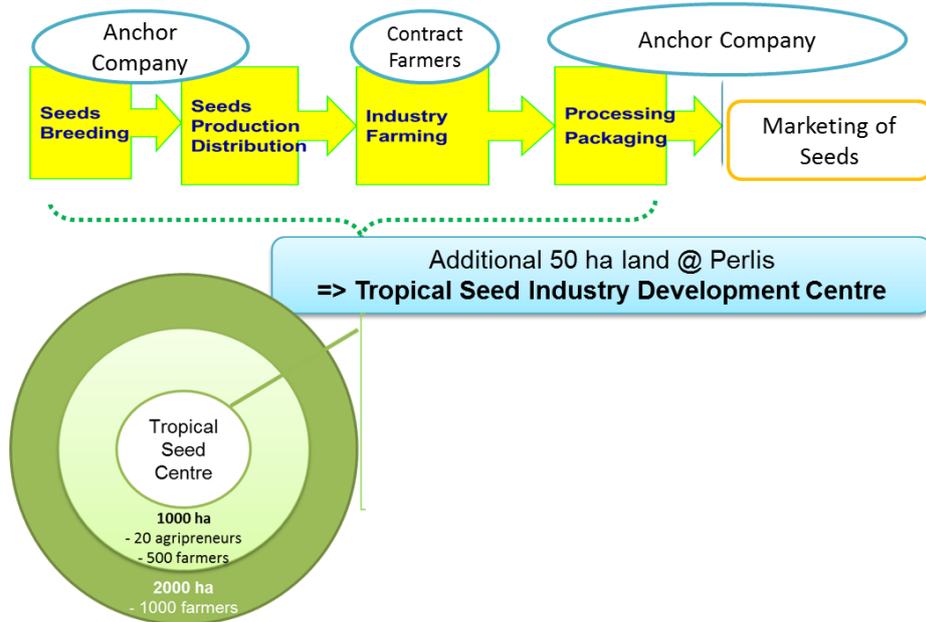
																							
<p>Project Benchmark</p>	<p>Nuziveedu Seeds Ltd (Nuziveedu Seeds)</p> <p>Nuziveedu Seeds, India's number 1 seed company has been at the forefront of building the country's agricultural production for almost four decades through providing the farmer with high quality and high yielding seeds. Nuziveedu Seeds is the largest hybrid seed company in India* which develops, produces, and markets hybrid and varietal seed products.</p> <p>Nuziveedu Seeds believes that its success has been due to not only their superior products but also regular extension work done by the marketing and product development teams. The main objective of extension is to engage the farmers in practicing correct agronomic practices to derive maximum benefit from the seed. In this direction Nuziveedu Seeds participated with some State Governments initiated "Public Private Partnership (PPP)" projects particularly in the area of Extension education projects undertaken by the Company with the Government of Uttar Pradesh for Rice and Corn cultivation to popularize the new agronomic innovations developed.</p>																						
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td>NCIA/State Government</td> <td> <ul style="list-style-type: none"> Resourcing and Identification of land development strategies infrastructure development </td> </tr> <tr> <td rowspan="4">Other Agencies</td> <td>PKENPs</td> <td>Resourcing and Identification of land</td> </tr> <tr> <td>LPP/PPK and DOA</td> <td> <ul style="list-style-type: none"> Planning areas of hybrid seed/ new breed high value seed production Campaigning and training for farmers participating in hybrid seed/ new breed high value seed production </td> </tr> <tr> <td>AgroBank</td> <td>Financial assistance / Soft loan for agripreneurs' program</td> </tr> <tr> <td> Universities/ Institutes <ul style="list-style-type: none"> UITM UniMAP </td> <td> <ul style="list-style-type: none"> Human Capital Development Program Joint R&D </td> </tr> <tr> <td>Private Sector</td> <td>Green World Genetics Sdn Bhd</td> <td> Anchor Company <ul style="list-style-type: none"> Management of total food supply chain of seed industry Management of Tropical Seed Development Centre Supply of foundation seeds Conduct training and provide standard operation procedure for hybrid seed/ new breed high value seed production. </td> </tr> </tbody> </table>		Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	NCIA/State Government	<ul style="list-style-type: none"> Resourcing and Identification of land development strategies infrastructure development 	Other Agencies	PKENPs	Resourcing and Identification of land	LPP/PPK and DOA	<ul style="list-style-type: none"> Planning areas of hybrid seed/ new breed high value seed production Campaigning and training for farmers participating in hybrid seed/ new breed high value seed production 	AgroBank	Financial assistance / Soft loan for agripreneurs' program	Universities/ Institutes <ul style="list-style-type: none"> UITM UniMAP 	<ul style="list-style-type: none"> Human Capital Development Program Joint R&D 	Private Sector	Green World Genetics Sdn Bhd	Anchor Company <ul style="list-style-type: none"> Management of total food supply chain of seed industry Management of Tropical Seed Development Centre Supply of foundation seeds Conduct training and provide standard operation procedure for hybrid seed/ new breed high value seed production.
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

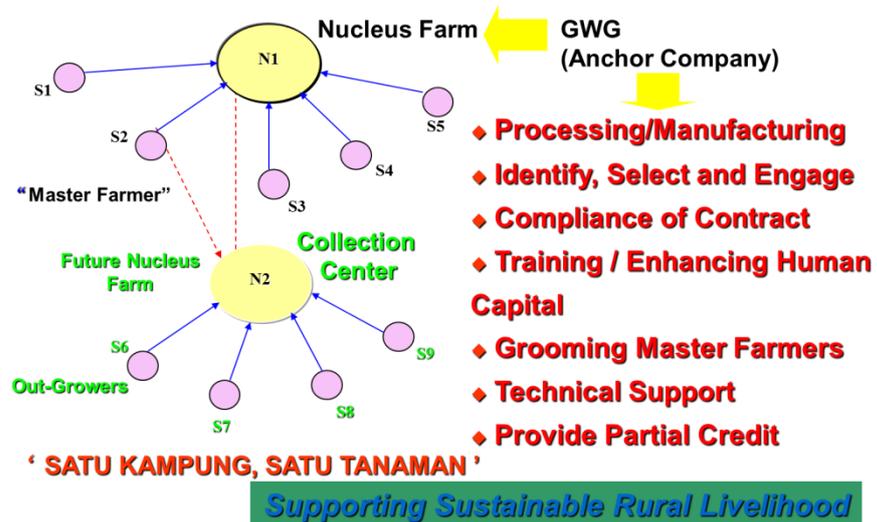
Programme Costing Assumptions	Description of the Programme Costing													
	Revenue Streams	<ul style="list-style-type: none"> Sale of fresh produce from the farm trial Sale of seeds 												
	Operating Expenditures Description	<ul style="list-style-type: none"> Rental Planting inputs eg seeds, fertilizer Staff and personnel salaries Utilities Maintenance cost Technical support & services 												
	Capital Expenditures Description	<ul style="list-style-type: none"> Land clearance and preparation Building construction for processing plant, office and lab Construction of greenhouse Processing plant, machinery and equipment 												
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4									
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030									
	Production (MT/year)	-	-	-	-									
	Estimated CAPEX (RM million)	12.1	-	-	-									
	Estimated OPEX (RM million)	20.5	-	-	-									
Investments / Funding Sources	Investments (RM million)													
		Public Sector	Private Sector											
			Private Sector	Local (%)	Foreign (%)									
	Development Expenditure / CAPEX	2	10.1	100	0									
Operating Expenditure		20.5	-	-										
Implementation Action Plan	Initiator	Actions			Year									
	NCIA	Provision of incentives, facilitate			2012									
	Green World Genetics Sdn Bhd	Project Planning			2012									
		Look into establishment of Tropical Seed Development Centre in Perlis			2012									
	UiTM	Collaboration is Human Capital Development Program, Research & Development			2013									
PKENPs	Identification of land			2013										
Implementation Timeline	Year 2012		Year 2013				Year 2014				Year 2015			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
[Red Box]		Feasibility Study/Approval/Planning - Milestone: Project Launch												
[Orange Box]		Design/Land Acquisition - Milestone: Project Ground-breaking												
[Yellow Box]		Infrastructure/Incubation - Milestone: Infra-to-site completion												
[Green Box]		Construction/Project Development - Milestone: Project Completion												
[Grey Box]		Revenue Start												
[Black Box]		Peak Production Revenue/Investment												

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Creation	Other KPIs
	620	32.65	549	
Drivers & Enablers	<ul style="list-style-type: none"> • Availability resources for the establishment of Tropical Seed Industry Development Centre, especially of 50 hectares land to kick-start the project • Farmers participation and cooperation • Strong government support in providing land, incentives and infrastructure facilities. • Financial assistance from AgroBan • Technical expertise – GWG and its partners 			
Early Steps Necessary	<ul style="list-style-type: none"> • Provision of land : 50 hectares land make available in Perlis for the establishment of Tropical Seed Industry Development Centre 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Lack of land • Farmers reluctant to participate in modern agriculture practices 			
Preliminary Business Model				

Conceptual Framework



GROWTH STRATEGY FOR SMALL FARMERS

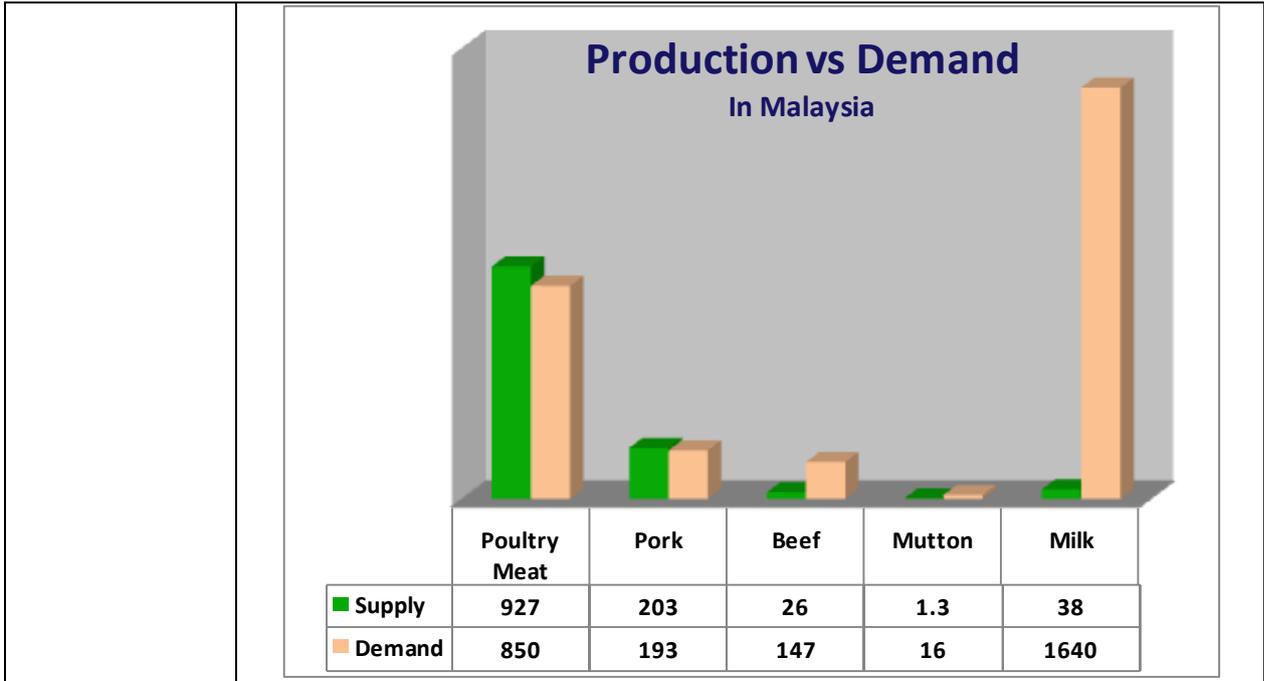


Strategic Project Brief [Agri-Food Production Zones]

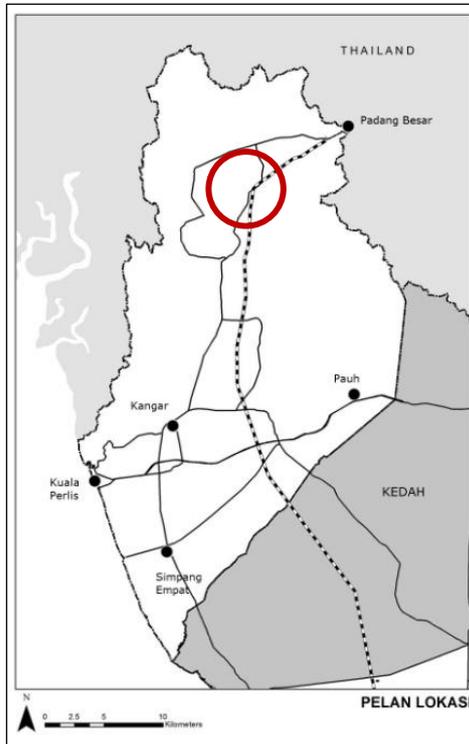
Project Code	AG6	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Development of a dairy cluster (<i>Feasibility Study</i>)			
Project Description	<p>The proposal is to establish a large dairy farm with 1,000 breeders, which will ultimately stabilize with 1,500 – 1,800 cattle population. The components in this project will comprise of the following:</p> <ul style="list-style-type: none"> i) Fodder and pasture area ii) Farm roads & fencing iii) Modern dairy barns & cattle sheds iv) Milking Parlours & Milk Room v) Farm office complex vi) Feed, fertilizer stores vii) Waste management system viii) Staff quarters <p>Cattle Breed</p> <p>The breed of cattle proposed for this project shall be Crossbred Friesian and/or Jersey-Friesian, which have a genetic potential to produce 3,000-3,500 litres per lactation. The financial forecast estimations for this proposal are based on a conservative yield of 3,000 litres per lactation and the lactation length of about 280 days.</p> <p>The farm will be operated by an anchor company which will have financial strength along with the dairy expertise and technical knowhow. To realize the establishment of this farm, a 500 hectare suitable arable agriculture land will be required, preferably in the Central West region of Perlis, not too close to the Thailand border. The choice of land should be flat to mild undulating terrain. The anchor farm will play the nucleus concept model farm role by having qualified and experienced dairy experts carry out good animal husbandry practices, provide technical & advisory services to satellite cluster farmers. Generating improved dairy breed types from the base stock will be one of the main aims of the project. Therefore, a structured and systematic breeding program will be implemented to establish a breed improvement program.</p> <p>This project will eventually guide and assist new private satellite dairy farmers in the region, each with about 50 breeders. They will be trained technically and assisted by the anchor company, in terms of operating their farms, resourcing and marketing. Farmers will have the opportunity to undergo hands-on farm training and develop their knowledge and skill in dairy farming. Through this concept the project aspires to expand the dairy clusters and thereby increase the income and livelihood for the rural households through increased milk production.</p> <p>Establishment of this project is expected to benefit more than 100 farmers and at least one large commercial milk processing factory in the state.</p> <p>Fresh milk output from this project is forecast to be about 3 million litres per year in the beginning and is expected to grow to about 20-30 million litres with the establishment of the satellite cluster farms.</p> <p>Other agriculture crop projects may be linked to this project through their by-products and waste, which may be utilized in the feed rations for the dairy cattle, developed by this project.</p>			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Issues</p>	<p>Malaysia imports 95% of milk demand from overseas. Currently there are very few large commercial farms in the country. In Perlis there are a few smallholder dairy farmers. Most milk products consumed in Perlis are imported from other states. The dairy cattle population is very small and the breed types are poor milk yielders. Concerted effort is required to upgrade and multiply adaptable breeds to increase the dairy cattle population in the country. One other shortcoming is the limited availability of suitable land for farming. Hence allocation of land for such projects is important.</p> <p>High cost of cattle feed is also a barrier for dairy development. Dairy project need land to grow quality fodder optimize production costs and efficiency. Establishment of large farms with anchor operators will assist in skills training and specialized manpower development for dairying, which is lacking in the country.</p>
<p>Rationale</p>	<p>Dairy farming is a promising sector for investment, with the large demand-supply gap. Milk is growing as one of the popular foods for Malaysians. The cattle population in Malaysia is about 900,000 heads, of which only 4% (36,000 heads) are dairy cattle (<i>Source: DVS</i>). The milk import bill is estimated to be over RM2.7 billion.</p> <p>The government (DVS) guarantees attractive “buy-back” prices (RM2.00/litre) for quality fresh milk through its Dairy Industry Service Centres (Pusat Perkhidmatan Industri Tenusu - PPIT). Dairy farming brings about quicker return on investment (4-5years) with IRR of >20%.</p> <p>Although dairying is challenging in the tropics, with good barn planning, feeding and management these obstacles can be overcome. Many tropical countries, like India, Thailand, Indonesia and Philippines have successful dairy project operating on large scale farming.</p> <p>Suitable crossbred cattle breeds have been bred for dairying in hot climates. The traded percentage of the global milk production is only about 7%, which puts dependency on imports too risky.</p> <p>In this proposed project, most of the feed will be home-grown with fodder crops. The main supplementary feed will be palm kernel products, which are available from local palm oil mills.</p> <p>Although close proximity of project to Thailand border appear to pose disease threats, it can be mitigated well with a good bio-security system within the project. However, Malaysia is also classified endemic with FMD. It is important to anchor this project with a technically and financially sound anchor company. Last but not least, is instilling an efficient marketing network for the fresh milk and live cattle produced by the project.</p>
<p>Existing Demand & Current Supply</p>	<p>The Malaysian dairy products market is estimated in volume terms at around 1.6 billion litres per annum, equivalent in farm-gate value of over RM3.2 billion, based on the average farm-gate milk price of RM2.00 per litre.</p> <p>The current per capita consumption for dairy products in Malaysia is estimated at 42.5 litres (Liquid Milk Equivalent – LME). The European Union average is 92.6 litres while that for China is 8.8 litres. The Malaysian average per capita is relatively high indicating the high demand for milk. Malaysian farms produce between 50-60 million litres of fresh milk per annum, which accounts for less than 5% self-sufficiency.</p> <p>Major dairy processors like Dutch Lady, Susu Lembu Asli (Goodday) and F&N to purchase fresh milk directly from local farms, which again indicates the growing demand for fresh milk from processors.</p>



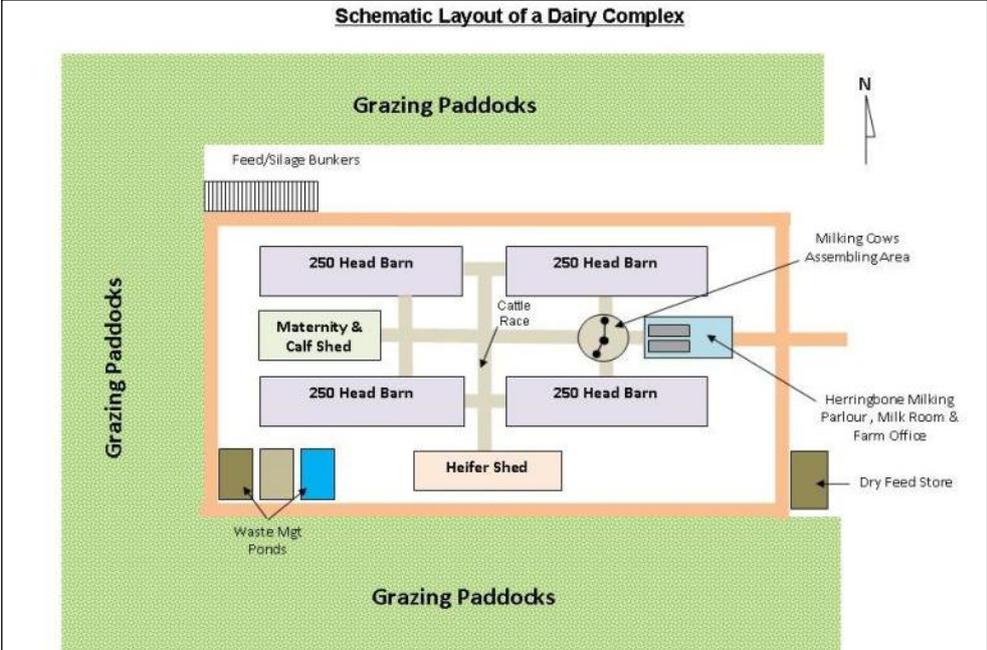
**Location Plan /
Land Size**



Location: Chuping, Perlis

Land Size: 500ha

Land Ownership: Felda

<p>Depiction</p>	<p style="text-align: center;">Anchor Dairy Farm Concept Layout Plan</p> <p style="text-align: center;"><u>Schematic Layout of a Dairy Complex</u></p>  <p>The diagram illustrates the layout of a dairy complex. It features a central rectangular area enclosed by an orange border, surrounded by green 'Grazing Paddocks'. Inside the central area, there are four '250 Head Barn' units arranged in a 2x2 grid. A 'Maternity & Calf Shed' is located on the left side of the central area. A 'Heifer Shed' is positioned at the bottom center. A 'Cattle Race' is situated in the middle of the central area. To the right of the central area, there is a 'Milking Cows Assembling Area', a 'Herringbone Milking Parlour, Milk Room & Farm Office', and a 'Dry Feed Store'. Outside the central area, there are 'Feed/Silage Bunkers' at the top left, 'Waste Mgt Ponds' at the bottom left, and a north arrow at the top right.</p>
	<p>Chuping Area suitable for Establishment of the Dairy Project</p>  <p>The photograph shows a paved road with double yellow lines curving through a lush green landscape. In the background, there are rolling hills and a clear blue sky.</p> <p>Land Preparation for Fodder/Pasture Planting</p>  <p>The photograph shows a red tractor plowing a field, turning over dark brown soil. The background features a line of trees and distant hills under a clear sky.</p>

Dairy Farm Land view upon Fodder/Pasture Establishment



Sorghum Feed Crop Suitable for Dairy Cattle



A Large Dairy Barn for the Dairy Cattle



Dairy Cattle Grazing in Pasture Area



Dairy Cows Feeding in the Barns



Dairy Cows Resting in Comfortable Individual Stalls



Dairy Cattle being Milked in the Herringbone Parlour

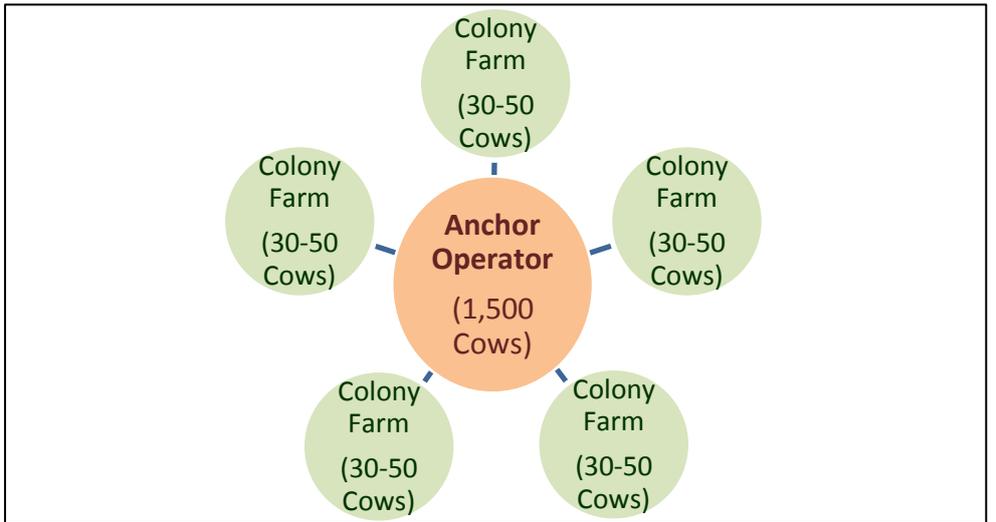


<p>Project Benchmark</p>	<p>This project is based on similar successful projects in India and Thailand.</p> <ol style="list-style-type: none"> 1. India Amul Dairy Colony Project – A success story, which has developed a fully integrated (upstream, midstream and downstream) project, which benefited a large rural community. Amul dairy products are now marketed internationally. 2. Thai dairy development project – started almost the same time as Malaysia and it has successfully established several large dairy farms producing big volumes of milk for multinational corporations. Has also established profitable dairy cooperatives in the country, where small farmers have developed and benefitted from the projects. 		
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>		
	<p>Description</p>	<p>Name</p>	<p>Role & Responsibilities</p>
	<p>Main Agencies</p>	<p>Department of Veterinary Services</p>	<ul style="list-style-type: none"> • Providing technical assistance & disease control monitoring
	<p>Other Agencies</p>	<p>NCIA, Felda & Mardi</p>	<ul style="list-style-type: none"> • Resourcing land, Development strategies and implementing plans • New Technologies & marketing plans
<p>Private Sector</p>	<p>Local & Foreign</p>	<ul style="list-style-type: none"> • Finance, expertise & Technical know-how 	
<p>Programme Costing Assumptions</p>	<p>Description of the Programme Costing</p>		
	<p>Revenue Streams</p>	<p>The following are the revenue streams for the project:</p> <ol style="list-style-type: none"> 1. Fresh milk sales 2. Dairy Heifers 3. Beef bulls calves 4. Skills training 	
	<p>Operating Expenditures Description</p>	<p>The operating expenditure for the project include the following:</p> <ol style="list-style-type: none"> 1. Purchased Feeds (PKC, grains, pellets, etc.) 2. Mineral Salts & Vitamin supplements 3. Veterinary Medicines & Drugs 4. Artificial Insemination Services (semen & services) 5. Salaries, Wages & Benefits 6. Expert consultation fees 7. Petrol, oil, lubricants & utilities 8. Travel & transport expenses 9. Repairs & service costs 10. Fodder & pasture maintenance (fertilizer & weeding) 11. Farm chemicals (cleaning, disinfectants, etc.) 12. Milking machine consumables (filters, parts, etc.) 13. Project land lease cost (quit rent) 14. Contingency allocation @ 5% 	
<p>Capital Expenditures Description</p>	<p>The comprehensive capital costs include the following:</p> <ol style="list-style-type: none"> 1. Physical land development expenditure <ul style="list-style-type: none"> • Land clearing and preparation • Fodder & pasture planting 2. Farm buildings (barns, sheds, quarters & office) 3. Infrastructure & Fixtures (roads, fencing, corals, etc.) 4. Farm machinery & equipment (vehicles, tractors, etc) 5. Project development consultancy (expert planning) 6. Skills training (preparing staff for farm management) 7. Purchase of dairy cattle breeds <ul style="list-style-type: none"> • Pregnant dairy heifers • Dairy breeding bulls 6. First year operating expenditure (Working Capital) 		

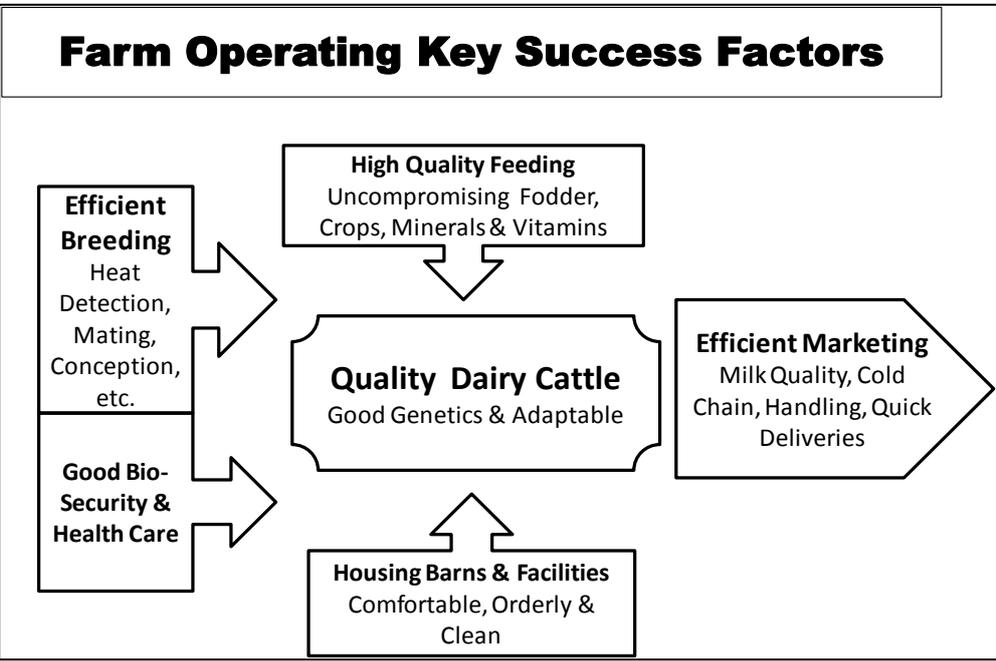
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Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																																																																													
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	Production																																																																																																																																	
	Milk (Lit)	1.2 Mill	3.2 Mill	3.2 Mill	4-5 Mill																																																																																																																													
	Cattle (Heads)	0	500	600	700-1,000																																																																																																																													
	Estimated CAPEX (RM million)	-	-	-	-																																																																																																																													
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	DVS	Technical Support			2013																																																																																																																													
	NCIA	Project Planning			2013																																																																																																																													
	FELDA	Land Identification/Finance/Technical Partner			2014																																																																																																																													
	MARDI	New Technology			2015																																																																																																																													
	Dairy Consultant	Skills & Know-how			2015																																																																																																																													
Implementation Timeline	<table border="1"> <thead> <tr> <th colspan="4">2012</th> <th colspan="4">2013</th> <th colspan="4">2014</th> <th colspan="4">2015</th> <th colspan="4">2016</th> <th colspan="4">2017</th> <th colspan="4">2018</th> <th colspan="4">2019</th> <th colspan="4">2020</th> </tr> <tr> <th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </tbody> </table>																												2012				2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																																																													
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	-	1	-	<ul style="list-style-type: none"> - Contribute to national self-sufficiency - Reduce import by 5 million litres by 2030 																																																																																																																														

<p>Drivers & Enablers</p>	<p>1. <u>Land Provision from relevant Authorities</u> This project can be only realized upon approval of the required land from the land owner. Furthermore, the timing of approval of the land is very crucial for timeline of the development of the project. The lease period must be not less than 30 years.</p> <p>2. <u>Technical Expertise – Felda / Foreign Expertise</u> This initiative must engage a competent expert consultant in dairying to realize the successful establishment of the project. Besides dairy technical expertise it requires local expertise in agronomy and other related conditions. Some of the key expertise include; selection of breed types, cow comfort & housing design, feeds & feeding, reproduction & breeding, agronomy and milking & milk handling.</p> <p>3. <u>DVS - Disease Control & Monitoring</u> Stringent disease control and routine animal health monitoring is expected from the DVS. This is to maintain good animal health throughout the operation of the project and ensure prevention of infectious diseases, like FMD, Haemorrhagic Septicemia, Brucellosis, TB, etc. Implementation of “SALT” accreditation and SPS programs for the farms. The DVS shall also assist in the identification of participants for satellite farms.</p> <p>4. <u>Financial Assistance</u> Although the anchor farm will be financed through private investments, the establishment of satellite farms would require financial assistance from the Agro Bank or other financial sources. Without this enablers the cluster development initiative may be slow.</p>
<p>Early Steps Necessary</p>	<p>Some of the early steps necessary to commence this project are:</p> <ol style="list-style-type: none"> 1. Meetings with relevant authorities & agencies 2. Site visits to identify suitable location, with good terrain 3. Identification of suitable land with fertile soil types 4. Appointment of implementing agencies 5. Identification and appointment of anchor operator 6. Identification & MOU with foreign dairy expertise 7. Identification and MOU with milk processors/marketers
<p>Possible Barriers & Threats</p>	<p>Possible barriers and threats to the development and operation of this project include the following:</p> <ol style="list-style-type: none"> 1. Disease outbreaks, which may lead to animal mortalities and jeopardize productivity of the cattle. Indirectly, this may result in stumbling blocks in marketing and distribution of both milk and live cattle. 2. Since the project location is close to the Thailand border, transmission of certain diseases (FMD) can be a threat to the project. Hence the project must enforce a good bio-security system to prevent these diseases. 3. In the initial stage building a team of skilled workforce can be challenge to the project. There may be a need to import expert management and skilled personnel initially.
<p>Preliminary Business Model</p>	<p>The following diagram illustrates the various success factors and competitive advantage to achieve profitable operation of the project.</p>



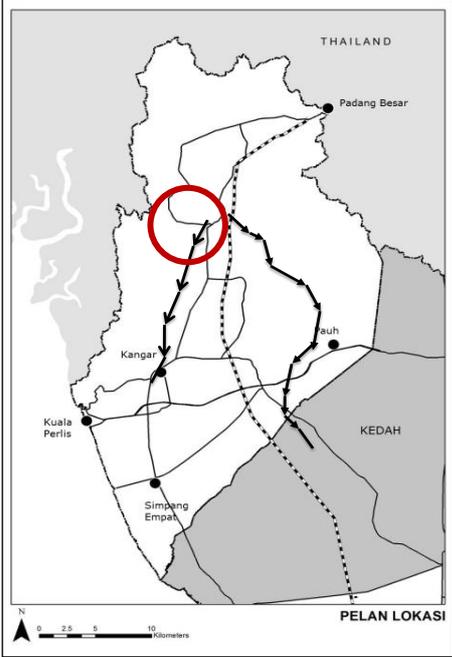
Successful operation of the farm requires several key factors in terms of animals comfort, feeding and routine management, which are illustrated below.



Strategic Project Brief [Agri-Food Production Zones]

Project Code	AG7	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Establishment of an Aquaculture Industrial Zone in the west diversion canal			
Project Description	<ul style="list-style-type: none"> The establishment of cage culture implements the concept of an Aquaculture Industry Zone (AIZ), which is analogous to an industrial estate. In the case of the canal, however, a significant degree of modification may be necessary to ensure enclaves are created where the activity can be carried out. It must be remembered that the canal is essentially a flood mitigation infrastructure and this primary function cannot be compromised. At the same time, however, aquaculture has its own requirements vis-a-vis, including flow rate restrictions, appropriate depths and water quality that would need to be complied with. The canal is currently at a design stage i.e. these requirements can be built into the design of the canal enabling it to be used for aquaculture on its completion. The freshwater cage culture would concentrate on the production of high tolerant fish species, particularly Tilapia (<i>Oreochromis</i> spp.). Initial project largely involves canal construction, 20km long and 90m wide. The cage culture will consist a number of facilities such as: <ul style="list-style-type: none"> Mooring facilities. Walkways Basic amenities (i.e. electricity, water and telecommunication). The farm will be set up around the infrastructure facilities by an investors. The area under culture will begin at 13,000 sq.m. in the first year, expanding to 52,000 sq.m. by 5th year. 			
Issues	Lack of freshwater aquaculture production in the state			
Rationale	<ul style="list-style-type: none"> There is little aquaculture development in the state. There is a big global demand for freshwater fish like Tilapia. The neighboring provinces in Thailand are a significant market catchment for farmed fish. Availability of fish fry. <p>Comments</p> <p>Cage culture can be carried out with minimal environmental impact. The model for this is the Tilapia farm in Temenggor that complies with all global environmental and production standards. However, it is important that the farm be commercially operated by a corporate entity that can bring the necessary technology and management to the fore.</p>			
Existing Demand & Current Supply	<ul style="list-style-type: none"> Aquaculture production in the state amounts to 894 tonnes valued at RM6.6 million. There is a local and regional demand for tilapia and related freshwater fish. 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>		<p>Location: Flood mitigation canal Land Size: 180ha (20 km long, 90m wide) Land Ownership: State Land</p>
<p>Depiction</p>		
<p>Project Benchmark</p>	<p>NA</p>	

Implementing Agencies	Role and Responsibilities of Implementing Body																																																																																																																													
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	Main Agencies	Drainage and Irrigation Department		Construction of basic infrastructure.																																																																																																																										
	Other Agencies	Department of Fisheries		Promotion of investment																																																																																																																										
	Private Sector	Private Operator		Establishment of the farm																																																																																																																										
Programme Costing Assumptions	Description of the Programme Costing																																																																																																																													
	Revenue Streams	<ul style="list-style-type: none"> Sale of farmed product 																																																																																																																												
	Operating Expenditures Description	<ul style="list-style-type: none"> Nets Fish fry Feed 	<ul style="list-style-type: none"> Fuel Manpower Utilities 																																																																																																																											
	Capital Expenditures Description	<ul style="list-style-type: none"> Land Infrastructure 																																																																																																																												
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	Production (MT/year)	-	-	50	100																																																																																																																									
	Estimated CAPEX (RM)	0.1	15.0	6.03	1.03																																																																																																																									
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	DoF/UPEN	Attracting investors			2013																																																																																																																									
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	<ul style="list-style-type: none"> Feasibility Study/Approval/Planning - Milestone: Project Launch Design/Land Acquisition - Milestone: Project Ground-breaking Infrastructure/Incubation - Milestone: Infra-to-site completion Construction/Project Development - Milestone: Project Completion Revenue Start Peak Production Revenue/Investment 																																																																																																																													

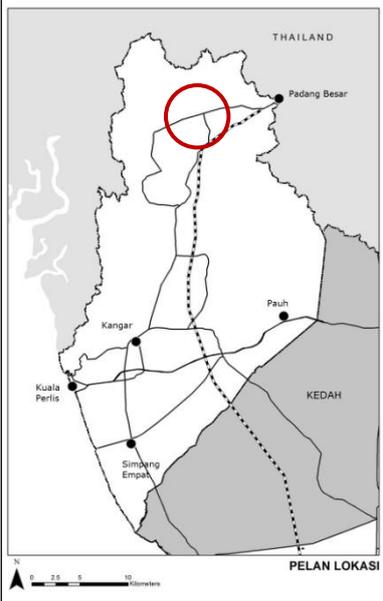
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	62	23	398	NA
Drivers & Enablers	<ul style="list-style-type: none"> • Appropriate location in relation to market catchment. • Excellent infrastructure including roads, telecommunications and power • Availability of local technology for hatchery and grow-out for selected species are available. • Strong government and R&D institutions support in providing incentives and infrastructure facilities 			
Early Steps Necessary	<p>- The details of the marketing strategy to be adopted would be developed during the feasibility study. However the following drivers would need to be considered:</p> <ul style="list-style-type: none"> • The need to undertake production on a sustainable basis. • The presence of a large Muslim market catchment where adherence to Islamic tenets would be important • The need to adhere to contemporary standards relating to food safety and quality. 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Concerns over water quality degradation in the reservoir. • Lower costs of production in neighboring Thailand. • Environmental problems through poor resource utilization. • Increase competition for input from other economic sectors. 			

Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG8	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	<i>Kampung</i> chicken breeder farming			
Project Description	<p>The proposal is to establish a large commercial kampong chicken breeder farm to produce Day-Old-Chicks (DOC) for the local farmers. This will enable local farmers to get involved on a full-time basis in kampong chicken farming. This initiative must be developed on a Anchor Operator model, which can carry out contract farming / growing with local interested farmers. It will also be the responsibility and commitment of the Anchor Company to explore potential market for the kampong chicken, thereby increasing profitability for the local farmers.</p> <p>The project will also train new farmers in kampong chicken farming methods. It will also plan and install a fully integrated operating system for kampong chicken in Perlis, thereby making the region a key kampong chicken production zone in the country.</p>			
Issues	<p><i>Kampung</i> chicken farming has been always been a backyard traditional farming in Malaysia. Commercially, it has been a very small production sector in Malaysia.</p> <p>One of the issues for increasing kampong chicken production has been the supply of kampong day-old-chicks (DOC); most are imported or brought in from other states.</p> <p>The kampong chicken is not a breed developed by a systematic breeding program. Hence its productivity is poor, compared to the hybrid broiler breed types.</p> <p>Poor growth rates, diseases, mortality, predation and lack of organized markets are some of the major constraints in smallholder kampong chicken production.</p>			
Rationale	<p>People in most rural areas keep flocks of scavenging kampong chicken generally known as “<i>Ayam Kampung</i>”. The flocks are generally small in size but are an important asset providing the owners with meat and eggs that can be consumed by the family, barter traded or sold to provide additional income.</p> <p>These birds have an important role to play in poverty alleviation and also improvement of food security in the region. Furthermore, this breed is hardy and easier to manage compared to the hybrid broiler breeds, which are dependent on high tech farming methods and feed types.</p> <p>The aim is to build local production capacity, lead and implement innovative farming solutions for the improvement of livelihoods of farmers through better production methods and systematic marketing.</p> <p>There are market signals that the cities are now becoming an important outlet for kampong chicken. Some producers are already exporting to Singapore at attractive market prices. The development of the kampong chicken industry is influenced by the fact that the broiler industry uses commercial feed rations, which are based on imported ingredients and costly. The feed cost for kampong chicken is relatively lower and most importantly, there is no antibiotic residual content in kampong chicken meat.</p>			
Existing Demand & Current Supply	<p>There are about 20 commercial kampong chicken farms having a total of 500,000 parent stocks in Peninsular Malaysia (DVS). This number is small compared to the estimated market size. The breeds used are Sasso, Kabir , Sikies and Hubbard ISA.</p> <p>Besides some also use the local crossbred types. According to DVS, the existing market for kampong chicken is undersupplied. There is very little information available regarding demand-supply for this chicken. However, there is a big farm in Simpang Rengam, Gesing Group Sdn Bhd, which exports 80% of its produce to the Singapore market, indicating potential market scope for kampong chicken export.</p> <p>This farm is a DVS and Singapore AVA approved farm and is planning strategies to export to new markets in Hong Kong. The production of village chicken in Malaysia in 2008 was 40.68 million birds and forecast to increase annually. Ex-farm prices for village chicken are higher than normal broiler birds ranging from RM6.50 to RM8.50 a kilogram.</p>			

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Accelerating the Economic Transformation of Perlis

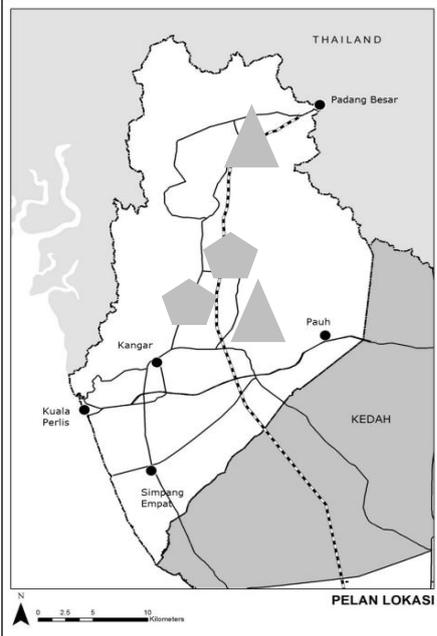
<p>Location Plan / Land Size</p>		<p>Location: Kg Titi Ulu Land Size: 50 hectares Land Ownership: Private</p>
<p>Depiction</p>	<p>Kampung Chicken Breeds</p>  <p>Systematic Poultry Farm</p> 	<p>Traditional Farming Method</p> 
<p>Project Benchmark</p>	<p>Gesing Group Sdn Bhd This is a large kampong chicken farm located in Simpang Renggam, Johor, which is successfully exporting finished birds to the Singapore market. It is also a supplier of DOC and breeders to the local market.</p> <p>Indonesia The government introduced a program called INTAB (intensification of kampong chicken) in the 1980s, targeting groups of farmers who cooperatively participated in the provincial projects. Each project consisted of a group of 20 to 50 farmers receiving package inputs of technology for kampong chicken farming. The package provides 100 mature female birds, medicines, cages and temporary feed consisting of commercial feed and ingredients. Training of the farmers was one part of the project and it was usually undertaken before the farm was set up by the farmer.</p>	

	The government offered technology to each farmer. Technical supervision was also provided by the local government. Project supervisors assisted in the establishment of a farming system and business management, including securing loans, banking and marketing activities.				
Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name		Role & Responsibilities	
	Main Agencies	DVS		Providing technical guidance & disease control	
	Other Agencies	NCIA, Felda & Mardi		Providing Land, Development plans New Technologies	
	Private Sector	Local & Foreign		Finance & Technical Know-how	
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	Day-Old-Chicks, Meat birds & Fertile Eggs			
	Operating Expenditures Description	<ul style="list-style-type: none"> • Purchased Feeds • Veterinary Medicines & Drugs • Salaries, Wages & Benefits • Consultation Fee • POL & Utilities • Travel Expenses • Contingency @ 5% • Repairs & Service Cost • Farm Chemicals • Project Land Lease Cost 			
	Capital Expenditures Description	<ul style="list-style-type: none"> • Physical Land Development - Land Preparation for Project • Buildings, Infrastructure & Fixtures • Farm Machinery & Equipment • Project Development Consultancy & Skills Training • Purchase of breed stock • First Year Operating Expenditure (Working Capital) 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production				
	DOC (No.)	360,000	360,000	360,000	360,000
	Meat Birds	1.25 million	2.5 million	5.0 million	7.5 million
	Fertile Eggs (No.)	600,000	1.2 million	2.4 million	3.6 million
Estimated CAPEX (RM million)	15.5	6.8	6.8	-	
Estimated OPEX (RM million)	0.3	-	-	-	
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	2.90	26.1	100	0
	Operating Expenditure	0.3	-	-	-

Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG9	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Development of the herbal cluster in Perlis as flagship herbal products			
Project Description	<ul style="list-style-type: none"> • Cultivation of Misai Kucing, Pegaga and Pepper as flagship herbal products in existing kampong areas (in situ mixed farming) • The planting of these herbs should be based on focussed areas /targeted concentration area. The planting of Misai Kucing and Pegaga will be concentrated in Northern Perlis especially as all intercrop within rubber areas and as off-season crop in padi areas. In rubber areas, herbs can be planted as an intercrop under the hedgerow planting system. • The planting of pepper will be concentrated in the minor JPS schemes and rainfed padi areas. • Target area by 2030 for Misai Kucing is 100 ha , Pegaga 100 ha, and 200 ha for pepper • Farmers will cultivate the promoted crops as mono crop in padi areas (Off-season) or intercrop in rubber areas and become contract outgrowers to the anchor company • Anchor company provides direct monitoring and guaranteed buy-back system for the crops produced by the Contract Farmers. • Cleaning, drying, grinding, grading and packaging will be undertaken at the Herbal Biotech Centre of TPM in Sg Batu Pahat • Facilities at TPM Raub and Kedah Bio Resources Corp in Kulim will be used by anchor companies for midstream processing (standardized extraction) • Raw materials from upstream will also be linked to the Padang Besar Halal Food Park for high-value added products eg herbal tea, nutraceutical products etc. 			
Issues	<ul style="list-style-type: none"> • Lack of focus in herbal development in Perlis • Low value added in Perlis • Lack of iconic products • Lack of constant supply leading to marketing challenges • Lack of supply chain 			
Rationale	<ul style="list-style-type: none"> • The potential size of the herbal and biotech products both in the local market as well as international market due to increasing focus on health and wellbeing • High import of herbal products • Opportunities of providing employment and income to the farmers. <p>Proposed Crops</p> <p>1. Misai Kucing</p> <ul style="list-style-type: none"> • One of the promoted crops under EPP • Misai kucing highly demanded locally and globally. • Extensive Research and Development activities. • Both medicinal and pharmaceutical product • Easier crop planting and management • Minimal factory / processing requirement. • Opportunities for intercropping in rubber areas and as rotational crop in rainfed padi areas • Growing international demand; trend for new/novel/natural healthy products 			

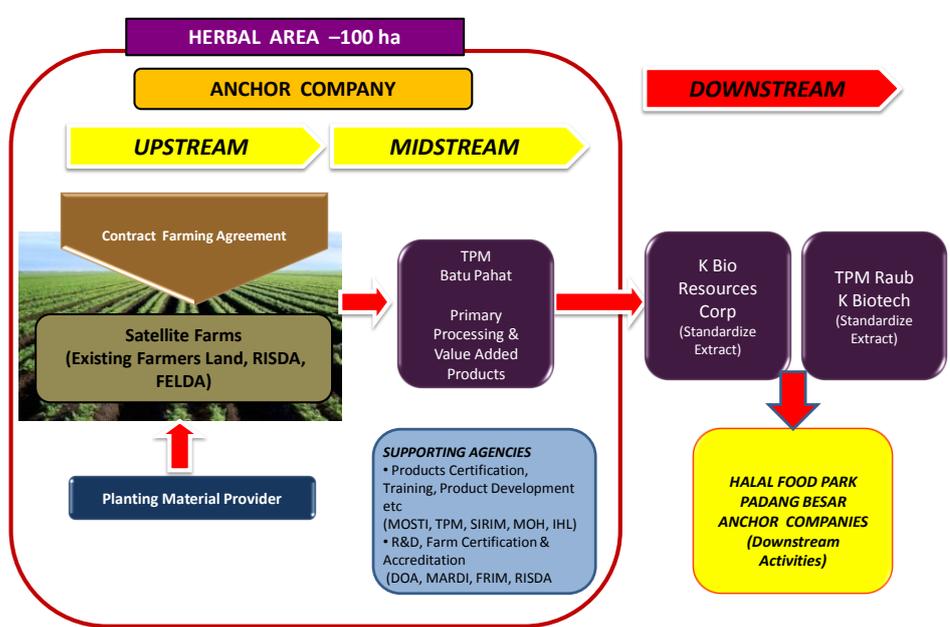
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<p>2. Pegaga</p> <ul style="list-style-type: none"> • Perlis well known for its high quality pegaga • Suitable for integration in padi areas as well as rubber areas • Relatively easy crop to grow • Good market prospect <p>3. Pepper</p> <ul style="list-style-type: none"> • Highly recommended by Malaysian Pepper Board • High international price for pepper at RM 18,000/ton for black pepper • Incentive schemes under Pepper Board • Assured market • High profitability 						
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • It had been estimated that more than 85 per cent of our RM8.00 billion local traditional medicine and herbal products is imported • The local herbal industry is growing at an annual rate of 15-20%, and has a market value estimated at RM 322 million in 2010 • Under the Economic Transformation Programme, the development of herbs have been given focus as EPP 1 • Misai Kucing tea popular in EU, marketed as Java Tea • Under the National Agro-food Policy 2011-2020, the production of herbs is targeted to increase by 15.4% per year 						
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  </div> <div style="flex: 2; padding-left: 10px;"> <p>Location</p> <p>Planting: Batu Pahat, Beseri, Titi Tinggi & Chuping</p> <p>CPPC: TPM, Sungai Batu Pahat</p> <p>Extraction: Kedah Bio Resources Corp, Kulim/ TPM Raub</p> <p>Secondary Processing: Halal Food Park Padang Besar (High-end products eg herbal tea, nutraceutical, botanical drugs)</p> <p>Land Size:</p> <table border="1"> <tr> <td style="text-align: center;"></td> <td>Misai Kucing: 100 ha Northern Perlis, in Rubber and Non-Granary Padi Areas</td> </tr> <tr> <td style="text-align: center;"></td> <td>Pegaga: 100 ha Northern Perlis, in Rubber and Non-Granary Padi Areas</td> </tr> <tr> <td style="text-align: center;"></td> <td>Pepper : 200 ha Minor JPS Schemes and Rainfed padi areas</td> </tr> </table> <p>Land Ownership: Smallholders in rubber areas and rainfed padi areas</p> </div> </div>		Misai Kucing: 100 ha Northern Perlis, in Rubber and Non-Granary Padi Areas		Pegaga: 100 ha Northern Perlis, in Rubber and Non-Granary Padi Areas		Pepper : 200 ha Minor JPS Schemes and Rainfed padi areas
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<p>Depiction</p>	<p>Misai Kucing Farms</p> 	<p>Pepper Farm</p> 										
	<p>Pegaga Farm</p> 											
	<p style="text-align: center;">POST HARVEST ACTIVITIES</p>  <pre> graph TD A[TPM Herbal Biotech Centre] --> B[RECEIVING & TESTING] B --> C[CLEANING] C --> D[Herbal washer] D --> E[DRYING] E --> F[GRINDER] F --> G[BULK PACKAGING] G --> H[STORAGE] H --> I[Herbal Tea] H --> J[Dietry Supplements & Nutraceuticals] </pre>											
<p>Implementing Agencies</p>	<p style="text-align: center;">Role and Responsibilities of Implementing Body</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Description</th> <th style="width: 30%;">Name</th> <th style="width: 40%;">Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td> <ul style="list-style-type: none"> DOA </td> <td> <ul style="list-style-type: none"> One stop centre Coordinate the development of the herbal cluster </td> </tr> <tr> <td>Other Agencies</td> <td> <ul style="list-style-type: none"> MARDI, UNIMAP Malaysian Pepper Board </td> <td> <ul style="list-style-type: none"> R& D -Initial development grant - Extension service for pepper - Marketing of pepper </td> </tr> </tbody> </table>			Description	Name	Role & Responsibilities	Main Agencies	<ul style="list-style-type: none"> DOA 	<ul style="list-style-type: none"> One stop centre Coordinate the development of the herbal cluster 	Other Agencies	<ul style="list-style-type: none"> MARDI, UNIMAP Malaysian Pepper Board 	<ul style="list-style-type: none"> R& D -Initial development grant - Extension service for pepper - Marketing of pepper
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Strategic Development Plan For Perlis
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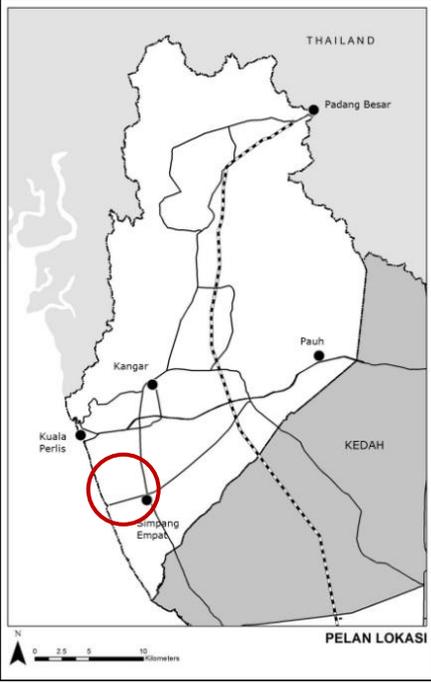
	Private Sector	<ul style="list-style-type: none"> • TPM • Kedah Bioresouce Corp • Anchor Companies 	<ul style="list-style-type: none"> • Post harvest activities & contract manufacturing • Standardize extract • Contract farming & marketing 		
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> -Sale of dried misai kucing 168 ton @ RM 5000/ ton=RM 8.4 million by 2030 -Sale of misai kucing tea @ RM 14/ box of 40 gm=RM 58 million - Sale of pegaga @ RM 6,000/ ton dried - Sale of pegaga juice - Sale of black pepper (500 tons @RM 15,000/ tons=RM 7.5 million) 			
	Operating Expenditures Description	<ul style="list-style-type: none"> • Land preparation • Planting inputs eg seeds, fertilizer • Irrigation • Poles/ gliricidia • Harvesting 			
	Capital Expenditures Description	<ul style="list-style-type: none"> • Buildings • CPPC • Equipments eg washer, drier, packaging machine, grinder • Irrigation facilities 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 - 2015	2016 - 2020	2021 – 2025	2026 – 2030
	Production Area (Ha) Cumulative				
	i. Misai Kucing	10 ha	30 ha	50ha	100 ha
	ii Pegaga	10 ha	30 ha	50 ha	100ha
	iii Pepper	20 ha	60 ha	100 ha	200 ha
	Estimated CAPEX (RM million)	5.25	3.75	-	-
Estimated OPEX (RM million)	0.3	-	-	-	
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	5.0	4.0	100	0
Operating Expenditure	0.3	-	-	-	
Implementation Action Plan	Initiator	Actions			Year
	DOA	Identification of farmers and anchor companies			2012-2020
	DOA/ MARDI/ Malaysia Pepper Board	Training of farmers			2012- 2020
	DOA/ Forestry Dept/ Malaysia Pepper Board	Selection and Preparation of Planting materials			2012
	TPM	Construction of CPPC and equipments			2012

Implementation Timeline	<table border="1"> <tr> <th colspan="4">2013</th> <th colspan="4">2014</th> <th colspan="4">2015</th> <th colspan="4">2016</th> <th colspan="4">2017</th> <th colspan="4">2018</th> <th colspan="4">2019</th> <th colspan="4">2020</th> </tr> <tr> <th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </table>																2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																																																																	
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Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																																																																																						
	 <ul style="list-style-type: none"> Feasibility Study/Approval/Planning - Milestone: Project Launch Design/Land Acquisition - Milestone: Project Ground-breaking Infrastructure/Incubation - Milestone: Infra-to-site completion Construction/Project Development - Milestone: Project Completion Revenue Start Peak Production Revenue/Investment 																																																																																																																					
Impact & Specific KPIs	GDP (RM million)		Total Investment (RM million)		Jobs Created		Other KPIs																																																																																																															
	19		9		2,000		NA																																																																																																															
Drivers & Enablers	<ul style="list-style-type: none"> The choice of locations must be close to the CPPC within 10 km radius Selection of suitable participants who are committed to the projects The projects must be supported with good basic infrastructure A one-stop service centre in DOA to facilitate the processing of applications Development of key areas of expertise within DOA and LPP to provide extension to the participants Adequate funding from the state Government & Federal government 																																																																																																																					
Early Steps Necessary	<ul style="list-style-type: none"> Establishment of State Herbal Committee Identification of anchor companies Identification of outgrowers 																																																																																																																					
Possible Barriers & Threats	<ul style="list-style-type: none"> Market subjected to increased regulations in target markets Competition from other states eg Malacca <ul style="list-style-type: none"> Competitive from other established traditions e.g. India, Indonesia and China 																																																																																																																					
Preliminary Business Model	<p align="center">Business Model involving Anchor Company, TPM and Satellite Farmers</p>  <pre> graph TD HA[HERBAL AREA -100 ha] --> AC[ANCHOR COMPANY] AC --> UP[UPSTREAM] AC --> MID[MIDSTREAM] UP --> SF[Satellite Farms (Existing Farmers Land, RISDA, FELDA)] MID --> TPMP[TPM Batu Pahat Primary Processing & Value Added Products] SF --> TPMP TPMP --> DR[DOWNSTREAM] DR --> KBC[K Bio Resources Corp (Standardize Extract)] DR --> TRB[TPM Raub K Biotech (Standardize Extract)] KBC --> HFP[HALAL FOOD PARK PADANG BESAR ANCHOR COMPANIES (Downstream Activities)] TRB --> HFP PMP[Planting Material Provider] --> SF CFA[Contract Farming Agreement] --> SF SA[SUPPORTING AGENCIES • Products Certification, Training, Product Development etc (MOSTI, TPM, SIRIM, MOH, IHL) • R&D, Farm Certification & Accreditation (DOA, MARDI, FRIM, RISDA)] </pre>																																																																																																																					

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG10	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Establishment of a Marine Finfish Seed Production Zone			
Project Description	<p>The establishment of a Marine Finfish Seed Production Zone follows the concept of an Aquaculture Industry Zone (AIZ) which is analogous to an industrial estate. However, in term of this project, the zone would only concentrate on the production of the marine finfish seed while as in the AIZ, individual investors would then set up farms around these infrastructure facilities.</p> <p>In the Marine Finfish Seed Production Zone, all necessary infrastructure must be provided such as:</p> <ul style="list-style-type: none"> ○ Hatchery. ○ Laboratory. ○ Packaging area. ○ Roadway - Main roads (not farm road) for transportation and access. ○ Basic amenities – Electricity, fuel, water supply and telecommunication. ○ Wastewater treatment. <p>Assuming that a contiguous area of 10ha is available for pond farming, then actual productive area would about 5ha, with the balance consisting of common user facilities such as:</p> <ul style="list-style-type: none"> ○ Office. ○ Storage facilities. ○ Workshop for maintenance and services. ○ Accommodation. 			
Issue s	<ul style="list-style-type: none"> • Lack of aquaculture production in the state. • Shortage of marine fish seed in the country. • Lack of aquaculture economic activities in the state. • No marine hatchery in the state and DoF hatchery yet to operate. 			
Rationale	<ul style="list-style-type: none"> • Coastal land is limited, with almost no available land left. Large scale brackishwater farming is not feasible under these circumstances. However, hatchery and seed production of marine fish has a small footprint and would be more suited to current resource base. • Marine water quality off Perlis is good and unpolluted. • Pioneer to the hatchery activity in the state, since no marine hatchery has yet been established in the state. • Attract investor to invest in aquaculture. • There is a big demand for seed stock of fish such as groupers, sea bass and snappers in neighboring states i.e. Kedah, Penang, Perak. Provide more jobs opportunities in the state. • Transfer of aquaculture technology to the state. • Opportunities for R&D. • There is potential for the hatchery to become another tourism product. <p>Comments</p> <p>A proposal for the establishment of a grouper hatchery at the same site has been made to the Department of Fisheries using the CENTS system. However to date there has been no response from the State. The proposed site is currently covered by mangroves and would need to be developed for the Marine Finfish Seed Production Zone.</p>			

<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • Aquaculture production in the state amount to 894 tonnes valued at RM6.6 million. • There is a demand for marine finfish seed, both locally as well as regionally. • Large clusters of marine finfish farming off Penang and Merbok (Kedah), which represent a significant market catchment for marine seed stock as well as other parts of Malaysia. • Demand is also strong from Southern Thailand and Indonesia. • Current supply is mostly from Thailand, Taiwan and Indonesia. • There are also private hatchery suppliers around the country especially, Johor, Perak and Terengganu.
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Location: Kg Tanah Timbol, Kuala Sanglang</p> <p>Land Size: 10ha</p> <p>Land Ownership: State</p> </div> </div>
<p>Depiction</p>	<div style="display: grid; grid-template-columns: 1fr 1fr; gap: 10px;">     </div>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

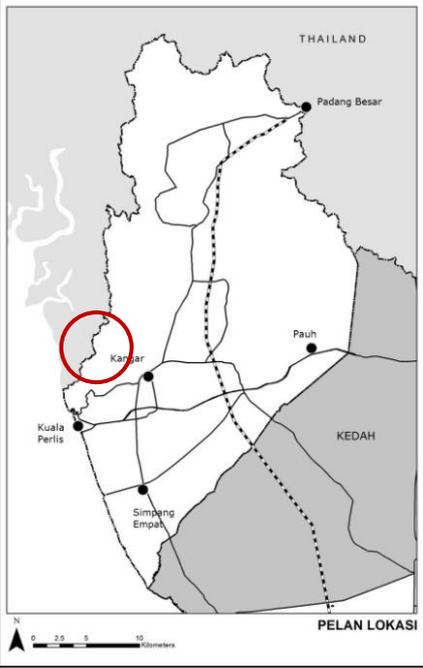
Implementing Agencies	Role and Responsibilities of Implementing Body																																																																																																																													
	Description	Name			Role & Responsibilities																																																																																																																									
	Main Agencies	Department of Fisheries			<ul style="list-style-type: none"> Construction of basic infrastructure Promotion of investment 																																																																																																																									
	Other Agencies	NA			NA																																																																																																																									
Private Sector	Private Operator			<ul style="list-style-type: none"> Operation of finfish seed zone 																																																																																																																										
Programme Costing Assumptions	Description of the Programme Costing																																																																																																																													
	Revenue Streams	Sale of fingerlings																																																																																																																												
	Operating Expenditures Description	<ul style="list-style-type: none"> Manpower Utilities Feed Maintenance 																																																																																																																												
	Capital Expenditures Description	<ul style="list-style-type: none"> Land Infrastructures 																																																																																																																												
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																																																																									
		2012 – 2015	2015 – 2020	2021 – 2025	2026 – 2030																																																																																																																									
	Production (no./year)	-	8 million	8 million	8 million																																																																																																																									
	Estimated CAPEX (RM million)	1.3	3.25	1.0	-																																																																																																																									
	Estimated OPEX (RM million)	0.3	-	-	-																																																																																																																									
Investments / Funding Sources	Investments (RM million)																																																																																																																													
		Public Sector	Private Sector																																																																																																																											
			Private Sector	Local (%)	Foreign (%)																																																																																																																									
	Development Expenditure / CAPEX	0.5	5.0	100	0																																																																																																																									
Operating Expenditure	0.3	-	-	-																																																																																																																										
Implementation Action Plan	Initiator	Actions			Year																																																																																																																									
	DoF/UPEN	Infrastructure development			2013																																																																																																																									
	DoF/UPEN	Attracting investors			2013																																																																																																																									
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Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	10	6	86	NA
Drivers & Enablers	<ul style="list-style-type: none"> • Availability of resources to support sustainable aquaculture development, especially land, waters and tropical climate that enable year round production. • Excellent infrastructure including roads, telecommunications and power. • Availability of local technology for hatchery and grow-out for selected species are available. • Strong government and R&D institutions support in providing incentives and infrastructure facilities. 			
Early Steps Necessary	<ul style="list-style-type: none"> • Site assessment studies to identify suitable locations for the Marine Finfish Seed Production Zone. • Funding. • Additional staff for project implementation. 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Lack of land with suitable bio-technical characteristics for aquaculture development. • Lower costs of production in neighboring Thailand. • Environmental problems through poor resource utilization. • Increased competition for input from other economic sectors. 			
Preliminary Business Model	<p>As the proposed a Marine Finfish Seed Production Zone follows an AIZ concept, it should adopt a similar business model as other AIZs throughout the country:</p> <ul style="list-style-type: none"> ○ The land is not owned but leased to an operator who then invests in productive facilities. ○ The lease period would be negotiated with the operator and would have provisions to ensure that lease quantum and period is sufficient for recovery of his capital. ○ As in the other AIZs, the lease is paid to the state. ○ Provisions would need to made to compensate land owners in case of abandonment before the lease period is over. 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [AGRI-FOOD PRODUCTION ZONES]

Project Code	AG11	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Establishment of a Marine Shrimp Production Zone			
Project Description	<p>The establishment of Shrimp Aquaculture Industry Zone based on the concept of Aquaculture Industry Zone (AIZ) However, as in AIZ, individual investors would then set up other related infrastructure such as restaurants around these main infrastructure facilities.</p> <p>The suitable farming method will be an extensive farm, where an unproductive padi field can be changed into a pond. The area can be enclosed by a fence. Other necessary infrastructure in the Shrimp Aquaculture Industry Zone included:</p> <ul style="list-style-type: none"> ○ Laboratory. ○ Storage facilities. ○ Aerator such as padi wheel ○ Generator for electricity back up ○ Water pump, inlet and outlet ○ Roadway - Main roads (not farm road) for transportation and access. ○ Basic amenities – Electric, fuel, water supply and telecommunication. ○ Wastewater treatment. <p>Assuming that a contiguous area of 40ha is available for pond farming, then the actual productive area would about 25ha, with the balance consisting of common user facilities such as:</p> <ul style="list-style-type: none"> ○ Office. ○ Workshop for maintenance and services. ○ Accommodation. ○ Processing plant ○ Packaging area. ○ Restaurant <p>To become a tourist attraction, the Shrimp Aquaculture Industry Zone must be hygienic condition and have attractive landscape features and buildings.</p>			
Issue Being Resolved	<ul style="list-style-type: none"> • Lack of aquaculture production in the state. • Production of a high value commodity in the place of rice. • Low revenue from unproductive padi fields 			
Justification / Rationale	<ul style="list-style-type: none"> • Coastal land is limited, with almost no available land left. The opening up of large scale brackishwater farming of shrimp in Greenfield sites is not feasible under these circumstances. • Marine water quality off Kuala Perlis is suitable for shrimp farming. • The development of unproductive padi fields outside the MADA rice bowl areas for shrimp farms is a viable possibility, especially if: <ul style="list-style-type: none"> ○ Padi production is undertaken at a subsistence or marginal level. ○ The land is adjacent to coastal areas where marine water can be abstracted easily. • Increased revenue for the state when the unproductive padi fields change to high value shrimp farming. • Increase aquaculture production in the state. 			

	<ul style="list-style-type: none"> • Support the demand for shrimp in the state and country. • Provide more jobs opportunities in the state. • Lower cost than opening new sites at mangrove areas. • Less ecological ill effects, no destroying of sensitive habitat (mangrove) for shrimp farming • Promote investment in aquaculture activities in the state. • Potentially become another tourism product in the state, based on ecotourism by Langkawi Shrimp Farm and Huka Prawn Park, New Zealand, providing educational and fun activities such as farm tour, fishing, feeding by hand and restaurant to cook their fresh prawn. <p>Comments</p> <p>The area being proposed for development is under private ownership. The project would involve the acquisition/consolidation of land lots developed on a commercial basis. It is untenable for the original land owners to play a direct role in investments within the Shrimp Aquaculture Industry Zone. However, they can participate on a shareholder basis.</p>
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • Aquaculture production in the state amounts to 894 tonnes valued at RM6.6 million. • There is a strong and steady demand for farm shrimp, both from the retail markets as well as processors based in Butterworth and Southern Thailand.
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Location: Kuala Perlis</p> <p>Land Size: 40ha</p> <p>Land Ownership: Individual</p> </div> </div>
<p>Depiction</p>	<div style="display: flex;">   </div>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis



Shrimp Farming AIZ

Implementing Agencies	Role and Responsibilities of Implementing Body		
	Description	Name	Role & Responsibilities
	Main Agencies	Department of Fisheries	<ul style="list-style-type: none"> Construction of basic infrastructure Promotion of investment
	Other Agencies	Land Office	Acquisition of land
Lembaga Pertubuhan Peladang		Organisation of land owners	
Private sector	To be identified	Investment in farm	

Programme Costing Assumptions	Description of the Programme Costing	
	Revenue Streams	Sale of farmed stock, restaurant, admission fee
	Operating Expenditures Description	<ul style="list-style-type: none"> Manpower Utilities Feed Maintenance
	Capital Expenditures Description	<ul style="list-style-type: none"> Land Infrastructure

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																																																																		
		2012 - 2015	2016 – 2020	2021 – 2025	2026 - 2030																																																																																																																		
	Production (MT/year)	-	312.5	312.5	312.5																																																																																																																		
	Estimated CAPEX (RM million)	5.0	5.5	2.0	-																																																																																																																		
	Estimated OPEX (RM million)	0.3	-	-	-																																																																																																																		
Investments / Funding Sources	Investments (RM million)																																																																																																																						
		Public Sector	Private Sector																																																																																																																				
			Private Sector	Local (%)	Foreign (%)																																																																																																																		
	Development Expenditure / CAPEX	2.0	10.5	100	0																																																																																																																		
	Operating Expenditure	0.3	-	-	-																																																																																																																		
Implementation Action Plan	Initiator	Actions			Year																																																																																																																		
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Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																																																																																																																			
	5	13	65	NA																																																																																																																			
Drivers & Enablers	<ul style="list-style-type: none"> • Availability of resources to support sustainable aquaculture development, especially land, waters and tropical climate that enable year round production. • Excellent infrastructure including roads, telecommunications and power. • Availability of local technology for grow-out of shrimp. • Strong government and R&D institutions support in providing incentives and infrastructure facilities. 																																																																																																																						
Early Steps Necessary	<ul style="list-style-type: none"> • Detailed planning studies for the establishment of Shrimp Aquaculture Industry Zone. • Funding. • Additional staff for project implementation. 																																																																																																																						

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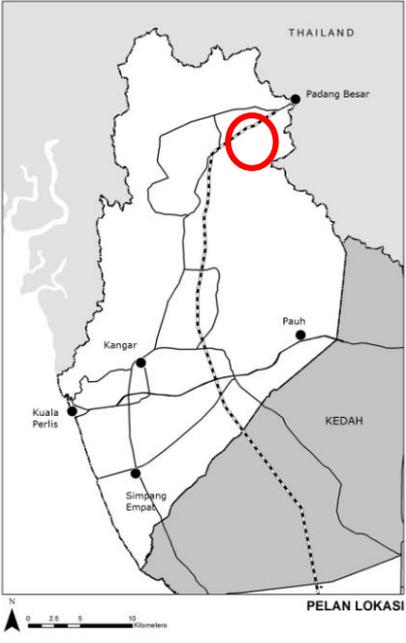
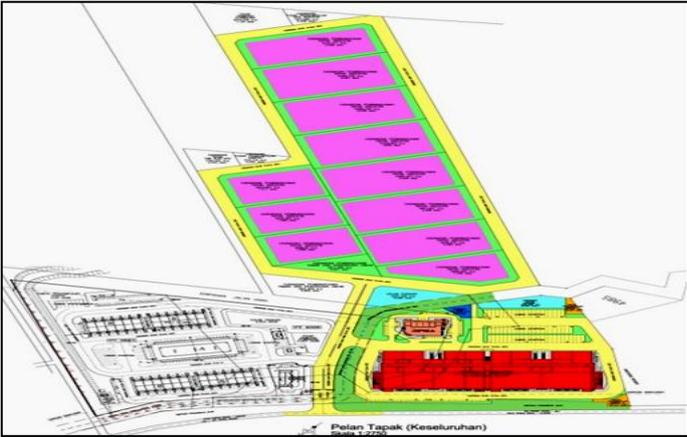
<p>Possible Barriers & Threats</p>	<ul style="list-style-type: none"> • Lower costs of production in neighboring Thailand. • Environmental problems through poor resource utilization. • Increase competition for input from other economic sectors.
<p>Preliminary Business Model</p>	<p>The proposed Shrimp Aquaculture Industry Zone which based on the AIZ concept should adopt a similar business model as with other AIZs throughout the country i.e.:</p> <ul style="list-style-type: none"> ○ The land is not owned but leased to an operator who then invests in productive facilities. ○ The lease period would be negotiated with the operator and would have provisions to ensure that the lease quantum and period is sufficient for recovery of his capital. ○ In other AIZs, the lease is paid to the state. However, in this model, the lease would be paid to the landowners. ○ Provisions would need to make to compensate land owners in case of abandonment before the lease period is over.

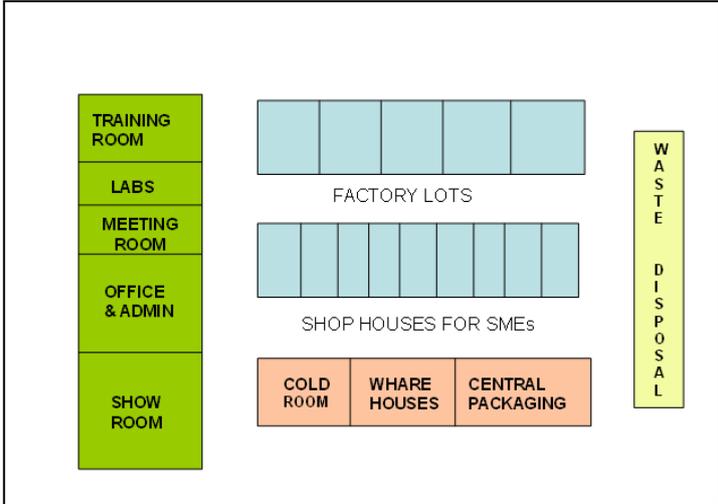
B. HALAL MANUFACTURING

Strategic Project Brief [HALAL HIGH VALUE MANUFACTURING]

Project Code	HM1	New Project?	Existing?	Quick Win?
		N	Y	N
Project Name	Halal Food Park			
Project Description	<ul style="list-style-type: none"> • The Padang Besar Halal Park will be a cluster of Halal business industries to be built in a special zone where they will be provided infrastructure and Halal related support services • Padang Besar Halal Park will be focusing on food base products within the development area of 100 ha (247 acres). Existing area only 30 acres with 12 shoplots. • Target by 2020 will be 100 SMEs each with an average turnover of RM 5 million each a year and 20 big enterprises with turnover exceeding RM 10 million/ yr • There will be five manufacturing clusters within the Park combining activities of: <ul style="list-style-type: none"> - marines and fisheries, - meat (especially processed poultry & beef products) - dairy, - food & beverages (including mushroom, rice-base products, herbal tea, fruit juice & energy drink, snack foods) - extraction of value added ingredients and additives (Halal gelatin, collagen). • The manufacturing of Halal food here will be based on good manufacturing practice (GMP), the Hazard Analysis Critical Control Points (HACCP), and other health standards. • The park activities emphasize collection, processing and distribution products. • The construction of the park will be implemented in phases in modular form • Components of the park will include: <ul style="list-style-type: none"> - 100 Shop houses - 20 Factory lots (2 Ha/ lot) - Ware houses - Central packaging facilities for SMEs - Waste treatment - Admin centre (Office, meeting room, exhibition room) • In the initial stage, small and medium-sized businesses would be emphasized in this industrial estate. • Development of Halal Parks will be monitored by HDC to facilitate its development status and provide with HALMAS status. With the HALMAS status, the Halal Parks operators and Halal industry players operating in the Halal Parks can apply for Halal incentives provided by HDC and MOF 			
Issues	<ul style="list-style-type: none"> • Low Value added in Perlis • Strategies to link with IMTGT • Lack of foreign investment in Perlis • Lack of thrusts for economic development 			
Rationale	<ul style="list-style-type: none"> • To tap into the vast market potential for Halal foods both locally and internationally • Proximity to Thailand allows for cheaper imports of raw materials and cheaper labour • To allow for value-added activities in the agri-food sector • Providing support for meat and agriculture based products, cross border business activities and the manufacturing and extraction of value added ingredients and additives. • The Halal park is a resource-based park with linkages to other Koridor Utara initiatives in agriculture and food manufacturing sectors. It will capitalise on the growing global halal market and rising awareness and demand on food security, safety and hygiene. • The Halal park capitalises on the inherent Islamic values of the region as well as on increased preference amongst non-Muslims globally in Halal products. It also takes full advantage of the well-recognised Malaysian Halal certification. 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<ul style="list-style-type: none"> • The strengthening of the Indonesia-Malaysia-Thailand Growth Triangle (IMTGT) co-operation offers a wide window of opportunity for industries located in this area in terms of procurement of inputs and supply of outputs. • The Halal Food Park will facilitate the establishment of incubator centres to commercialize research and promote Halal foods.
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • The Halal food market is estimated to be worth RM 150 billion a year and has the potential to grow to RM 600 billion a year (USD 150 billion) if the larger proportion of the 2 billion global Muslim population are tapped into. • <i>Halal</i> food – an excellent business & lucrative market for domestic and international trade
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Location: Padang Besar Land Size: 89.22 Land Ownership: State Government</p> <p>The location in Chuping Valley, Padang Besar capitalizes on its proximity to the Inland Port and railway link to Thailand and Penang</p> </div> </div>
<p>Depiction</p>	<p>Original Plan of Padang Besar Halal Park</p> 

<p>Depiction</p>	<p>12 Shop lots Under Construction</p>  <p>Concept Plan of Proposed Halal Food Park</p> 
<p>Project Benchmark</p>	<ul style="list-style-type: none"> - Prima Halal Food Park, Kuantan. Prima Halal Food Park established by Prima Agric Products Sdn Bhd aims to be the production hub of the Halal delicatessen and meat products for the world. Built on 100 acres of land, this Halal Food Park will provide 68 factory units for 68 SMIs. SMIs will own the factory unit and benefit from the facilities provided by the food park. The business model involves anchor company (Prima Agri Products Sdn Bhd) and contract outgrowers (SMIs) for processed livestock products. - Tanjung Manis Halal Park, Sarawak The Halal Hub involves an area of 9000 hectares of land. The Park integrates agrifood production and food processing facilities and includes : <ul style="list-style-type: none"> • Bio-tech Aquaculture Prawn Farming • Feed-Milling & Fertilizer • Organic Chicken & Egg Production • Eel Farming • Marine Fish Farming • Aqua Processing Industries • R & D Centre • Fruit & Vegetable Farm • Herbal Plantation <p>Aquaculture, Poultry and Animal Feed Mill, Organic Chicken and Egg production and Eel Farming provides support the Rice Bowl development in the areas neighboring Tanjung Manis. The park is provided with facilities such as new bridges, good roads, electricity, telecommunication, waste water management and solid waste system</p>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

					
Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name		Role & Responsibilities	
	Main Agencies	NCIA		Infra development	
	Other Agencies	- SEDC Perlis - Padang Besar Halal Exclusive Zone Authority		One-stop centre	
	Other Agencies	SMIDEC		Training and loans	
		HDC		Monitoring & incentives	
MARA		Loans			
Private Sector	SME Corp		Financing		
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	Leasing of Land/Lots			
	Operating Expenditures Description	<ul style="list-style-type: none"> Labour Utilities Transportation 			
	Capital Expenditures Description	<ul style="list-style-type: none"> Basic infrastructure (earthworks, roads, drainage) Utilities (electricity, water, communication etc) Waste disposal system Factories Admin building, cold room, store, central processing Equipments & vehicles 			
	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Area (Ha)	-	-	-	-
	Estimated CAPEX (RM million)	41.65	813.4	-	-
	Estimated OPEX (RM million)	1.0	-	-	-

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Drivers & Enablers</p>	<ul style="list-style-type: none"> • Halal food processing is somewhat different from other manufacturing in that they are dependent upon a supply of highly perishable inputs, consume large amounts of electricity and water, have specialized waste treatment needs, involves high bulk handling, and requires a clean and safe environment to operate so as to be consistent with the various food quality and safety standards required of the industries. • The location of the park has to be in the Free Zone Area and near the port to allow for accessibility for export. The location must also be in a clean, non-polluting area (away from polluting industries). • The Park must have a developed transportation infrastructure, proximity to power and water supplies and a central waste treatment facility.
<p>Early Steps Necessary</p>	<ul style="list-style-type: none"> • Identify suitable area around 50 hectares in Padang Besar for the establishment of the Food Processing Halal Park
<p>Possible Barriers & Threats</p>	<ul style="list-style-type: none"> • Competition with Halal Park in Southern Thailand. Thailand is moving ahead with its Halal food initiatives, building more food factories around the Muslim majority southern Thailand • Shortage of supply of raw materials eg beef from Thailand due to Foot & Mouth Disease
<p>Preliminary Business Model</p>	<p>Business Model Adopted by Prima Agrifood in Gambang Halal Park, Pahang (Base on Anchor Company)</p> <pre> graph TD A[Prima Agri-Product] --> C[68 Food Park SMIs] B[Sells ready made food product] --> C D[Provides food park facilities] --> C E[Machinery & facility aid] --> C F[Financial & investment advise] --> C G[Production & Management training] --- E H[Consultation/ accreditation approval] --- F I[Prima & SMI venture] --- C </pre>

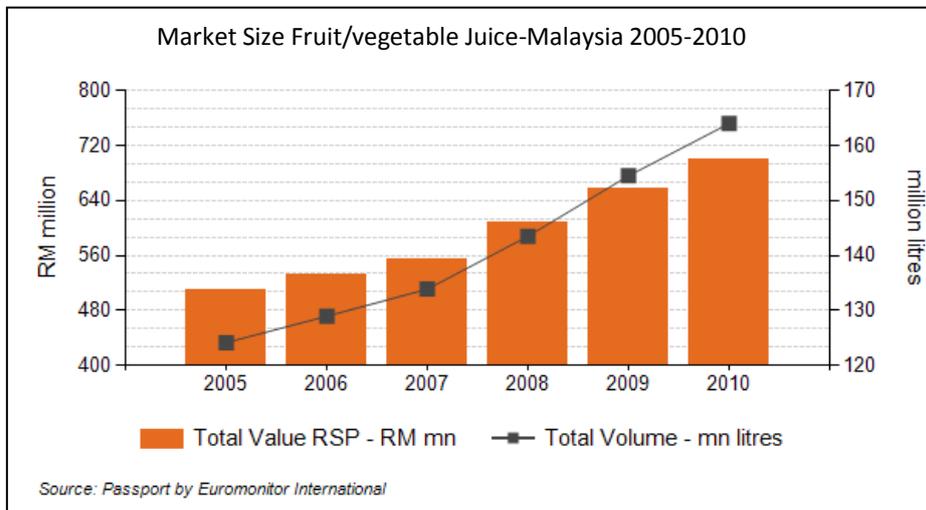
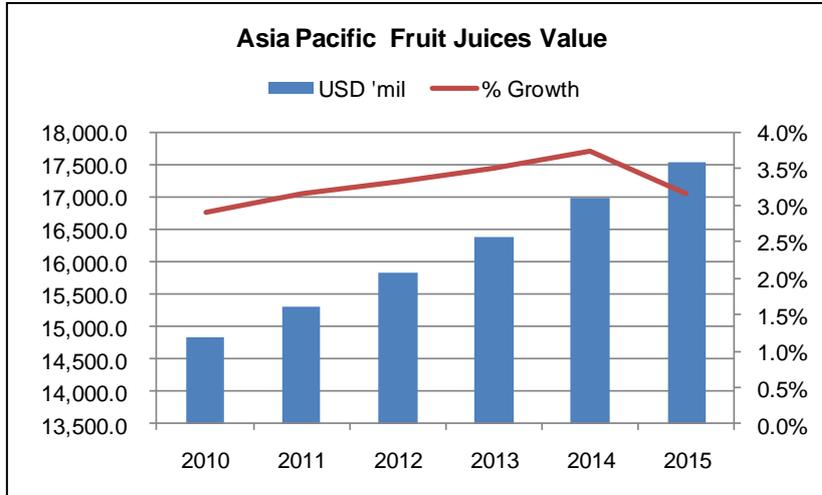
Strategic Project Brief [HALAL HIGH VALUE MANUFACTURING]

Project Code	HM2	New Project?	Existing?	Quick Win?										
		Y	N	N										
Project Name	Health Beverages, Functional Foods, Milk & Juices Processing													
Project Description	<p>The processing plant will be located at the Halal Food Park in Chuping Valley, requiring 75ha of land. The components within the “New Age Beverage” processing plant include:</p> <ul style="list-style-type: none"> • 4 Pasteurization Plants (containing homogenizers) <ul style="list-style-type: none"> - 2 for Milk Processing - 2 for Health Beverages & Juices • 2 Reception and Storage Tanks • 1 Cleaning Facility • 1 Packaging Centre <p>The processing of health beverages, milk and juices will be based on Good Manufacturing Practice (GMP), the Analysis Critical Control Points (HACCP), and other health standards. HDC will certify these packaged beverages with the HALMAS status to be exported to the ready Halal export market.</p>													
Issues	<ul style="list-style-type: none"> • Lack of constant supply to meet quality standards of large hypermarkets, supermarkets, thus leading to marketing challenges that impacts on “off-take” and price • Low value-added in Perlis 													
Rationale	<p>New Age Beverages</p> <ul style="list-style-type: none"> • Consists of health beverages, milk and juices processing • The fastest growing category with a value sales growth rate over three times faster than the total beverage market over the last 5 years • Driven by the strong performance and premium price positioning of functional water, tea drinks and energy drinks • Increasing consumer preference towards healthier lifestyles, manufacturers are switching to healthier ingredients in health beverages covering herbal tea, fruit juices, energy drinks etc <p>Functional Foods</p> <ul style="list-style-type: none"> • New ingredients added into food and the new product has a new function • General category of functional foods include processed food fortified with health-promoting additives <p>Relevance to Perlis</p> <ul style="list-style-type: none"> • A dedicated Halal food park that cater for manufacturing and processing purposes in Padang Besar • Availability of raw materials that can be used for the processing and manufacturing of the “new age beverages” • Strong linkages with the proposed upstream economic activities in Perlis <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Beverage/Functional Foods</th> <th>Linkage</th> </tr> </thead> <tbody> <tr> <td>Health Beverages</td> <td>Herbal tea – linked to major focus on upstream herbal cluster like misai kucing</td> </tr> <tr> <td>Milk</td> <td>Fresh milk/dairy milk – linked to upstream livestock project</td> </tr> <tr> <td>Fruit Juices</td> <td>Fruit cluster with the availability of harumanis and sala mangoes Fruit colour powder from the technology of Technology Park Malaysia</td> </tr> <tr> <td>Functional Foods</td> <td>Edible Birds’ Nest</td> </tr> </tbody> </table> <ul style="list-style-type: none"> • Existing raw materials can cater for a high value international and domestic market 				Beverage/Functional Foods	Linkage	Health Beverages	Herbal tea – linked to major focus on upstream herbal cluster like misai kucing	Milk	Fresh milk/dairy milk – linked to upstream livestock project	Fruit Juices	Fruit cluster with the availability of harumanis and sala mangoes Fruit colour powder from the technology of Technology Park Malaysia	Functional Foods	Edible Birds’ Nest
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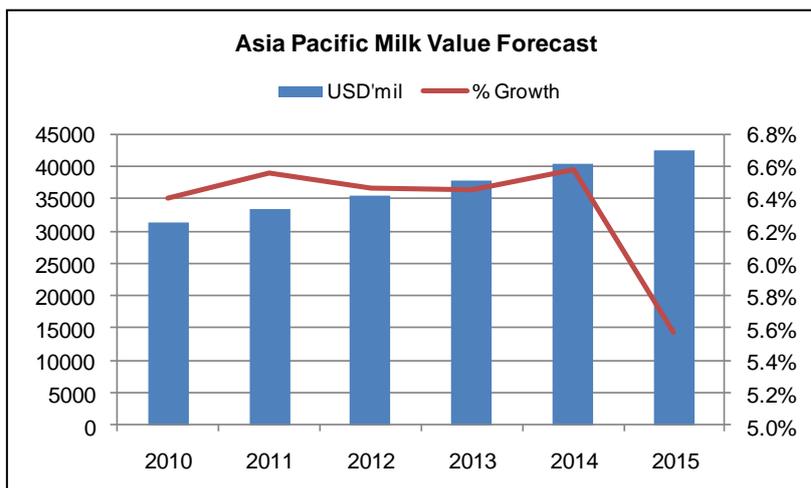
Existing Demand & Current Supply

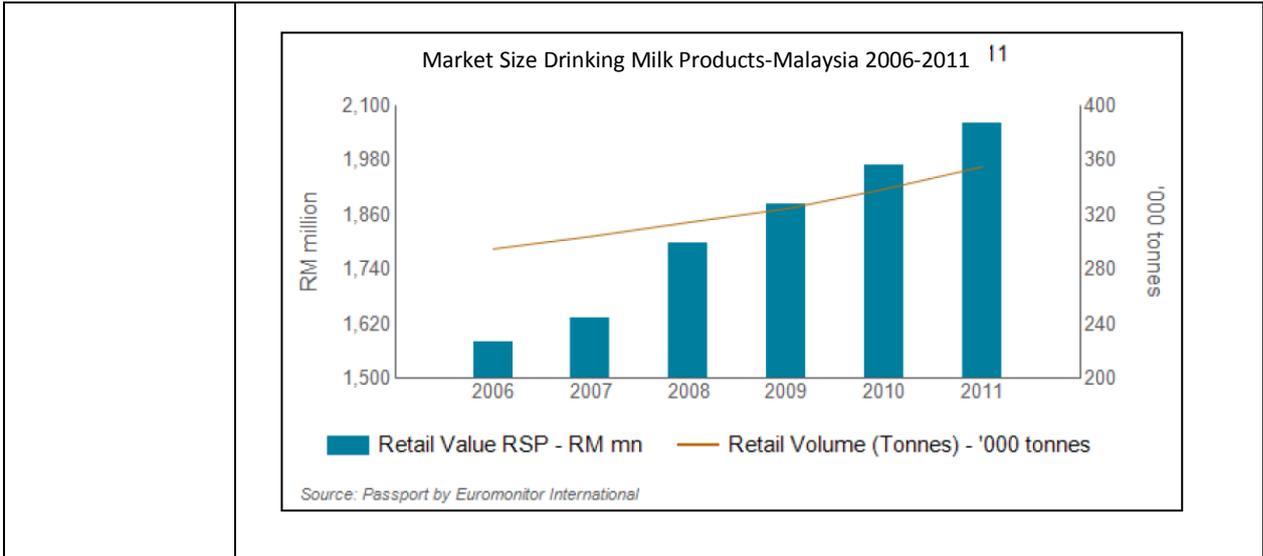
Global New Age Beverages Market

- Fruits and vegetables juices is forecast to reach 64.46 litres in 2015
- In 2015, Asia-Pacific juices market is forecast to have a value of USD17,529.6 million, an increase of 18.1% since 2010
- The CAGR of the market in 2010-2015 is predicted to be at 3.4%

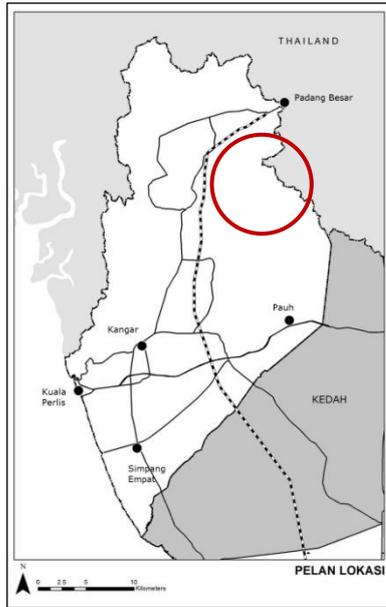


- Milk and dairy products is forecast to reach USD494 billion by year 2015
- CAGR in 2010-2015 predicted to be 6.3%





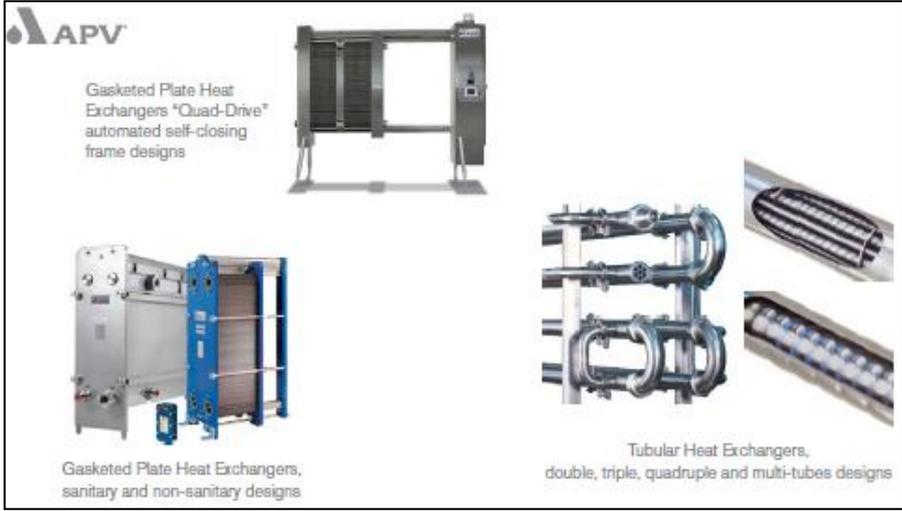
Location Plan / Land Size



Location: Halal Food Park, Chuping Valley
Land Size: 40ha
Land Ownership: State

Depiction

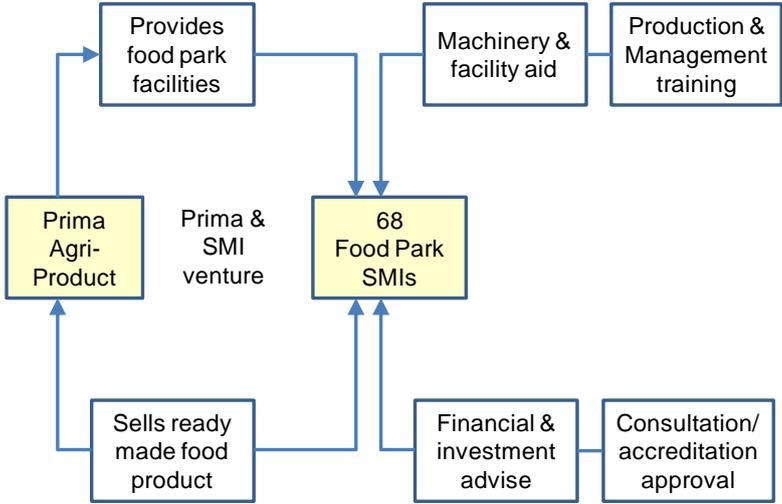


	<p>Heating and Cooling Equipment</p>  <p>The image shows various industrial heat exchangers. On the left, there are APV Gasketed Plate Heat Exchangers, including a 'Quad-Drive' automated self-closing frame design and sanitary/non-sanitary designs. On the right, there are Tubular Heat Exchangers in double, triple, quadruple, and multi-tubes designs.</p>														
<p>Project Benchmark</p>	<p>Dutch Lady Dutch Lady Malaysia first established itself as a manufacturer of sweetened condensed milk. Dutch Lady Milk Industries Berhad’s extensive product range now spans from infant formula and growing up milk to fruit juice and yoghurt snacks. Every product innovation in its rapidly developing infant and child formula range is backed by extensive research both locally and internationally. Royal Friesland Campina, the parent company in the Netherlands, is constantly funding efforts to investigate and discover ways to take your little one’s nutrition to the next level.</p> <p>Marigold MARIGOLD PEEL FRESH has been a long-standing homegrown brand, delighting Malaysians of all ages for over 20 years. Packed with vitamins and juicy goodness, MARIGOLD PEEL FRESH continues to refresh Malaysians today with great tasting juices. MARIGOLD PEEL FRESH is also available in the No Sugar Added range for health-conscious consumers. Reigning as Malaysia’s favourite Chilled Juice Drink and Gold Award winner of the Readers Digest Trusted Brand Award for many consecutive years, the MARIGOLD PEEL FRESH range of fruit juices is a refreshing and healthy drink to complement your meal or on its own</p>														
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Main Agencies</td> <td>NCIA / State Government</td> <td>Infrastructure development</td> </tr> <tr> <td>SEDC</td> <td> <ul style="list-style-type: none"> Identify operator for Halal Park Provide incentives </td> </tr> <tr> <td>Private Sector</td> <td>Private Operator</td> <td>Anchor company that overlooks the whole Halal Food Park</td> </tr> </tbody> </table>	Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	NCIA / State Government	Infrastructure development	SEDC	<ul style="list-style-type: none"> Identify operator for Halal Park Provide incentives 	Private Sector	Private Operator	Anchor company that overlooks the whole Halal Food Park
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PROJECT BRIEF – HALAL MANUFACTURING

	Capital Expenditures Description	<ul style="list-style-type: none"> • Factory building for processing plant • Purchase of various machineries/equipments for processing • Pasteurization plant • Building of packaging centres • Building of storage tank • Application of licenses • Cleaning facility 																																																																																																																		
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																																																															
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																																																																																																															
	Production (MT/year)	-	-	-	-																																																																																																															
	Estimated CAPEX (RM million)	7.8	336.8	4.0	4.0																																																																																																															
	Estimated OPEX (RM million)	0.5	-	-	-																																																																																																															
Investments / Funding Sources	Investments (RM million)																																																																																																																			
		Public Sector	Private Sector																																																																																																																	
			Private Sector	Local (%)	Foreign (%)																																																																																																															
	Development Expenditure / CAPEX	10.0	342.6	100	-																																																																																																															
	Operating Expenditure	0.5	-	-	-																																																																																																															
Implementation Action Plan	Initiator	Actions			Year																																																																																																															
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		Provision of facilities for operations			2013																																																																																																															
	Private Investors	Operate pilot processing plant			2013																																																																																																															
		Operate full-fledge processing plant			2015																																																																																																															
Operate in large-scale, ready for exports			2017																																																																																																																	
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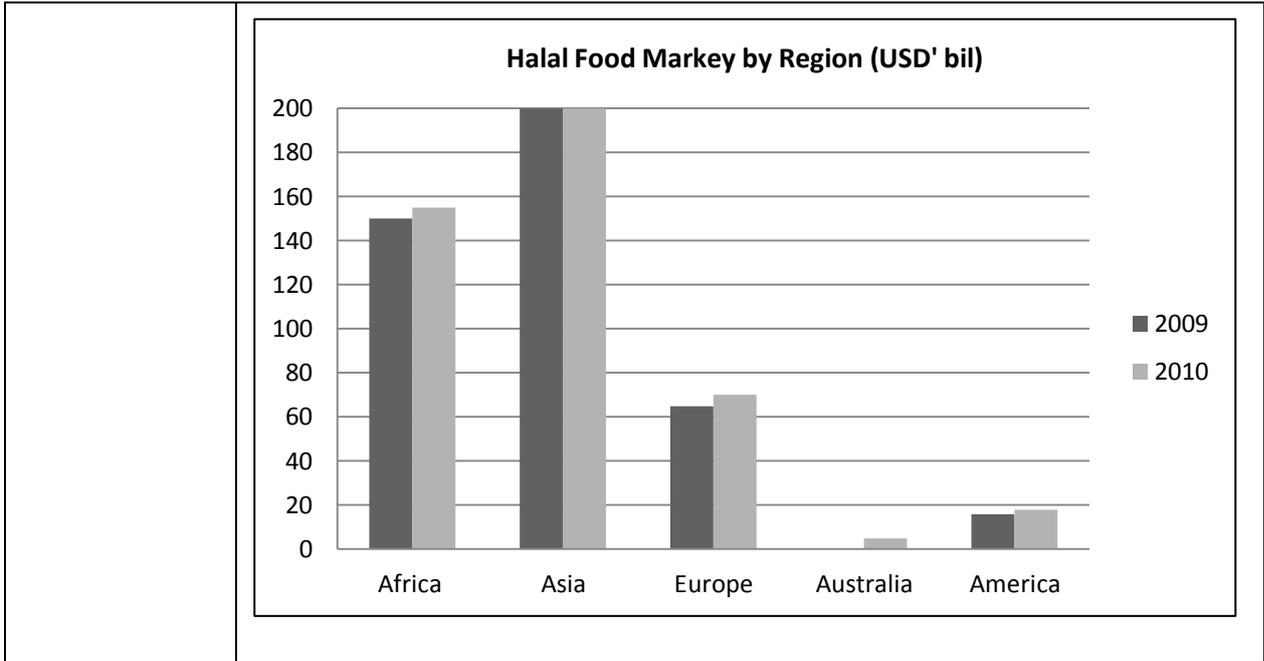
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	149	353	128	
Drivers & Enablers	<ul style="list-style-type: none"> • Proper road systems for transshipment of packaged products • Clean and non-polluting environment for the Halal Food Park • Clean water sources • Energy and utilities 			
Early Steps Necessary	<ul style="list-style-type: none"> • Identification of private investors • Provision of facilities to operate pilot processing plant 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Difficulty to have private investors participation to run the plant • Lack of economies of scale of upstream raw materials for processing in the short term • Lack of technical capacity and processing techniques 			
Preliminary Business Model	<p style="text-align: center;">Business Model Adopted by Prima Agrifood in Gambang Halal Park, Pahang</p>  <pre> graph TD P[Prima & SMI venture] --- AP[Prima Agri-Product] P --- F[68 Food Park SMIs] P --> PF[Provides food park facilities] P --> MF[Machinery & facility aid] P --> PM[Production & Management training] AP --> SR[Provides food park facilities] SR --> F MF --> F PM --> F F --> SRP[Sells ready made food product] SRP --> AP F --> FIA[Financial & investment advise] FIA --> F FIA --> CA[Consultation/ accreditation approval] CA --> F </pre>			

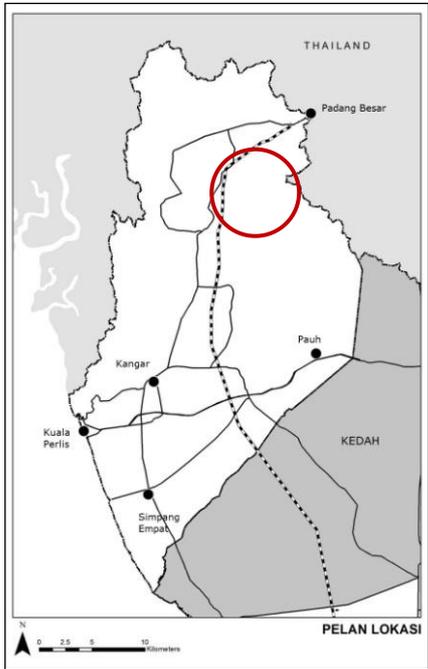
Strategic Project Brief [HALAL HIGH VALUE MANUFACTURING]

Project Code	HM3	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Halal Snack foods & Sauces Processing			
Project Description	<p>The processing plant will be one of the larger lots within the Halal Food Park that focuses mainly on producing Halal snack foods and sauces where raw materials are supplied from the upstream cultivation of mushrooms and high value fish aquaculture. Some of the primary components of the processing plant include:</p> <ul style="list-style-type: none"> • Factory Plants for Housing of Processing Line <ul style="list-style-type: none"> - 1 for Snack foods - 1 for Sauces • Machinery/Equipment for processing • 1 Integrated Cold Chain Facility • 1 Value Added Centre • 2 Packaging Centres • 1 Storage/Warehouse • 1 Office for Administration <p>The processing of the snack foods and sauces will be based on Good Manufacturing Practice (GMP), the Analysis Critical Control Points (HACCP), and other health standards. HDC will certify these packaged snack foods and sauces with the HALMAS status to be exported to the ready Halal export market.</p>			
Issues	<ul style="list-style-type: none"> • Lack of constant supply to meet quality standards of large hypermarkets, supermarkets, thus leading to marketing challenges that impacts on “off-take” and price • Low value-added in Perlis 			
Rationale	<p>Demand for Convenience</p> <ul style="list-style-type: none"> • Paucity of time, life style changes and the convenience factor supports the continuous demand increases for the industry • Impressive gains were recorded not only in the seemingly matured US and Europe but also in the growing regions of Asia-Pacific and Latin America • The wide palate of snack foods caters to different taste buds with a host of flavors. Spanning from no/low fat variety to high calories/protein content, the range of snack foods quells the hunger of consumers with different health requirements • Easy on-the-go portable packages, such as stand-up pouches, single-serve/ bite-sized packs, resealable bags, and finger-hugging canisters, which add a new dimension to the concept of added convenience, is expected to emerge as a major product variable for commercial success • Premium ready-to-heat meals in USA, Japan & UK worth RM15.4 billion (15% CAGR to 2014) • Pre-mixed sauces and frozen food record growth of 7% p.a <p>Positioning in Perlis</p> <ul style="list-style-type: none"> • The manufacturing and processing economic pillar is an important element in linking up with the upstream agricultural products • Linking with the proposed strategies for intensive mushroom cultivation and high value aquaculture development for Perlis, there is potential for processing of mushrooms and specific fish types into high value snack foods or sauces to cater for the world snackfood and sauces market • Snack foods and sauces are being processed in the form of: 			

	<table border="1"> <thead> <tr> <th>Material</th> <th>Types</th> </tr> </thead> <tbody> <tr> <td>Mushrooms</td> <td> <ul style="list-style-type: none"> Dried processed mushroom chips Essence of mushrooms Sauces ingredients Herbal soup ingredients </td> </tr> <tr> <td>Fish</td> <td> <ul style="list-style-type: none"> Fish chips Fish sauce </td> </tr> </tbody> </table> <ul style="list-style-type: none"> The snack foods and sauces will be processed in the Halal Food Park and be packaged as Halal. This sets another opportunity to penetrate the Halal food market that has a huge global market value 	Material	Types	Mushrooms	<ul style="list-style-type: none"> Dried processed mushroom chips Essence of mushrooms Sauces ingredients Herbal soup ingredients 	Fish	<ul style="list-style-type: none"> Fish chips Fish sauce 															
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<p>Existing Demand & Current Supply</p>	<p>Snack foods & Sauces Global Market</p> <ul style="list-style-type: none"> Snack foods market is targeted to reach USD334 billion and 48,519 thousand tons by 2015 (Source: Global Industry Analysts, Inc.) Driven primarily by changing consumer demographics, perceptions, priorities and affluence levels Sauces, condiments, dressings and seasonings market is targeted to reach USD72 billion by 2015 (Source: Global Industry Analysts, Inc.) <p>Malaysian Dried Processed Snack foods & Sauces Market</p> <ul style="list-style-type: none"> Dried processed food is about 7% current value growth in 2011 to reach USD1 billion in sales It is expected to post a constant CAGR value of 2% to reach USD1.5 billion in 2016 <div> <table border="1"> <caption>Market Size Sweet and Savoury Snacks - Malaysia 2011 - 2016</caption> <thead> <tr> <th>Year</th> <th>Retail Value RSP - RM mn</th> <th>Retail Volume - '000 tonnes</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td>~648</td> <td>~32.8</td> </tr> <tr> <td>2012</td> <td>~652</td> <td>~33.6</td> </tr> <tr> <td>2013</td> <td>~656</td> <td>~34.4</td> </tr> <tr> <td>2014</td> <td>~652</td> <td>~35.2</td> </tr> <tr> <td>2015</td> <td>~648</td> <td>~36.0</td> </tr> <tr> <td>2016</td> <td>~644</td> <td>~36.0</td> </tr> </tbody> </table> <p>Source: Passport by Euromonitor International</p> </div> <p>Positioning Snack foods and Sauces in the Global Halal Market</p> <ul style="list-style-type: none"> Islam is one of the largest and fastest-growing religions in the world, representing close to 25% of the world's population – 1.6 billion people Food products prepared following a set of Islamic dietary laws and regulations, which determine what is permissible, lawful and clean, are classified as Halal The Halal food market has grown quickly over the past decade, and is now worth an estimated \$632 billion annually on a global scale. The large population of Muslims adhering to Halal requirements has fuelled increased global demand for Halal products Several multinationals, such as Tesco, McDonalds and Nestlé, have recognized this, and have expanded their Halal approved product lines Because of the traditional nature of the marker, it is estimated that these multinationals control 90% of the global Halal market The global Halal food market grew from USD634.5 billion to RM661.6 billion, marking a 4.3% growth 	Year	Retail Value RSP - RM mn	Retail Volume - '000 tonnes	2011	~648	~32.8	2012	~652	~33.6	2013	~656	~34.4	2014	~652	~35.2	2015	~648	~36.0	2016	~644	~36.0
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2014	~652	~35.2																				
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2016	~644	~36.0																				



Location Plan / Land Size



Location: Halal Food Park, Chuping Valley
Land Size: 20ha
Land Ownership: State

Depiction

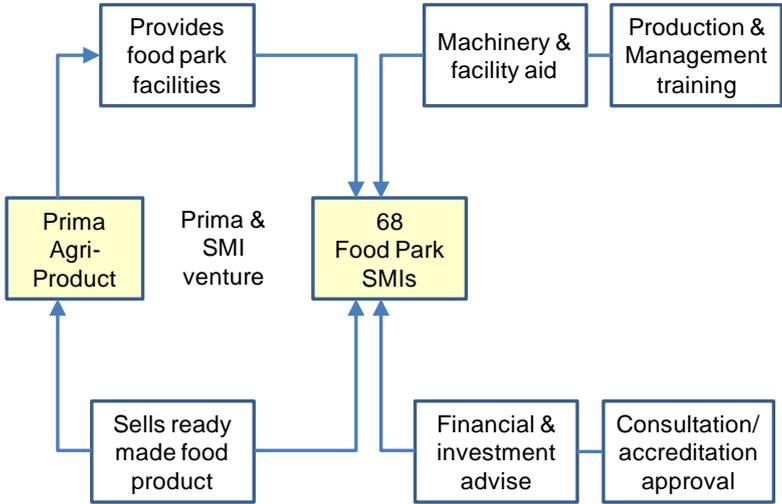


	<p>Mushroom Snacks</p>  <p>Essence of Mushrooms & Mushroom Sauces</p>  <p>Fish Snacks</p> 														
<p>Project Benchmark</p>	<p>Cerebos (International) A food and health supplements enterprise in Asia Pacific with a turnover of about USD746 million in 2010. Cerebos products range from health supplements, coffee, sauces and other processed foods. This includes the processing of edible birds' nest, essence of mushrooms, mushroom sauces and other health products to cater to the international market.</p> <p>Mamee-Double Decker (M) Bhd (Local) A snack processing company incorporated in 1971 that offers a wide range of products covering specifically snack foods like Mister Potato Chips, Double Decker, and many others.</p>														
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3" style="background-color: #cccccc;">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th style="background-color: #cccccc;">Description</th> <th style="background-color: #cccccc;">Name</th> <th style="background-color: #cccccc;">Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Main Agencies</td> <td>NCIA / State Government</td> <td>Infrastructure development</td> </tr> <tr> <td>SEDC</td> <td> <ul style="list-style-type: none"> Identify operator for Halal Park Provide incentives </td> </tr> <tr> <td>Private Sector</td> <td>Private Operator</td> <td>Anchor company that overlooks the whole Halal Food Park</td> </tr> </tbody> </table>	Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	NCIA / State Government	Infrastructure development	SEDC	<ul style="list-style-type: none"> Identify operator for Halal Park Provide incentives 	Private Sector	Private Operator	Anchor company that overlooks the whole Halal Food Park
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PROJECT BRIEF – HALAL MANUFACTURING

Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> Sale of mushroom and fish snacks and sauces 			
	Operating Expenditures Description	<ul style="list-style-type: none"> Machineries and equipment maintenance Utilities, maintenance and security of processing plant Salaries of personnel 			
Capital Expenditures Description	<ul style="list-style-type: none"> Factory building for processing plant Purchase of various machineries/equipments for processing Building of Integrated Cold Chain Facility Building of Value Added Centre Building of Packaging Centres Building of Storage/Warehouse Loan Repayment Application of Licenses 				
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	12.8	165.5	3.0	-
	Estimated OPEX (RM million)	0.5	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	10.0	171.3	100	-
Operating Expenditure	0.5	-	-	-	
Implementation Action Plan	Initiator	Actions			Year
	SEDC	Appointment of private operator			2012
		Provision of incentives			2012
	Private Operator	Identify and invite private investors for participation			2012
		Provision of facilities for operations			2013
	Private Investors	Operate pilot processing plant			2013
		Operate full-fledge processing plant			2015
		Operate in large-scale, ready for exports			2017
Halal Development Corporation (HDC)	Certification of HALMAS for products			Ongoing	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementation Timeline	<table border="1"> <tr> <th colspan="4">2012</th> <th colspan="4">2013</th> <th colspan="4">2014</th> <th colspan="4">2015</th> <th colspan="4">2016</th> <th colspan="4">2017</th> <th colspan="4">2018</th> <th colspan="4">2019</th> <th colspan="4">2020</th> </tr> <tr> <th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </table>																2012				2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																																																																									
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Strategic Project Brief [HALAL HIGH VALUE MANUFACTURING]

Project Code	HM4	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Halal Gelatin Manufacturing			
Project Description	<p>The processing plant will be within the Halal Food Park that focuses mainly on producing Halal gelatin for pharmaceutical materials manufacturing, where gelatin can be extracted from livestock in Perlis itself. Some of the primary components of the processing plant include:</p> <ul style="list-style-type: none"> • Factory Plan • Machinery/Equipment for processing • 1 Integrated Cold Chain Facility • 1 Packaging Centres • 1 Storage/Warehouse • 1 Office for Administration <p>The processing of the gelatin will be based on Good Manufacturing Practice (GMP), the Analysis Critical Control Points (HACCP), and other health standards. HDC and CCM will play a major role in supporting the Halal gelatin manufacturing for pharmaceutical manufacturing.</p>			
Issues	<ul style="list-style-type: none"> • Lack of constant supply to meet quality standards of large hypermarkets, supermarkets thus leading to marketing challenges that impacts on “off-take” and price • Low value-added in Perlis 			
Rationale	<p>Introduction to Gelatin</p> <ul style="list-style-type: none"> • Translucent, colourless, odourless solid substance, derived from collagen inside animal's skin and bones • Used as gelling agent in food, pharmaceuticals, and cosmetic manufacturing • Some animals include cows, fish, poultry <p>Positioning in Perlis</p> <ul style="list-style-type: none"> • Existence of Halal Park manufacturing gelatin for the pharmaceutical industry • Rising demand for Halal gelatin in the Muslim world • Muslim countries depend on importing Halal gelatin from overseas where the Halal status is questionable • Strong participation and interest of CCM and HDC on developing standards and assistance • The Strategic Reform Initiatives (SRIs) under the Economic Transformation Programme has a special focus on developing standards, specifically on Halal Pharmaceutical Supplements • Recommendations include development of Halal Pharmaceutical Standards, participation and promotion of Malaysian Standards on Halal Pharmaceutical Supplements internationally and capacity building for Halal pharmaceutical stakeholders <p>Pharmaceutical Products from Gelatin</p> <ul style="list-style-type: none"> • Hard shell capsule, Encapsulation, Suppositories, Tablets and tablet coatings, Blood plasma substitute 			

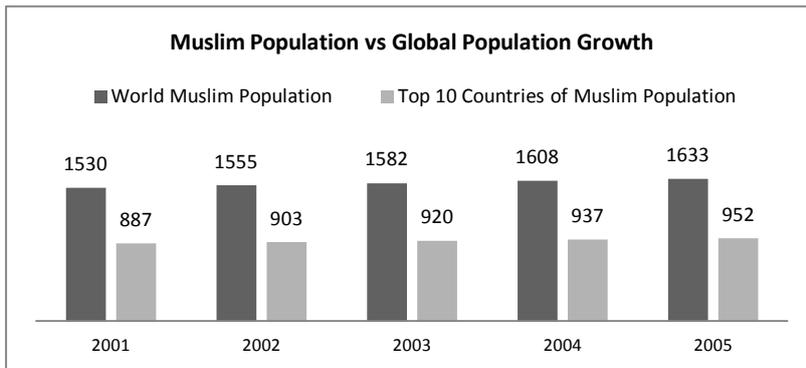
Existing Demand & Current Supply

Gelatin & Pharmaceutical Global Market

- Projected to reach 357.8 thousand tons by 2015 (Source: Global Industry Analysts, Inc.)
- Driven by rising demand from developing economies and rising use of gelatins as biomaterials in cosmetic formulations
- Long term prospects are expected to be largely governed by the growing transition towards vegetarianism and consumer concerns regarding use of animal-source gelatin in food and pharmaceutical applications
- Halal pharmaceutical: 2010 global market growth expanded 4% from 2009 to value that exceeded USD820 billion (Halal Journal)

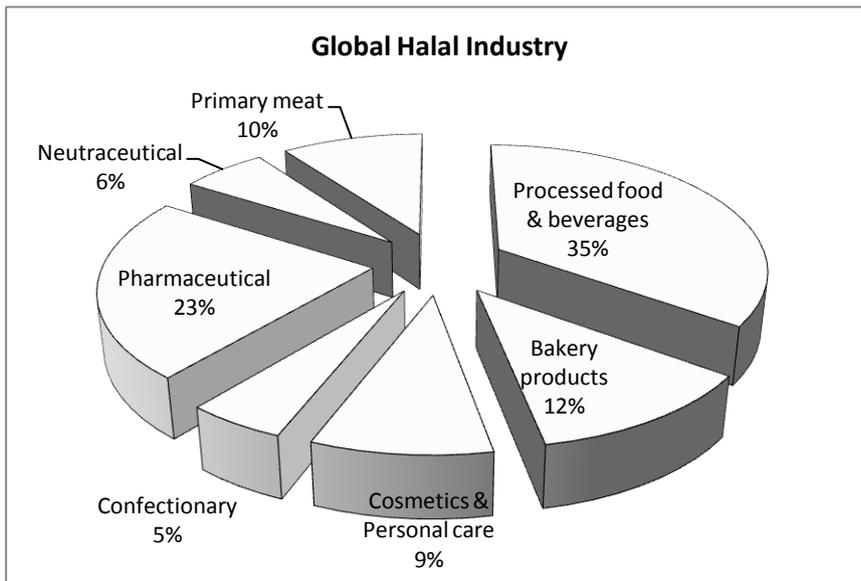
Global Halal Market Potential

- Muslim population growing at a faster rate of 1.8% than global population growth of 1.12%



Source: IMF World Economic Outlook Database 4/2007

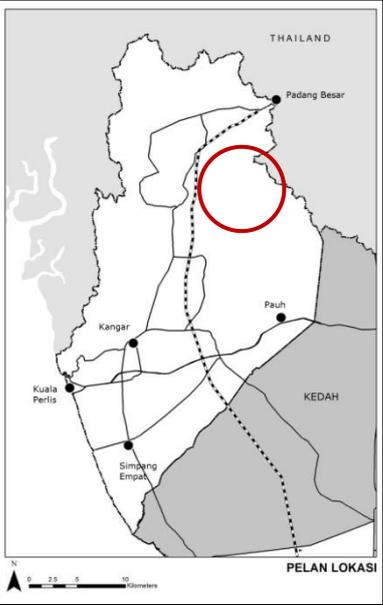
- “Potentially Halal” market has been quantified as the target market that can potentially be captured
- The estimated market share for the global Halal industry is USD2.1 trillion



Source: Euromonitor Report

Driving Factors for Global Halal Pharmaceuticals

- Growth in Muslim population
- Increased demand for Halal Pharmaceuticals spur R&D
- Rising income of Muslim consumers
- Most pharmaceuticals marketed are not Halal

<p>Location Plan / Land Size</p>		<p>Location: Halal Food Park, Chuping Valley Land Size: 15ha Land Ownership: State</p>	
<p>Depiction</p>	<p>Gelatin</p> 	<p>Capsules Made of Gelatin</p> 	
<p>Project Benchmark</p>	<p>Halaljel (M) Sdn Bhd A distributor and manufacturer of Halal alternative products. It distributes the best quality of edible and pharmaceutical grade gelatin from bovine sources that meets the international standards and specifications. The standard gelatin offered ranges from bloom 150 to 250.</p>		
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>		
<p>Description</p>		<p>Name</p>	<p>Role & Responsibilities</p>
<p>Main Agencies</p>		<p>NCIA / State Government</p>	<p>Infrastructure development</p>
		<p>SEDC</p>	<ul style="list-style-type: none"> Identify operator for Halal Park Provide incentives
<p>Other Agencies</p>		<p>Halal Industry Development Corporation (HDC)</p>	<ul style="list-style-type: none"> Halal certification
<p>Private Sector</p>		<p>Private Operator</p>	<p>Anchor company that overlooks the whole Halal Food Park</p>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

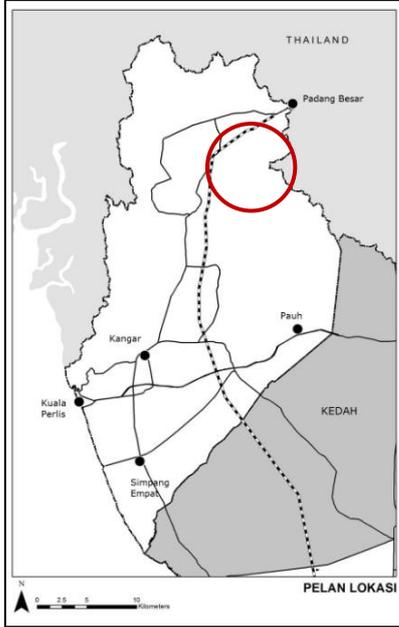
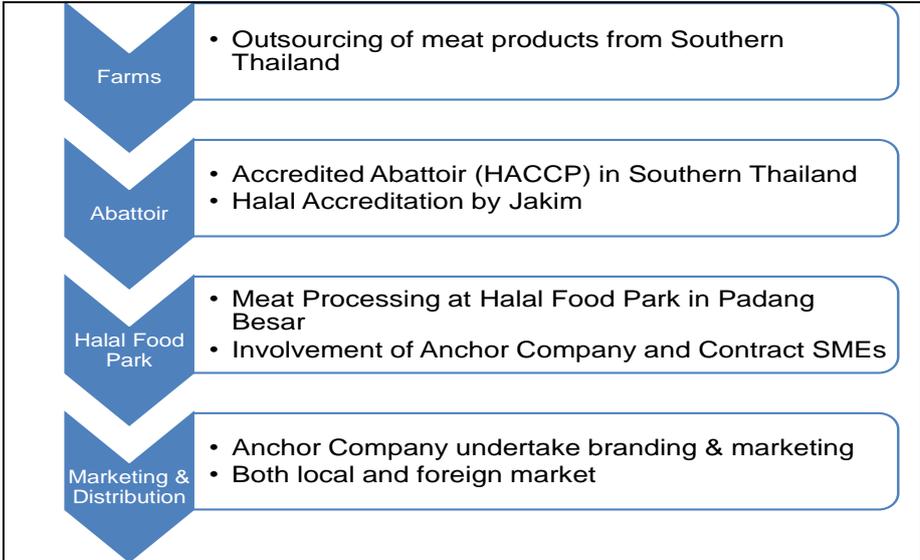
Programme Costing Assumptions	Description of the Programme Costing																											
	Revenue Streams	<ul style="list-style-type: none"> Sale of Halal processed gelatin 																										
	Operating Expenditures Description	<ul style="list-style-type: none"> Machineries and equipment maintenance Utilities, maintenance and security of processing plant Salaries of personnel 																										
	Capital Expenditures Description	<ul style="list-style-type: none"> Factory building for processing plant Purchase of various machineries/equipments for processing Building of Packaging Centres Building of Storage/Warehouse Application of Licenses 																										
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																							
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																							
	Production (MT/year)	-	-	-	-																							
	Estimated CAPEX (RM million)	-	134.9	0.56	0.56																							
	Estimated OPEX (RM million)	1.0	-	-	-																							
Investments / Funding Sources	Investments (RM million)																											
		Public Sector	Private Sector																									
			Private Sector	Local (%)	Foreign (%)																							
	Development Expenditure / CAPEX	7.5	128.5	100	-																							
Operating Expenditure	1.0	-	-	-																								
Implementation Action Plan	Initiator	Actions			Year																							
	SEDC	Appointment of private operator			2012																							
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Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	50	137	122	NA
Drivers & Enablers	<ul style="list-style-type: none"> • Proper road systems for transshipment of packaged products • Clean and non-polluting environment for the Halal Food Park • Clean water sources • Energy and utilities 			
Early Steps Necessary	<ul style="list-style-type: none"> • Identification of private investors • Provision of facilities to operate pilot processing plant 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Difficulty to have private investors participation to run the plant • Lack of economies of scale of upstream raw materials for processing in the short term • Lack of technical capacity and processing techniques 			
Preliminary Business Model	<p style="text-align: center;">Business Model Adopted by Prima Agrifood in Gambang Halal Park, Pahang</p> <pre> graph TD subgraph Venture [Prima & SMI venture] direction TB A[Prima Agri-Product] B[68 Food Park SMIs] end C[Provides food park facilities] --> Venture D[Machinery & facility aid] --> Venture E[Production & Management training] --> Venture F[Sells ready made food product] --> Venture G[Financial & investment advise] --> Venture H[Consultation/ accreditation approval] --> Venture </pre>			

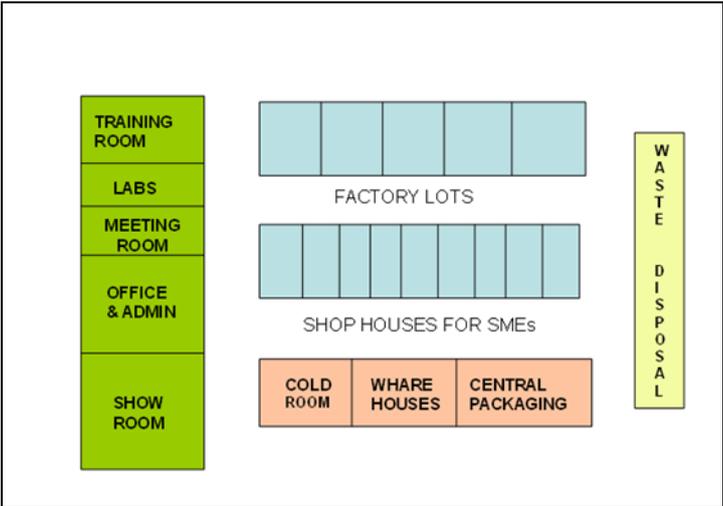
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [HALAL HIGH VALUE MANUFACTURING]

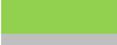
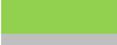
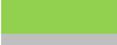
Project Code	HM5	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Halal Meat Processing			
Project Description	<ul style="list-style-type: none"> • The project will involve importation of Halal raw meat products from Southern Thailand (especially the Province of Satun and Songkhla). • Meat processors will import various types of meat from identified accredited Halal sources in Southern Thailand at the most competitive prices to be used as raw materials for their secondary processing. Priority will be given to semi processed products particularly boneless products that would involve higher level of manual input in cutting and deboning activities. • DVS and JAKIM will approve the identified abattoirs and processing plants based on the Halal standards established in Malaysia • Processing will be focused on high-end Halal food products with high knowledge content and which requires less labour input. This includes high-end products such as satay, chicken nugget, burger, hotdog, Halal gourmet, curried meat products, Halal gelatin, collagen • The project will involve an Anchor Company and contract out growers (SMEs) for processed livestock products. The anchor company will provide support to SMEs in terms of credit facilities, supply of raw materials, product development, know-how and market. • The SMEs will operate the factory unit and benefit from the facilities provided by the anchor company at the Halal Food Park. • Target by 2020 will be 100 SMEs each with an average turnover of RM 5 million a year and 20 big enterprises with turnover exceeding RM 10 million/ yr • The manufacturing of Halal meat products will be based on good manufacturing practice (GMP), the Hazard Analysis Critical Control Points (HACCP), and other health standards. • Components of the meat processing park will include: <ul style="list-style-type: none"> - 100 Shop houses - Ware houses - Central packaging facilities for SMEs - Waste treatment - Admin centre (Office, meeting room, exhibition room) • The meat operators/processors can apply for Halal incentives provided by HDC and MOF 			
Issues	<ul style="list-style-type: none"> • Low Value added in Perlis • Strategies to link with IMTGT • Lack of foreign investment in Perlis • Lack of thrusts for economic development 			
Rationale	<ul style="list-style-type: none"> • To tap into the vast market potential for Halal meat products both locally and internationally • Proximity to Thailand allows for cheaper imports of raw materials and cheaper labour • To allow for value-added activities in the agri-food sector • Providing support for meat and agriculture based products, cross border business activities and the manufacturing and extraction of value added ingredients and additives. • Halal meat processing will capitalise on the growing global Halal market and rising awareness and demand on food security, safety and hygiene. • Halal meat processing capitalises on the inherent Islamic values of the region as well as on increased preference amongst non-Muslims globally in Halal meat products. It also takes full advantage of the well-recognised Malaysian Halal certification. • The strengthening of the Indonesia-Malaysia-Thailand Growth Triangle (IMTGT) co-operation offers a wide window of opportunity for industries located in this area in terms of procurement of inputs and supply of outputs. • The Halal Food Park will facilitate establishment of incubator centers to commercialize and promote Halal foods. 			

	<ul style="list-style-type: none"> The domestic production for several types of chicken meat products such as boneless-skinless products is not competitive owing to high cost of labour compared to major competitors such as Thailand
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> The Halal food market is estimated to be worth RM 150 billion a year and has the potential to grow to RM 600 billion a year (USD 150 billion) if the larger proportion of the 2 billion global muslim population are tapped into. <i>Halal</i> food – an excellent business & lucrative market for domestic and international trade
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Location: Halal Food Park, Chuping Valley</p> <p>Land Size: 14ha</p> <p>Land Ownership: State</p> </div> </div>
<p>Depiction</p>	<p>Proposed Business Model</p> <div style="border: 1px solid black; padding: 10px;">  <pre> graph TD A[Farms] --> B[Abattoir] B --> C[Halal Food Park] C --> D[Marketing & Distribution] </pre> <ul style="list-style-type: none"> Farms <ul style="list-style-type: none"> Outsourcing of meat products from Southern Thailand Abattoir <ul style="list-style-type: none"> Accredited Abattoir (HACCP) in Southern Thailand Halal Accreditation by Jakim Halal Food Park <ul style="list-style-type: none"> Meat Processing at Halal Food Park in Padang Besar Involvement of Anchor Company and Contract SMEs Marketing & Distribution <ul style="list-style-type: none"> Anchor Company undertake branding & marketing Both local and foreign market </div>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<p align="center">Concept Plan of Proposed Halal Meat Processing</p>  <p>The diagram illustrates the layout of the proposed Halal Meat Processing facility. On the left, there is a vertical stack of five green boxes: TRAINING ROOM, LABS, MEETING ROOM, OFFICE & ADMIN, and SHOW ROOM. In the center, there are two horizontal rows of light blue boxes: the top row is labeled 'FACTORY LOTS' and the bottom row is labeled 'SHOP HOUSES FOR SMEs'. Below these, there are three orange boxes: COLD ROOM, WHARE HOUSES, and CENTRAL PACKAGING. On the right side, there is a vertical yellow box labeled 'WASTE DISPOSAL'.</p>																					
<p>Project Benchmark</p>	<p>Prima Halal Food Park, Kuantan. Prima Halal Food Park established by Prima Agric Products Sdn Bhd and aims to be the production hub of the Halal delicatessen and meat products market. Built on a 100 acre of land, this Halal Food Park will provide 68 factory units for 68 SMIs. SMIs will own the factory unit and benefit from the facilities provided by the food park. The business model involves anchor company (Prima Agri Products Sdn Bhd) and contract ougrowers (SMIs) for processed livestock products.</p>																					
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td>NCIA</td> <td>Infra development</td> </tr> <tr> <td rowspan="4">Other Agencies</td> <td>- SEDC Perlis - Padang Besar Halal Exclusive Zone Authority</td> <td>One-stop centre</td> </tr> <tr> <td>SMIDEC</td> <td>Training and loans</td> </tr> <tr> <td>HDC</td> <td>Monitoring & incentives</td> </tr> <tr> <td>MARA</td> <td>Loans</td> </tr> <tr> <td>Private Sector</td> <td>SME Corp</td> <td>Financing</td> </tr> </tbody> </table>	Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	NCIA	Infra development	Other Agencies	- SEDC Perlis - Padang Besar Halal Exclusive Zone Authority	One-stop centre	SMIDEC	Training and loans	HDC	Monitoring & incentives	MARA	Loans	Private Sector	SME Corp	Financing
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	MARA	Loans																				
Private Sector	SME Corp	Financing																				
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PROJECT BRIEF – HALAL MANUFACTURING

	Implementation Phasing	Phase 1	Phase 2	Phase 3	Phase 4																																																																																																																													
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																																																																																																																													
	Area (Ha)	-	-	-	-																																																																																																																													
	Estimated CAPEX (RM million)	9.0	117.2	0.79	-																																																																																																																													
	Estimated OPEX (RM million)	0.5	-	-	-																																																																																																																													
Investments / Funding Sources	Investments (RM million)																																																																																																																																	
		Public Sector	Private Sector																																																																																																																															
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	Development Expenditure / CAPEX	7.0	119.9	100	0																																																																																																																													
Operating Expenditure	0.5	-	-	-																																																																																																																														
Implementation Action Plan	Initiator	Actions			Year																																																																																																																													
	UPEN	Identify locations for extension of Halal park			2011																																																																																																																													
	UPEN/ NCIA	Feasibility studies of Halal Food Park			2012																																																																																																																													
	NCIA	Identify joint-venture partner for the development of the Park			2012																																																																																																																													
	NCIA	Establish a working committee to look at the special requirements of the parks including water, electricity, communication infrastructure, waste disposal, food safety norms, Halal certification, and other common facilities and services			2012																																																																																																																													
	NCIA/ UPEN/ JKR/ JBA/ JPS/ TNB/ TM	Plan the requisite infrastructure like feeder roads, drainage system, water distribution system, waste treatment, power distribution system, communication facilities and demarcate industrial plots within the Park			2012																																																																																																																													
	NCIA	Construct the proposed Food Processing Halal Parks			2013																																																																																																																													
	NCIA/ PKEP	Establish a one-stop service centre to facilitate the processing of applications and approvals of companies			2015																																																																																																																													
NCIA/ PKEP	Promote the Parks to potential private sector including firms from IMTGT			2016																																																																																																																														
Implementation Timeline	<table border="1"> <tr> <th colspan="4">2012</th> <th colspan="4">2013</th> <th colspan="4">2014</th> <th colspan="4">2015</th> <th colspan="4">2016</th> <th colspan="4">2017</th> <th colspan="4">2018</th> <th colspan="4">2019</th> <th colspan="4">2020</th> </tr> <tr> <th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </table>																2012				2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																																																																									
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

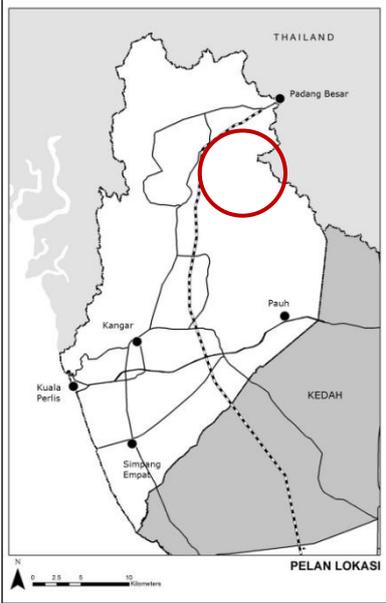
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	80	127	121	NA
Drivers & Enablers	<ul style="list-style-type: none"> Halal food processing is somewhat different from other manufacturing in that it is dependent upon a supply of highly perishable inputs, consumes large amounts of electricity and water, have specialized waste treatment needs, involves high bulk handling, and requires a clean and safe environment to operate so as to be consistent with the various food quality and safety standards required of the industries. The location of the park has to be in the Free Zone Area and near the port to allow for accessibility for export. The location must also be in a clean, non-polluting area (away from polluting industries). The Park must have a developed transportation infrastructure, proximity to power and water supplies and a central waste treatment facility 			
Early Steps Necessary	<ul style="list-style-type: none"> Identify suitable area of around 100 hectares in Padang Besar for the establishment of the Food Processing Halal Park 			
Possible Barriers & Threats	<ul style="list-style-type: none"> Competition with Halal Park in Southern Thailand. The country is moving ahead with its Halal food initiatives, building more food factories around the Muslim majority southern Thailand Shortage of supply of raw materials e.g. beef from Thailand due to Foot & Mouth Disease 			
Preliminary Business Model	<pre> graph TD P[Prima Agri-Product] --> V[Prima & SMI venture] V --> FPF[Provides food park facilities] V --> MFA[Machinery & facility aid] V --> SRF[Sells ready made food product] V --> FIA[Financial & investment advise] FPF --> PMP[Production & Management training] MFA --> PMP SRF --> FPA[Consultation/ accreditation approval] FIA --> FPA FPA --> V </pre>			

C. AGRI-FOOD HIGHTECH FARMING

Strategic Project Brief [AGRI-FOOD HIGH TECH FARMING]

Project Code	HT1	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Agri Bio-Tech Park1 (Phase 1 & Phase 2)			
Project Description	<p>The Agri-Bio-Tech Park is a cluster of various technology parks that will be designated for specific products using bio-technology or high-technology intensive farming methods. The park will be located in Chuping Valley.</p> <p>Additionally, there will also be an Agri-Bio-Tech Faculty within the area.</p> <p>The Agri-Bio-tech Park will be developed in 2 phases. Phase 1 will begin planning by 2013 and partial operations by 2016. Phase 2 of the Project will commence planning by 2017 and be operational by 2021.</p>			
Issues	<ul style="list-style-type: none"> • Lack of constant supply to meet quality standards of large hypermarkets, supermarkets thus leading to marketing challenges that impacts on “off-take” and price • Low value-added in Perlis 			
Rationale	<p>The lack of available land for land-exhaustive agriculture activities in Perlis justifies an Agrifood Technology Park where high-intensity farming can be done without having to occupy a large amount of land. Due to the fact that some of the existing agriculture activities do not require fertile soil, intensive agriculture can be adopted to produce high-yield. These under a controlled environment.</p> <p>Some of the high-technology upstream crops that are proposed and are suitable for Perlis are as below:</p> <p>Mushrooms Cultivation</p> <p>Some of the proposed mushroom species that can be done in Perlis are the Shiitake (<i>Lentinus</i>), Oyster (<i>Pleurotus</i>), Straw (<i>Volvariella</i>) Mushrooms. These few species can grow easily in tropical countries like Malaysia on common growing medium that are available in Perlis. They generally grow on substrates like sawdust, logs and straw that can be obtained from the paddy farms and rubber trees. (Detailed write up on “HT1 - Upstream Mushrooms Farming for High Value-Added Halal Downstream Processing”)</p> <p>Harumanis Mangoes</p> <p>Perlis has an agro-climatic advantage for fruit cluster development and is well known for its Harumanis Mangoes. There is also high potential for value-added products of fruits like snack foods, juices and dried fruits. (Detailed write up on “AG3 - Development of Fruit Cluster in Perlis”)</p> <p>Spirulina Farm</p> <p>Recognized as a “health food” with high nutrition, spirulina powder can be manufactured into value-added health products such as tablets, ginseng, tongkat ali, etc. (Detailed write up on “HT2 - Establishment of Spirulina Farm”)</p> <p>The above mentioned are some projects proposed. The large land allocation in this Park allows the participation of other investors on high value intensive farming in the future.</p>			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>		<p>Location: Chuping Valley Land Size: 401.79ha Land Ownership: State</p>
<p>Depiction</p>		
<p>Project Benchmark</p>	<p>Singapore Agrotechnology Parks Agriculture in Singapore is Centered around Agrotechnology Parks. These are modern agriculture estates. There are six such parks in Singapore. They are located at Lim Chu Kang, Murai, Sungei Tengah, Nee Soon, Mandai, and Loyang. These six parks cover a land area of 1465 hectares. More than 200 farms have been allocated 700 hectares.</p> <p>Lucknow, Uttar Pradesh Biotech Park The Biotech Park, Lucknow has changed the paradigm of how science, biotechnology and entrepreneurship can be harnessed for the benefit of stakeholders and Society. The Park till date houses 16 entrepreneurs (5 are USA based) out of which four which signed agreements with Biotech Park during 2008-09 have occupied nearly all of the 50,000 square ft. of air-conditioned space available for setting up their R&D and production facilities. The Park is developing a 30,000 square-ft commercial wet lab building that shall accommodate nearly 15 wet lab suites.</p> <p>Virginia BioTechnology Research Park The Virginia BioTechnology Research Park is located in Richmond, Virginia, 100 miles south of Washington, D.C. and in the heart of the nation's East Coast pharmaceutical and biotechnology corridor. Today, the Park is home to over 62 life science companies, research institutes and state/federal labs, employing over 2,200 scientists, engineers and researchers. Tenant companies include early and mid-stage companies; multinational pharmaceutical, environmental and consumer product companies; national healthcare organizations managing the nation's solid organ transplant program, as well as a number of international companies.</p>	

	The Park has an incubator facility, the Virginia Biotechnology Centre that has facilitated the formation of approximately 70 bioscience companies opening, including three publicly-traded graduates. In addition, the Virginia Biosciences Commercialization Centre was formed to assist later-stage companies with products and services that are closer to market, and to serve as a “soft landing” centre to foreign bioscience companies looking to enter U.S. markets.				
Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name		Role & Responsibilities	
	Main Agencies	SEDC		<ul style="list-style-type: none"> • Planning, design and approval of plans for development • Identify park operator • Provision of infrastructure 	
	Other Agencies	MIDA		Provision of incentives	
	Private Sector	Private Operator of Park		<ul style="list-style-type: none"> • Identify potential investors • Leasing of land to investors 	
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	Leasing of land/lots to Investors			
	Operating Expenditures Description	<ul style="list-style-type: none"> • Maintenance of park • Utilities • Salaries 			
	Capital Expenditures Description	<ul style="list-style-type: none"> • Land infrastructure to site 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)				
	Estimated CAPEX (RM million)	85.00	1,659.25	1,717.1	115.9
	Estimated OPEX (RM million)	3.5	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	225.5	3,351.8	100	0
	Operating Expenditure	3.5	-	0	0
Implementation Action Plan	Initiator	Actions			Year
	SEDC	Approval and Planning			2013
		Land Design & Development			2014
		Construction to Site			2015
		Identification of Park Operator			2016
	MIDA	Provision of Incentives			2015
Private Operator	Leasing of Land to Investor			2016	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementation Timeline	<table border="1"> <tr><th colspan="4">2012</th><th colspan="4">2013</th><th colspan="4">2014</th><th colspan="4">2015</th><th colspan="4">2016</th><th colspan="4">2017</th><th colspan="4">2018</th><th colspan="4">2019</th><th colspan="4">2020</th></tr> <tr><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																2012				2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																																																															
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Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	-	3,580.8	800	NA

Drivers & Enablers	<ul style="list-style-type: none"> Water Infrastructure Electric Infrastructure Roads and accessibility Incentives for Investor Infrastructure to site Quick planning and design
Early Steps Necessary	<ul style="list-style-type: none"> Design and planning of industrial parks Land acquisition RFP to potential park operators
Possible Barriers & Threats	<ul style="list-style-type: none"> Disinterest of park operators due to lack of attractive incentives Slow process of approvals and land matters
Preliminary Business Model	The business model is a park operator model where the park will be operated by one single operator. The operator will identify and invite investors to do business in the park while leasing land or lots to the investor. The investor will carry out the business activities and run the economic activity and pay the operator a leasing cost every month.

Strategic Project Brief [AGRI-FOOD HIGH TECH FARMING]

Project Code	HT2	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Promoting upstream mushrooms farming for high value-added halal downstream processing			
Project Description	<p>The high intensity farming of mushrooms will be done in the Agrifood Technology Park. This project does not require a massive amount of land or capital for development. Some of the components include:</p> <ul style="list-style-type: none"> • 30 Growing Houses • 2 Chiller stores with packing area • 1 Office • 1 Shop • 1 Kitchen Area for demonstration • 1 Facility for Storage <p>Additionally, cultivated mushroom spawn can be supplied to paddy farmers or that have suitable waste as substrate for the cultivation of mushrooms on a smaller scale. As the farmers harvest after 3 months, a primary collector or agent from the Agrifood Technology Park will collect the mushrooms to be packaged and exported fresh or to be processed in the Halal Food Park into snack foods and sauces for exports.</p> <p>The mushrooms can also be sold to hotels, restaurants and catering services, at a minimal rate.</p>			
Issues	<ul style="list-style-type: none"> • Inefficiencies, high production costs, inconsistent output quality and low yield and low income of small-scale farming • Low rate of adoption of progressive technology and agronomy practices despite government's efforts • Lack of constant supply to meet quality standards of large supermarkets, and supermarkets, thus leading to marketing challenges that impacts on "off-take" and price 			
Rationale	<p>Benefits of Mushrooms</p> <ul style="list-style-type: none"> • Cultivation is expanding worldwide due to its extensive value in nutrition • Cultivation activities can support the local economy by contributing to subsistence food security, nutrition and medicine, generating additional employment and income through local, regional and national trade • The cultivation of mushrooms also can create livelihood opportunities to cater for all. <p>Land Requirements</p> <ul style="list-style-type: none"> • Cultivation of mushrooms does not require a big land size and can be done at any location with a proper control of temperature and hygiene • Best grown indoors in a dark, cool and sterilized and enclosed building. This protects the crop from unwanted contaminants, moulds and sunlight while suitable temperature, humidity, ventilation and substrate moisture levels can be maintained • Mushrooms are fungi that produce spore. Unlike green plants which contains chlorophyll to absorb light energy for photosynthesis, mushrooms rely on other plant material (substrate) for their food. Hence, mushroom can grow on different medium like logs, wheat straw, rice straw, sawdust, sawdust straw, and do not require soil <p>Relevance to Perlis</p> <ul style="list-style-type: none"> • Perlis has land availability issues where mushroom cultivation can be an alternative that can be cultivated by existing farmers to coincide with their existing farming Perlis is also a tropical weather State and high-value mushroom species like the Shiitake (<i>Lentinus</i>), Oyster (<i>Pleurotus</i>), Straw (<i>Volvariella</i>) Mushrooms can be done in Perlis. 			

- These few species can grow easily in tropical countries like Malaysia on common growing medium available in Perlis.
- Generally grows on substrates like sawdust, logs and wheat straw where they can be obtained from the paddy farms and sawdust from rubber trees

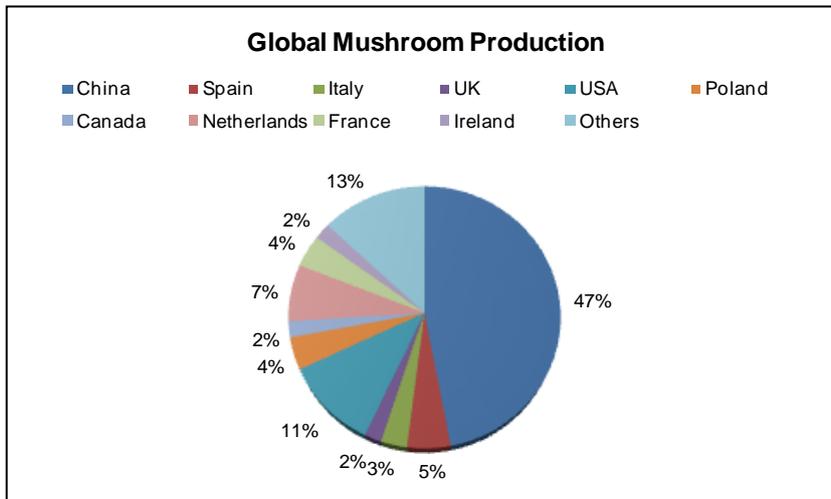
Cultivation and Market Reception

- Mushroom cultivation can easily be adopted by farmers as well as grown commercially in an area where not much land has to be used
- Harvesting period for mushrooms are about 2 to 3 months, which will increase the yield, lower production costs and increase the income of small-scale farmers.
- Mushrooms can be further processed into food products like snacks and sauces that have to the halal market.
- Through processing, the mushrooms can have a higher value-add as this caters for many other food markets, especially the halal market. This also solves the issue of the life-span of fresh mushrooms because they can only be kept for about 2 to 3 days upon harvesting.

Existing Demand & Current Supply

Global Mushroom Production

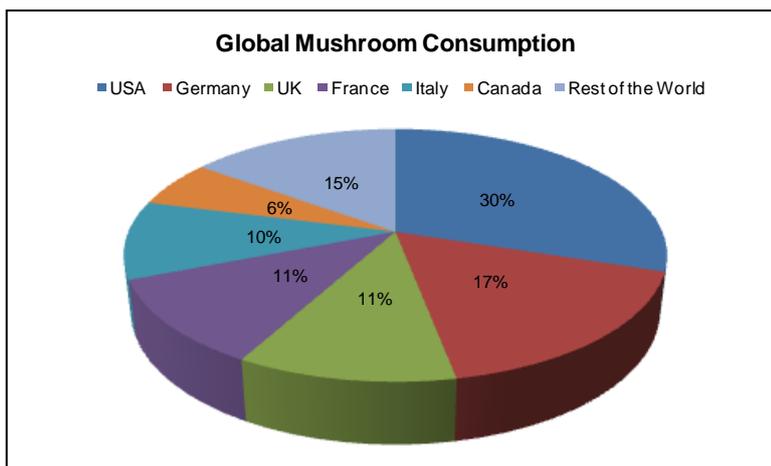
In 2008, world production of mushrooms exceeded 3 million tons with a market value of USD10 billion. Some of the major markets that export fresh mushrooms include China, Netherlands, Poland, Ireland and Belgium.



Source: Ministry of Commerce India (APEDA), 2008

Global Mushroom Consumption

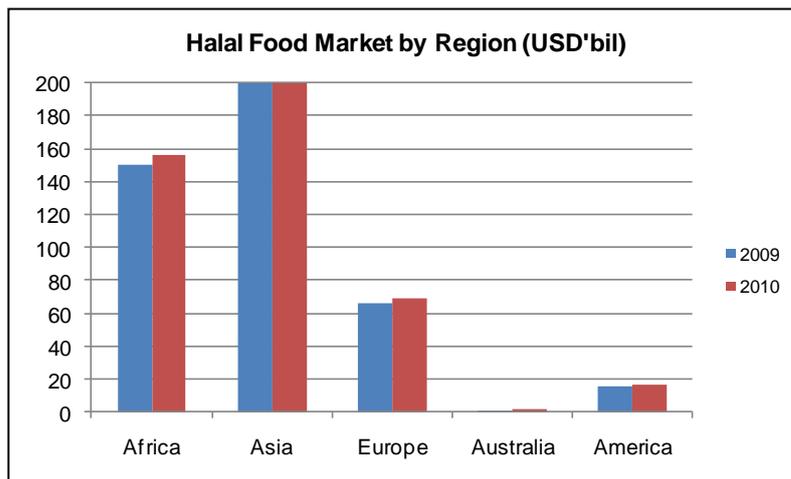
Although China is the major producer of mushrooms, USA remains the largest consumer of fresh mushrooms, followed by Germany.



Source: National Research Centre of Mushroom Report 2007

Positioning Mushroom in the Halal Market

- Islam is one of the largest and fastest-growing religions in the world, representing close to 25% of the world's population – 1.6 billion people
- Food products prepared following a set of Islamic dietary laws and regulations, which determine what is permissible, lawful and clean, are classified as Halal
- The halal food market has grown quickly over the past decade, and is now worth an estimated \$632 billion annually on a global scale. The large population of Muslims adhering to halal requirements has fuelled increased global demand for halal products
- Several multinationals, such as Tesco, McDonalds and Nestlé, have recognized this, and have expanded their halal approved product lines
- These multinationals control 90% of the global halal market
- The global halal food market grew from USD634.5 billion to USD661.6 billion, marking a 4.3% growth

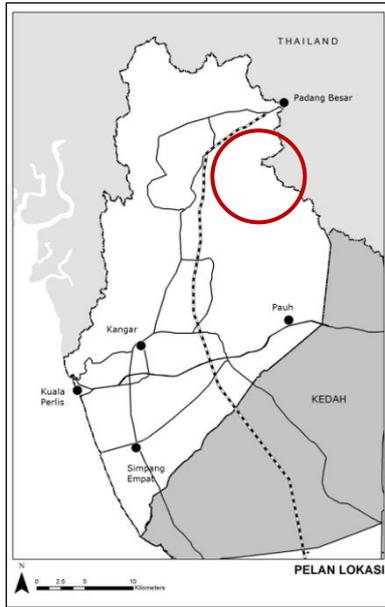


Other Usages of Mushrooms

- As fresh mushrooms can only last 3 to 5 days upon harvesting, it is ideal to process mushrooms into different forms like snack foods and sauces
- Premium ready-to-eat meals in USA, Japan & UK are worth about RM15.4 billion with a 15% CAGR right up to 2014 while the pre-mixed sauces and frozen food market recorded a growth of 7% per annum
- There is also a significant emerging trend in the snack market that deals with “healthier” and “low-fat” versions.
- Detailed analysis on the downstream processing of mushrooms is set out in the Halal Snack foods & Sauces Processing Project Brief

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

**Location Plan /
Land Size**



Location: Agri-Bio-Tech Park
Land Size: 25 ha
Land Ownership: State

Depiction



Project Benchmarks	Persimmon Hill Berry Farm in Missouri Cultivation of mushrooms and processed to shiitake mushroom sauce Mycobiotech Cultivation of Shiitake and Lingzhi mushrooms for the production of essence of mushrooms and Linzir capsules				
Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name	Role & Responsibilities		
	Main Agencies	Department of Agriculture	Coordination of the mushroom cultivation cluster		
	Other Agencies	UniMAP	R&D on Mushroom Cultivation		
	Private Sector	Private Operator	<ul style="list-style-type: none"> • Organisation of cooperative • Agent collector of harvested mushrooms from smallholders 		
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	Sale of harvested mushrooms to processing park or exports			
	Operating Expenditures Description	<ul style="list-style-type: none"> • Utilities, maintenance and security of growing houses, chiller store, office, shops and kitchen area • Salary of personnel • Maintenance of equipment 			
	Capital Expenditures Description	<ul style="list-style-type: none"> • Growing houses • Chiller Stores • Office • Equipment for temperature and ventilation control • Shops and Kitchen Area • Purchasing of raw materials as substrate for cultivation 			
Estimated Budget	Implementation Phase	Phase 1 2012 – 2015	Phase 2 2016 – 2020	Phase 3 2021 – 2025	Phase 4 2026 – 2030
	Production (MT/year)	-	1125	1875	2625
	Estimated CAPEX (RM million)	116	110.63	-	-
	Estimated OPEX (RM million)	0.5	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	22.25	204.4	100	-
	Operating Expenditure	0.5	-	-	-
Implementation Action Plan	Initiator	Actions			Year
	DOA, Perlis	Business strategy, marketing & implementation plan for cultivation of mushrooms			2012
		Selection of mushroom species suitable for climate			2012
		Engage smallholders for participation			2012

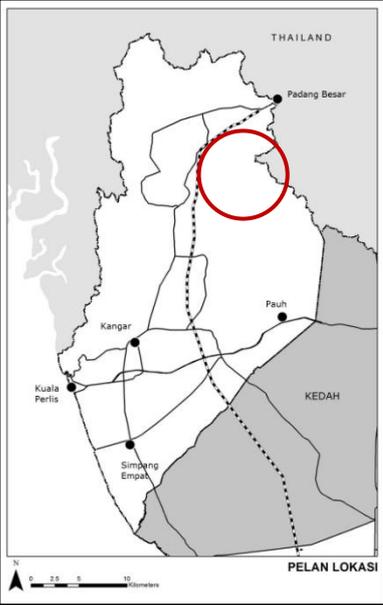
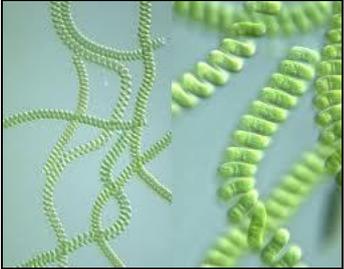
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	UPEN & SEDC, Perlis	Identification of private investors for participation	2012																																																																																																																											
	State Government	Approval of land use for mushroom cultivation	2012																																																																																																																											
		Provision of infrastructure and amenities for project	2013																																																																																																																											
	Private Sector	Operate growing houses for mushroom cultivation	2013																																																																																																																											
		Harvesting of Mushrooms	Ongoing																																																																																																																											
Collecting from smallholders		Ongoing																																																																																																																												
Implementation Timeline	<table border="1"> <tr> <th colspan="4">2012</th> <th colspan="4">2013</th> <th colspan="4">2014</th> <th colspan="4">2015</th> <th colspan="4">2016</th> <th colspan="4">2017</th> <th colspan="4">2018</th> <th colspan="4">2019</th> <th colspan="4">2020</th> </tr> <tr> <th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> <tr> <td>█</td><td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> <td>█</td><td>█</td><td>█</td><td>█</td> </tr> </table> <ul style="list-style-type: none"> Feasibility Study/Approval/Planning - Milestone: Project Launch Design/Land Acquisition - Milestone: Project Ground-breaking Infrastructure/Incubation - Milestone: Infra-to-site completion Construction/Project Development - Milestone: Project Completion Revenue Start Peak Production Revenue/Investment 												2012				2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█																																
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	75	227	50	NA																																																																																																																										
Drivers & Enablers	<ul style="list-style-type: none"> • Clean water sources • Road infrastructure • Energy and electricity 																																																																																																																													
Early Steps Necessary	<ul style="list-style-type: none"> • Identification of suitable mushroom species for Perlis • Engage smallholders' buy-in to cultivate mushrooms 																																																																																																																													
Possible Barriers & Threats	<ul style="list-style-type: none"> • Commercial mushroom cultivation is labour and management intensive • Invasion of insect pests • Challenge to identify the most suitable mushroom species since not all species are suitable to be planted in Perlis due to climate • Lack of technical capacity in production techniques • Lack of interest by smallholders 																																																																																																																													
Preliminary Business Model	<pre> graph LR F1((Farmers)) --> C[Cooperative] F2((Farmers)) --> C F3((Farmers)) --> C C --> CC[Collection Center] C --> ATP[Agri Technology Park] ATP -- Processing --> HFP[Halal Food Park] </pre> <ul style="list-style-type: none"> • Intensive farming • Single operator 																																																																																																																													

Strategic Project Brief [Agri-Food High Tech Farming]

Project Code	HT3	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Establishment of a spirulina farm			
Project Description	<p>The Spirulina Farm would concentrate on the production of algal food supplements. The suggested cultivation is by controlled modular bioreactor cultivation system for <i>halal</i> food supplements since:</p> <ul style="list-style-type: none"> • It is a controllable environment to grow algae where the supply of light, nutrients, carbon dioxide, air, and temperature can be regulated. • Bioreactor uses transparent large tank and can be done commercially outdoors or indoors. • Sunlight is used in outdoor type while artificial light is used in indoor type. • Produce mass of high value algae. • More hygienic than low cost pond cultivation. • Mainly caters for pharmaceutical (food supplement) needs demanding strict hygiene regulations. <p>Main infrastructure needed:</p> <ul style="list-style-type: none"> • Green house for controlling the environment. • Sealed glass bioreactors and transparent tank for cultivation. • Filtering equipment for harvesting. • Laboratory. <p>The Spirulina farm must have stringent sanitary and phytosanitary standards at production level and pharmaceutical standards at the packaging and retail levels. These standards have a nil tolerance for even minute biologic contaminants like bacteria or natural biotoxins from similar toxic algae species.</p> <p>The open tank cultivation system is more appropriate for production of Spirulina since it involves:</p> <ul style="list-style-type: none"> • Outdoor cultivation. • Lower infrastructure cost. • Easy maintenance. • Can produce Spirulina in viable volumes. • Does not need large area. • Uses direct sunlight, fully utilizing the tropical climate for year round production. • Can cater for demand in area other than pharmaceutical industry. <p>Main infrastructure needed:</p> <ul style="list-style-type: none"> • Tanks with shallow pond (depth 15-25 cm) that can fully utilize the sun’s radiation. • Paddlewheels for circulation. • Filtering equipment and centrifuges for harvesting. • Laboratory. 			
Issues	<ul style="list-style-type: none"> • Lack of investment in high technology aquaculture, including algal food supplements, especially spirulina. • Lack of spirulina stock supply in the country. • Lack of research and development in the state. 			
Rationale	<ul style="list-style-type: none"> • Big global demand for algal food supplement in the global health food trade. • Lack of algal food supplements produced under <i>halal</i> conditions in the country. 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<ul style="list-style-type: none"> • Opportunity to become the supply leader for <i>halal</i> health food supplement. • Can cater to large demand in the country and abroad. • Opportunity for technology transfer. • Suitable climate in the state i.e. Spirulina maximum growth at 30°C. • A year round growing season due to the tropical climate is an advantage compared to other producers such as China. • High productivity i.e. up to 150 tonnes/year/farm. • Another economic driver for the state. • Provide more jobs in the state. • Another tourism attraction in the state. • Further research and study on algae can lead to another product development in the state, i.e. other health products, biofuel from algae, protein supplement for fish, poultry and livestock feed, fertilizer.
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • There is no data on the demand for algal food supplements in the country or region. • Growing demand for algal food supplement, evidenced by the number of brands on the local market, mostly imported. • Currently DXN and Algaetech Sdn. Bhd Spirulina products, are farmed and produced under <i>Halal</i> conditions, certified by JAKIM. • Alga Prima Sdn. Bhd. is among the suppliers in the country, however its production levels are unknown. • Supply is mostly from other countries such as Thailand, USA, Japan, Taiwan and China.
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: center;"> <div style="flex: 1;">  <p style="text-align: center;">PELAN LOKASI</p> </div> <div style="flex: 1; padding-left: 20px;"> <p>Location: Agri-Bio-tech Park Land Size: 10 ha Land Ownership: State</p> </div> </div>
<p>Depiction</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Spirulina Strain</p> </div> <div style="text-align: center;">  <p>Spirulina Dry Powder</p> </div> </div>



Spirulina Health Product



Spirulina Fish Food



Modular Bioreactor Cultivating System



Open Pond Cultivation System

Project Benchmark	NA		
Implementing Agencies	Role and Responsibilities of Implementing Body		
	Description	Name	Role & Responsibilities
	Main Agencies	Department of Fisheries	<ul style="list-style-type: none"> • Construction of basic infrastructure. • Promotion of investment.
	Other Agencies	Department of Agriculture	<ul style="list-style-type: none"> • Construction of basic infrastructure. • Promotion of investment.
	Private Sector	Private Operator	<ul style="list-style-type: none"> • Operate spirulina farm
Programme Costing Assumptions	Description of the Programme Costing		
	Revenue Streams	Sale of dried spirulina	
	Operating Expenditures Description	<ul style="list-style-type: none"> • Manpower • Utilities • Additive (chemical substances) • Maintenance 	
	Capital Expenditures Description	<ul style="list-style-type: none"> • Land • Infrastructures 	

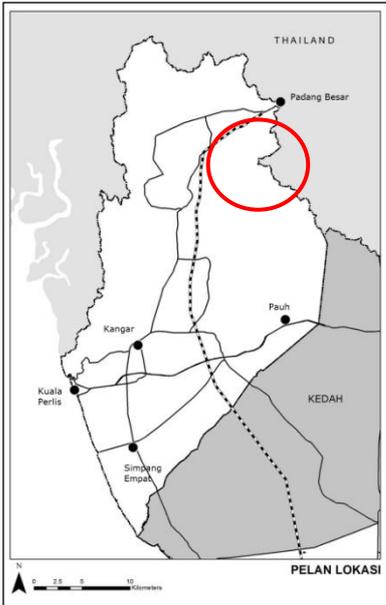
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4											
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030											
	Production (MT/year)	70.0	70.0	70.0	70.0											
	Estimated CAPEX (RM million)	6.4	80.88	3.38	-											
	Estimated OPEX (RM million)	0.3	-	-	-											
Investments / Funding Sources	Investments (RM million)															
		Public Sector	Private Sector													
			Private Sector	Local (%)	Foreign (%)											
	Development Expenditure / CAPEX	8.9	20.4	50	50											
Operating Expenditure	0.3	-	-	-												
Implementation Action Plan	Initiator	Actions			Year											
	Department of Fisheries/Agriculture	Identification of the site			2012											
		Establishment of infrastructure requirements			2013											
		Identification of investing parties			2013											
	Investor	Establishment of production facilities			2013											
		Certification by Ministry of Health			2014											
Operation begins			2014													
Implementation Timeline																
	<p> Feasibility Study/Approval/Planning - Milestone: Project Launch Design/Land Acquisition - Milestone: Project Ground-breaking Infrastructure/Incubation - Milestone: Infra-to-site completion Construction/Project Development - Milestone: Project Completion Revenue Start Peak Production Revenue/Investment </p>															
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs												
	50	91	50	NA												
Drivers & Enablers	<ul style="list-style-type: none"> Stringent sanitary and phytosanitary standards at production level and pharmaceutical standards at the packaging and retail levels. Fully computerized cultivation with automatic analysis of the nutrients and sunlight needs of the algae. Availability of resources to support sustainable aquaculture development, especially land, water and tropical climate that enable year round production. Excellent infrastructure including roads, telecommunications and power. Strong government and R&D institutional support in providing incentives and infrastructure facilities. 															

<p>Early Steps Necessary</p>	<ul style="list-style-type: none"> • Site assessment studies to identify suitable locations for the Spirulina Farm. • Funding. • Additional staff for project implementation.
<p>Possible Barriers & Threats</p>	<ul style="list-style-type: none"> • To comply with the strict exacting quality standards that need to accompany the production, processing and packing of the algal food supplements production. • Lack of land with suitable bio-technical characteristics for spirulina farming development. • Lower costs of production in neighbouring Thailand. • Environmental problems through poor resource utilization. • Increase competition for input from other economic sectors.

Strategic Project Brief [AGRI-FOOD HIGH TECH FARMING]

Project Code	HT4	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	EBN Integrated Processing Centre with Swiftlet House Programme			
Project Description	<p>This proposed project involves two elements which are interdependent of each other. Firstly we propose to construct an Integrated Processing Centre at Simpang Empat as there are many swiftlet houses in the vicinity. The centre will act as a central collection and processing point for edible bird's nests farmed in the state and in the Koridor Utara. There is also a possibility that the centre can serve as a processing point for the nests where a local workforce can be employed to clean and mould the nests. The Integrated Processing Centre can have the following components:</p> <ul style="list-style-type: none"> • Collection and sorting facility • Processing area • Packaging area • Labelling & branding program <p>Part of this project is a Koridor Utara programme whereby participants are given the house drawings, best practice guidelines, bio-security and commitment from the IPC to purchase all EBN off-take.</p> <p>The figure of 50 houses is small in the context of the Economic Transformation Programme objectives as the overall goal is to establish 4,500 additional swiftlet birdhouses by 2040. This equates to an extra 346 houses per state.</p> <p>A further 50 swiftlet houses are also proposed to be constructed as part of this project provided that the swiftlet numbers in the area are found suitable to support this. A typical house design is proposed and each house will be roughly 3,000 sq. ft. in size. The houses are to be privately funded and the Integrated Processing Centre is to have a compulsory purchase agreement with them for the off-take.</p>			
Issues	<ul style="list-style-type: none"> • Secondary income • New employment to stem migration • Low value agriculture being pursued in Perlis 			
Rationale	<p>Site visits indicate the state has an abundance of swiftlets which could be used to farm edible bird's nests. The swiftlet industry will bring a much needed opportunity to the local populace for a second income to supplement what they receive at present.</p> <p>The natural surroundings, climate and food availability (flying insects) make the state and Simpang Empat, in particular, ideal for a swiftlet house cluster and downstream processing facility. There are numerous swiftlet birds' houses in operation along the coast of Perlis indicating that there is an interest among the local population in this form of business and that the local swiftlet density can support the industry.</p> <p>The tremendous growth in the market for EBN has resulted in a corresponding increase in the price of both the unprocessed and processed bird's nests since 1975 (Kuan & Lee).</p> <p>For example in 1975, a kilogram of unprocessed white edible birds' nests cost between RM30 to RM42. The figure for the same quantity and quality in 2011 is anywhere in the region of RM2,300 to RM3,300 (Kuan & Lee).</p> <p>A kilogram of processed birds' nests cost around RM130 to RM185 in 1975. This has increased to between RM5,000 to RM8,000 in 2011. The large increase has been primarily attributed to an ever growing market and a slow supply growth (Industry Expert).</p>			
Existing Demand & Current Supply	<p>The annual global market for Swiftlet nests is RM10.2 billion, of which Malaysia has RM1.5 billion in sales. The main export markets for edible birds' nests are Hong Kong (50% of world trade), China (8%), Taiwan (4%) and Macau (3%) with a consumption weight value of approximately 160 tons for 2006 (ETP). The total consumption value of edible birds' nests throughout the world in 2006 was estimated to be in the vicinity of RM8 billion to RM12 billion.</p>			

	<p>Overall world production in 2008 was 2.6 million kilograms of which Malaysia produced 250,000 kilograms. In terms of production Indonesia is ranked first with 75% of the market Malaysia is now second with 12-13% and Thailand comes in third place with 10%. Vietnam and other South East Asian countries make up the remaining amount (DVS). 55% of Malaysian edible swiftlet nests on the market come from swiftlet farms. The remaining amounts are cave nests.</p> <p>From discussions with stakeholders in the industry it is evident that an underground market covers the majority of the swiftlet industry. In fact only 10-20% of the market is visible to external observers so the actual market size of the industry is actually 4 to 5 times larger than commentators estimate (Swiftlet Association of Pekan).</p> <p>The edible bird's nest industry has experienced very encouraging growth over the last decade and this trend is set to continue into the future. Historically, the rate of growth of edible birds' nest consumption has averaged around 15% to 19% per year. The popularity of the product has grown by leaps and bounds and this has helped to create an ever-expanding market for the nests.</p> <p>Based on industry estimates, there are more than 50,000 swiftlet bird house premises nationwide producing over 75, 000 kilograms of bird nests worth some RM150 million monthly in Malaysia (DVS).</p> <p>The growth in the industry in Malaysia can also be seen from the increase in swiftlet houses throughout the country. In 1998 there were only 900 swiftlet farms and by 2007 this figure had grown to 30,000 farms. Now in 2011, the most recent figure obtained through the Swiftlet Association of Malaysia is that there are 50,000 houses in operation. This is a 67% increase in the space of 4 years and shows the potential of the industry (DVS).</p> <p>The Malaysian government hopes to capture 40% of the global market by 2020. In order to achieve this, the government wants to establish 8,500 additional birdhouses in Sabah and Sarawak. In Peninsular Malaysia the target is 4,500 units (ETP).</p>
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Location: Agri-Bio-Tech Park Land Size: 10ha Land Ownership: State</p> </div> </div>

**Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis**

	<p style="text-align: center;">EBN Cleaning Process in CPPC</p> <p>In line with modern trends in the industry, the centre shall be compliant with the recently adopted GMP standards MS 2334.2011 which relate to the swiftlet industry. Bio-security levels must be maintained to make nests processed here attractive for international buyers. This point is even more pertinent given the nitrite controversy affecting Malaysian EBN in China.</p>
<p>Depiction</p>	
<p>Project Benchmark</p>	<ul style="list-style-type: none"> • Swiftlet Eco-Park Concept- Various proposed locations throughout Malaysia • Indonesian Swiftlet Park Model

Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name	Role & Responsibilities		
	Main	Department of Veterinary Services	Legislation and monitoring		
	Main	NCIA	Lead Agency, Operator		
	Main	Local Authority	Licensing, planning permission		
	Main	GLC/Private	Implementer		
	Supporting	State Authority	Guidelines		
	Supporting	Ministry of Agriculture and Agro-based Industry	Endorsement, input		
Supporting	Ministry of Health	Input, interface with IPC			
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	CPPC- Processed EBN			
	Operating Expenditures Description	Collection & Purchasing Centre - electricity, wages, security, water charges Programme - collateral, trainers, venue			
	Capital Expenditures Description	CPPC- Construction (RM1.5 million), infrastructure			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (KG/year)	-	210	525	1,050
	Estimated CAPEX (RM million)	6.4	95.2	2.7	2.7
	Estimated OPEX (RM million)	1.0	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	5.0	102.0	100	0
Operating Expenditure	1.0	-	-	-	
Implementation Action Plan	Initiator	Actions			Year
	NCIA	Site plans set, Site Approval and appoint ISP Management Committee			2013
	Land surveyor	Check Site			2013
	District Council	Planning Permission			2013
	Architect	Site Plans and detailed drawings			2013
	Building Contractor	Construction			2013
	Operator	Opening			2013
	District Council	Licensing			2013
	DVS, Pahang	License and RFID			2014
Operator	Processing begins			2014	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementation Timeline	<table border="1"> <tr> <th>2012</th> <th colspan="4">2013</th> <th colspan="4">2014</th> <th colspan="4">2015</th> <th colspan="4">2016</th> <th colspan="4">2017</th> <th colspan="4">2018</th> <th colspan="4">2019</th> <th colspan="4">2020</th> </tr> <tr> <th>Q4</th> <th>Q1</th> <th>Q2</th> <th>Q3</th> <th>Q4</th> </tr> <tr> <td></td> </tr> </table>																2012	2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																																																														
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Impact & Specific KPIs	GDP (RM million)				Total Investment (RM million)				Jobs Created				Other KPIs																																																																																																							
	85				108				194				NA																																																																																																							
Early Steps Necessary	<ul style="list-style-type: none"> Consultation with swiftlet stakeholders in area to achieve buy-in Site assessment and feasibility study Discuss with DVS on existing industry in Perlis 																																																																																																																			
Possible Barriers & Threats	<ul style="list-style-type: none"> Buy-in from Swiftlet Association in Perlis Competition from agents to buy swiftlet nests from existing producers Swiftlet density not as favourable as predicted Licensing issues 																																																																																																																			
Preliminary Business Model	<pre> graph TD FSG[Federal/State Government] -- Funding-CAPEX --> IPC[Integrated Processing Centre] SH[Swiftlet Houses] -- Anchor Component --> IPC EBH1[Existing EBN Houses] --> IPC EBH2[Existing EBN Houses] --> IPC EBH3[Existing EBN Houses] --> IPC IPC --> AM[Agents/End Market] SH --- PO[Privately Owned] </pre>																																																																																																																			

**D. INDUSTRIAL
DEVELOPMENT
PARK**

PROJECT BRIEF - INDUSTRIAL DEVELOPMENT PARK

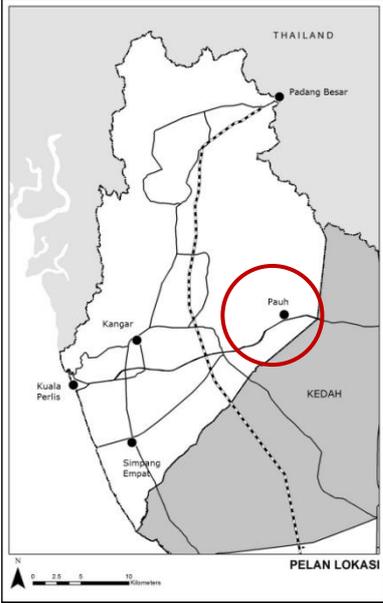
Strategic Project Brief [INDUSTRIAL DEVELOPMENT PARK]

Project Code	IP1	New Project?	Existing?	Quick Win?																																					
		N	Y	N																																					
Project Name	Pauh Putra Technology Park (Phase 1 & Phase 2)																																								
Project Description	<p>There are also plans for the creation of the Pauh High-Tech Park (now Pauh-Putra Technology Park), which is a joint-venture project between the Northern Corridor Implementation Authority (NCIA) and Perlis State Economic Development Corporation.</p> <p>Pauh-Putra Technology Park will comprise heavy and medium-sized industries like a solar farm which already has a committed investor. Other potential industries that can be carried out in the Technology Park include cement manufacturing, healthcare equipment, bio-fertilizer, agri-chemicals, and steel and metal products.</p> <p>The land developed for this Park is about 362ha in Pauh-Putra, Arau. The State government or SEDC plays a role in providing infrastructure, basic amenities and connectivity. This will include provision of attractive incentives, roads and other enablers such as water supply, electricity, solid waste disposal systems.</p> <p>The development of this Park will be done in 2 Phases. The first phase will be developed to house the projects identified in the SDP while the 2nd phase will be for future expansion and other industries which cater for resource-based industries.</p>																																								
Issues	<ul style="list-style-type: none"> Industrial activities are not focused and carried outside of industrial zones Lack of occupancy in planned industrial areas Lack of value-added given the potential for high-value manufacturing activities 																																								
Rationale	<ul style="list-style-type: none"> Findings from initial research carried out on the existing manufacturing sectors within Perlis shows there are initially 66 manufacturing establishments that operate across twelve sectors within designated Industrial Parks. Notably, 21 or 32% of the existing establishments are focused on small-scale food production and processing. Additionally, there are 10 companies which are operating in the mining and quarrying, as well as the logistics and warehousing sectors respectively. Below is a summary of the current manufacturing establishments within Industrial Parks in Perlis. <p align="center">Cost advantages of locating in Perlis</p> <table border="1"> <thead> <tr> <th>Industrial Areas/Parks</th> <th>Jejawi (1)</th> <th>Jejawi (2)</th> <th>Chuping</th> <th>Kuala Perlis</th> <th>Padang Besar</th> </tr> </thead> <tbody> <tr> <td>Total Zoned Area (ha)</td> <td align="center">13.67</td> <td align="center">17.07</td> <td align="center">93.00</td> <td align="center">30.20</td> <td align="center">47.30</td> </tr> <tr> <td>Price per sq metre (RM)</td> <td align="center">48.45</td> <td align="center">48.45</td> <td align="center">48.45</td> <td align="center">59.20</td> <td align="center">53.85</td> </tr> <tr> <td>Lease Period</td> <td align="center">60 years</td> <td align="center">NA</td> <td align="center">NA</td> <td align="center">NA</td> <td align="center">NA</td> </tr> <tr> <td>Tax on Land (RM/year)</td> <td align="center">RM50/1,000k.p.</td> <td align="center">RM50/1,000k.p.</td> <td align="center">RM40/1,000k.p.</td> <td align="center">NA</td> <td align="center">NA</td> </tr> <tr> <td>Industries</td> <td align="center">Light</td> <td align="center">Light/Medium</td> <td align="center">General</td> <td align="center">General</td> <td align="center">General</td> </tr> </tbody> </table> <ul style="list-style-type: none"> The advantage of the location of Perlis is that it can both benefit its regional neighbours as well as leveraging from them. There are very clear linkages between Perlis with neighbours like Southern Thailand like Penang and Langkawi. For instance, a significant amount of rubber is sent from Thailand which goes through Perlis to various places for manufacturing. The rubber products that are exported from Songkhla are loaded onto seagoing vessels in Penang for their final destination. Perlis can leverage on this input to have industrial parks that manufacture rubber into high value rubber products like rubber gloves. Malaysia plays an important role as a transit country for Thai export goods from the South of Thailand. Other States which focus heavily on industrial activities like Penang and Kulim in Kedah can perhaps consider an expansion of operations to create a satellite factory or an incubation facility. They can harness the development of the 161-acre site of Pauh High-Technology Park. The 					Industrial Areas/Parks	Jejawi (1)	Jejawi (2)	Chuping	Kuala Perlis	Padang Besar	Total Zoned Area (ha)	13.67	17.07	93.00	30.20	47.30	Price per sq metre (RM)	48.45	48.45	48.45	59.20	53.85	Lease Period	60 years	NA	NA	NA	NA	Tax on Land (RM/year)	RM50/1,000k.p.	RM50/1,000k.p.	RM40/1,000k.p.	NA	NA	Industries	Light	Light/Medium	General	General	General
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<p>benefits of such strategy include proximity to raw materials in Perlis, as well as the cost of doing business in Malaysia. According to the Perlis State Economic Development Corporation, the cost of skilled workers in Perlis is generally about 30% lower than in Penang. For example, the wage of an engineer in Perlis is RM2,000 compared with RM3,000 in Penang, while the pay of a technician is RM1,400 compared with RM2,000 in Penang.</p> <ul style="list-style-type: none"> Other incentives offered include attractive rental rates for buildings. The monthly rental rates are RM2 per sqft compared with RM2.50 per sqft in Penang, while a 60-year leasehold industrial land is sold between RM5 to RM6.50 per sq ft. 																																																																																																																																								
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> There were a combined total of 1,472 industrial and agriculture properties (including land), which was transacted in the review period (Q2 2010 – Q3 2011), valued at RM 104.6 million. The average value of industrial property transactions amounted to RM 375,000. Notably, most agriculture property transactions (67.7%) were linked to paddy cultivation, followed by transactions for vacant land (19.5%), rubber plantations (6.4%) and fruit orchards (5.2%). Overall, the property prices of factories in Perlis were stable in 2011. <table border="1"> <thead> <tr> <th>No.</th> <th>Type</th> <th>Number</th> <th>Value (RM million)</th> </tr> </thead> <tbody> <tr> <td colspan="4">Industrial Property Transactions</td> </tr> <tr> <td>1</td> <td>Vacant Plot</td> <td>9</td> <td>3.5</td> </tr> <tr> <td>2</td> <td>Terraced Factory/Warehouse</td> <td>3</td> <td>0.9</td> </tr> <tr> <td>3</td> <td>Semi-Detached Factory/Warehouse</td> <td>-</td> <td>-</td> </tr> <tr> <td>4</td> <td>Detached Factory/Warehouse</td> <td>1</td> <td>1.1</td> </tr> <tr> <td>5</td> <td>Industrial Complex/Unit</td> <td>-</td> <td>-</td> </tr> <tr> <td>6</td> <td>Others</td> <td>3</td> <td>0.5</td> </tr> <tr> <td colspan="2">Total</td> <td>16</td> <td>6.0</td> </tr> <tr> <td colspan="4">Agriculture Property Transactions</td> </tr> <tr> <td>1</td> <td>Estate</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>Vacant Land</td> <td>284</td> <td>16.47</td> </tr> <tr> <td>3</td> <td>Rubber</td> <td>93</td> <td>12.10</td> </tr> <tr> <td>4</td> <td>Oil Palm</td> <td>2</td> <td>0.65</td> </tr> <tr> <td>5</td> <td>Paddy</td> <td>986</td> <td>63.99</td> </tr> <tr> <td>6</td> <td>Orchard</td> <td>76</td> <td>4.64</td> </tr> <tr> <td>7</td> <td>Durian</td> <td>1</td> <td>0.01</td> </tr> <tr> <td>8</td> <td>Horticulture / Vegetables</td> <td>2</td> <td>0.11</td> </tr> <tr> <td>9</td> <td>Others</td> <td>12</td> <td>0.60</td> </tr> <tr> <td colspan="2">Total</td> <td>1,456</td> <td>98.57</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Additionally, the industrial property stock is seen to be increasing at another 124 lots of industrial properties on top of its existing 165 lots as per quarter 3 of 2011. Most of these industrial property lots are focused on a few areas like Chuping, Jejawi, Kuala Perlis, Padang Besar. <table border="1"> <thead> <tr> <th></th> <th>Terrace</th> <th>Semi-Detach</th> <th>Detach</th> <th>Flatted Factory</th> <th>Industrial Complex</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Existing Stock</td> <td>65</td> <td>24</td> <td>74</td> <td>0</td> <td>2</td> <td>165</td> </tr> <tr> <td>Completions</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Incoming Supply</td> <td>17</td> <td>0</td> <td>2</td> <td>0</td> <td>0</td> <td>19</td> </tr> <tr> <td>Under Construction</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Starts</td> <td>17</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>18</td> </tr> <tr> <td>Planned Supply</td> <td>65</td> <td>0</td> <td>4</td> <td>0</td> <td>0</td> <td>69</td> </tr> <tr> <td>New Planned Supply</td> <td>17</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>17</td> </tr> </tbody> </table>	No.	Type	Number	Value (RM million)	Industrial Property Transactions				1	Vacant Plot	9	3.5	2	Terraced Factory/Warehouse	3	0.9	3	Semi-Detached Factory/Warehouse	-	-	4	Detached Factory/Warehouse	1	1.1	5	Industrial Complex/Unit	-	-	6	Others	3	0.5	Total		16	6.0	Agriculture Property Transactions				1	Estate	-	-	2	Vacant Land	284	16.47	3	Rubber	93	12.10	4	Oil Palm	2	0.65	5	Paddy	986	63.99	6	Orchard	76	4.64	7	Durian	1	0.01	8	Horticulture / Vegetables	2	0.11	9	Others	12	0.60	Total		1,456	98.57		Terrace	Semi-Detach	Detach	Flatted Factory	Industrial Complex	Total	Existing Stock	65	24	74	0	2	165	Completions	0	0	0	0	0	0	Incoming Supply	17	0	2	0	0	19	Under Construction	0	0	1	0	0	1	Starts	17	0	1	0	0	18	Planned Supply	65	0	4	0	0	69	New Planned Supply	17	0	0	0	0	17
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PROJECT BRIEF - INDUSTRIAL DEVELOPMENT PARK

<p>Location Plan / Land Size</p>		<p>Location: Pauh Putra, Arau Land Size: 362.78ha Land Ownership: State Government</p>
<p>Depiction</p>		
<p>Project Benchmarks</p>	<p>Australian Technology Park The Australian Technology Park is host to a diverse community of science, communications and IT companies. Amidst its imposing industrial architecture and innovative campus environment, the park is home to one of Australia’s most unique conferencing and exhibition venues. From small incubator start-ups right through to large multinationals, the Australian Technology Park is host to a multitude of organisations in fields as diverse as biotechnology, IT, education and energy. The Park consists of a pleasing mix of new purpose-built buildings together with several Heritage buildings that feature a blend of heritage architecture and cutting edge contemporary design.</p>	

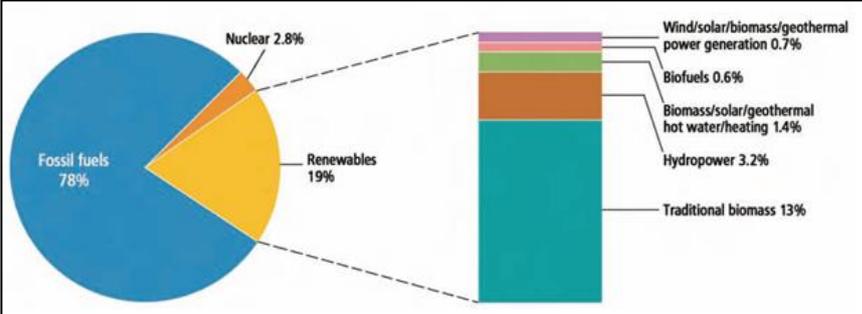
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name	Role & Responsibilities		
	Main Agencies	SEDC	Infrastructure Development / Funding Identify private operator Assistance in Grants/Leasing		
	Other Agencies	UPEN	Planning for development		
Private Sector	Private Investor	Occupy industrial lots to carry out business			
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	Leasing of land/lots to Investors			
	Operating Expenditures Description	<ul style="list-style-type: none"> Maintenance of park Utilities Salaries 			
	Capital Expenditures Description	<ul style="list-style-type: none"> Land infrastructure to site 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	106.25	2,807.6	679.7	18.6
	Estimated OPEX (RM million)	1.2	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	3,332.7	279.5	100	0
Operating Expenditure	1.2	-	-	-	
Implementation Action Plan	Initiator	Actions			Year
	SEDC	Approval and Planning (Phase 1)			2012
		Land Design & Development (Phase 1)			2014
		Construction to Site (Phase 1)			2015
		Identification of Park Operator			2016
		Approval and Planning (Phase 2)			2015
		Land Design & Development (Phase 2)			2016
		Construction to Site (Phase 2)			2018
	MIDA	Provision of Incentives			2016
Private Operator	Leasing of Land to Investor (Phase 1)			2019	

PROJECT BRIEF - INDUSTRIAL DEVELOPMENT PARK

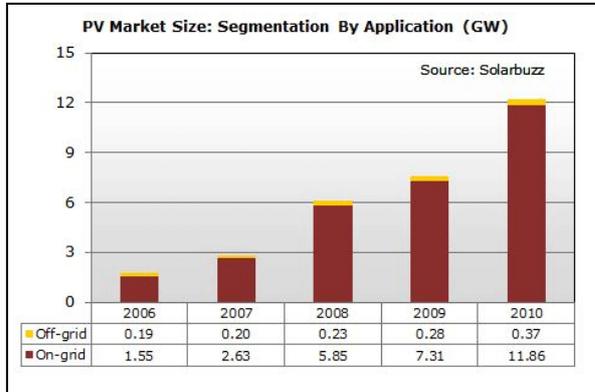
Implementation Timeline																
	<ul style="list-style-type: none"> Feasibility Study/Approval/Planning - Milestone: Project Launch Design/Land Acquisition - Milestone: Project Ground-breaking Infrastructure/Incubation - Milestone: Infra-to-site completion Construction/Project Development - Milestone: Project Completion Revenue Start Peak Production Revenue/Investment 															
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs												
	-	-	-	NA												
Drivers & Enablers	<ul style="list-style-type: none"> Water Infrastructure Electricity Infrastructure Roads and accessibility Incentives for Investor Infrastructure to site Quick planning and design 															
Early Steps Necessary	<ul style="list-style-type: none"> Design and planning of industrial parks Land acquisition RFP to potential park operators 															
Possible Barriers & Threats	<ul style="list-style-type: none"> Disinterest of park operators due to lack of attractive incentives Slow process of approvals and land matters 															
Preliminary Business Model	<p>The business model is a park operator model where the park will be operated by one single operator. The operator will identify and invite investors to do business in the park while leasing land or lots to the investor. The investor will carry out the business activities and run the economic activity and pay the operator a leasing cost every month</p>															

Strategic Project Brief [INDUSTRIAL DEVELOPMENT PARK]

Project Code	IP2	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Renewable Energy: Solar Farm			
Project Description	<p>Gemilang Land Development Sdn Bhd (GL) will build a 10MW solar farm on a 25 ha land in Pauh Perlis. This project will be located in the Pauh Putra Technology Park. GL is targeted to procure 44,000 photovoltaic modules while 50% of the modules are purchased locally.</p> <p>The components within the solar farm will include:</p> <ul style="list-style-type: none"> • PV Solar System (Panel – 205 W) for about 48,000 panels • Operation centre • Electrical Management System • R&D Centre 			
Issues	<ul style="list-style-type: none"> • Low value-added in Perlis • Lack of investments 			
Rationale	<p>Concept</p> <p>The Renewable Energy Park is a park that caters for industries that deals with renewable energy or efficient energy manufacturing and processing. One of the main projects in existence is the Solar Farm project by Gemilang Land Development Sdn Bhd.</p> <p>Global Energy Meltdown</p> <ul style="list-style-type: none"> • There is high dependency on fossil fuel with 98% of the current energy usage from oil, gas, coal and uranium • Demand for energy is on the rise while production of fossil fuel will peak in the next 10 to 15 years <p>Renewable Energy as Alternative Source</p> <ul style="list-style-type: none"> • Decline in resources and increasing cost of conventional power generation threatens economy and security of the world • RE such as solar technology is a good source of alternative energy <p>Ready Investor</p> <ul style="list-style-type: none"> • Gemilang Land Development Sdn Bhd is a ready investor to develop a solar farm in Perlis • There is a 21-year Renewable Energy PPA (REPPA) signed with TNB 			
Existing Demand & Current Supply	<p>Global Energy Consumption</p> <ul style="list-style-type: none"> • Consumption decreased by 1.1% in 2009 • Notwithstanding the decline, world consumption of marketed energy from all fuel sources is expected to increase in the next 25 years <p>Demand for Renewable Energy Sources</p> <ul style="list-style-type: none"> • Renewable energy sources accounted for 19% of global energy demand in 2008  <p>Source: REN21 Renewable Energy Policy Framework for the 21st Century</p>			

Global Market Size

- Demand grown by average of 30% p.a. over past 20 years
- Decline in cost has been driven by economies of manufacturing scale, technology improvements and increasing efficiency of solar cells
- Photovoltaic solar industry generated USD38.5 billion in revenues globally
- PV installations grew to 7.3GW in 2009, up 20% from prior year
- Expected to reach 8.4-13.1GW in 2010 and predict demand rising to 15.4-37GW in 2014 (5 times the size of 2009 market)



Source: Solarbuzz 2010

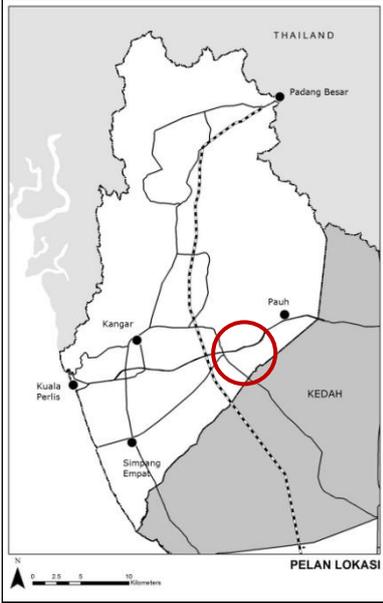
Alignment with Malaysian Government

- Malaysian Cabinet approved the Renewable Energy Act and the Feed-in-Tariff Implementing Agency in 2010
- Objective to increase generation of electricity from RE source from 1% of total electricity output to 5.5% in 2015
- Green Technology Financing Scheme (RM1.5 billion) for participation in green technology
- Solar PV offers unlimited source of energy and Malaysia has a capacity of the following:

	Cum Biomass (MW)	Cum Biogas (MW)	Cum Mini-Hydro (MW)	Cum Solar PV (MW)	Cum SW (MW)
2011	110	20	60	9	20
2012	150	35	110	20	50
2015	330	100	290	65	200
2020	800	240	490	190	360
2025	1190	350	490	455	380
2030	1340	410	490	1370	390
2040	1340	410	490	7450	410
2050	1340	410	490	18700	430

Source: KeTTHA Proposed FIT Rate

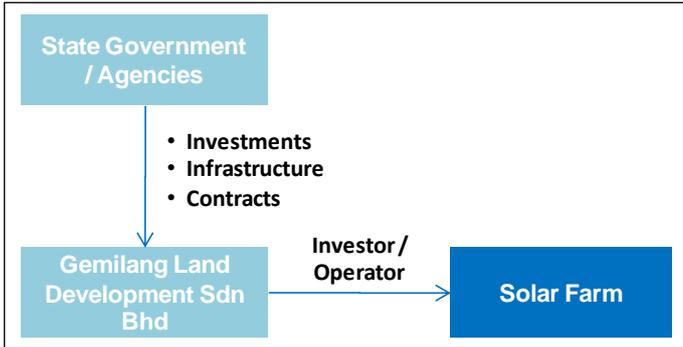
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<p>Location Plan / Land Size</p>		<p>Location: Pauh Putra Technology Park Land Size: 25 ha Land Ownership: State Government</p>															
<p>Depiction</p>																	
<p>Project Benchmark</p>	<p>Windorah Solar Farm A solar farm located in Queensland. The solar dishes or reflectors can save up to 100,000 litres of diesel fuel per year.</p>																
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Main Agencies</td> <td>NCIA/State Government</td> <td>Infrastructure Development</td> </tr> <tr> <td>SEDC</td> <td>Assistance in Grants</td> </tr> <tr> <td>Private Sector</td> <td>Gemilang Land Development</td> <td>Management of Solar Farm</td> </tr> </tbody> </table>			Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	NCIA/State Government	Infrastructure Development	SEDC	Assistance in Grants	Private Sector	Gemilang Land Development	Management of Solar Farm
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PROJECT BRIEF - INDUSTRIAL DEVELOPMENT PARK

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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	130	228	86	NA
Drivers & Enablers	<ul style="list-style-type: none"> • Proper road system • Availability of utility resources • Public sector participation and cooperation 			
Early Steps Necessary	<ul style="list-style-type: none"> • Construction of farm 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Lack of technical capabilities 			
Preliminary Business Model	 <pre> graph TD A[State Government / Agencies] -- "• Investments • Infrastructure • Contracts" --> B[Gemilang Land Development Sdn Bhd] B -- "Investor / Operator" --> C[Solar Farm] </pre>			

Strategic Project Brief [INDUSTRIAL DEVELOPMENT PARK]

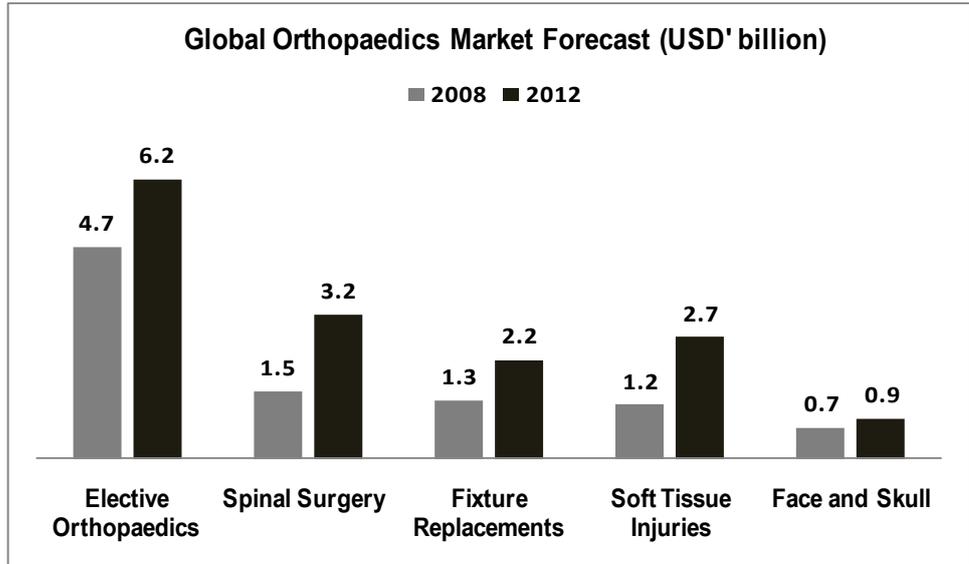
Project Code	IP3	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Bio-technology Processing Plant from Upstream Raw Materials			
Project Description	<p>The Bio-plastics Processing Plant will take in raw material like sugarcane, cassava, kenaf, corn, etc to be processed into bio-plastics catering especially for the medical industries market or plastic packaging market.</p> <p>The processing plant will be located in the Industrial Estates in Chuping Valley near to various sources of raw material. The processing plant will comprise some of the following components:</p> <ul style="list-style-type: none"> • 2 Industrial factories for monomer production • 5 Industrial factories for compounding • 30 Industrial factories for moulding products • 1 R & D Research Centre • 2 Degradability Testing Centres • 2 Storage and Warehouses for raw material <p>The development of the processing plant will be done in different phases but targeted to have a full fledged manufacturing line by 2020 that covers the whole value chain.</p>			
Issues	<ul style="list-style-type: none"> • Lack of constant supply to meet quality standards of large hypermarkets, supermarkets thus leading to marketing challenges that impacts on “off-take” and price • Low value-added in Perlis 			
Rationale	<p>Introduction to Bio-plastics</p> <ul style="list-style-type: none"> • Bio-Plastics are not a single class of polymers but rather a family of products which can vary considerably • Bio-Plastics consist of <ul style="list-style-type: none"> - Biobased plastics, based on renewable resources, and - Biodegradable polymers, which meet all criteria of scientifically recognized norms for biodegradability and compostability • Production of bio-plastics is a more sustainable activity compared to plastic production from petroleum • Major derivation from renewable biomass sources (vegetable fats and oils, corn starch, pea starch, sugarcane or microbiota, cassava, wheat, etc) • Due to the high carbon emission and hazardous of plastic wastes, many industries have changed to the use of bio-plastics which are bio-degradable • A new type of technology allows non-food crop to form polymer that is cellulose based, which provides an opportunity for agro-based technology – based on natural materials <p>Advantages of Bio-plastics</p> <ul style="list-style-type: none"> • Bio-plastics consumes 65% less energy than conventional plastic • Bio-plastics are non-toxic • Bio-plastics are more sustainable because plastics last a long time • Bio-plastics save 30% to 80% of the greenhouse gas emissions and provide longer shelf-life than normal plastic • Bio-degradable <p>Relevance to Perlis</p> <ul style="list-style-type: none"> • Polylactic acid (PLA) plastics: Produced from cane sugar or glucose 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<ul style="list-style-type: none"> • The glucose from sugarcane plantations play a major role in contributing to a new generation of bio-plastics production • Kilang Gula FELDA Perlis, Chuping has a total land of 4,695ha for sugarcane cultivation where 1,200ha will be given back to the State Government for the development of Chuping Valley. According to a Study, only 49.5% of the world's sugarcane is needed to convert all U.S. plastics into PLA • Bio-plastics from glucose or cane sugar can be used for medical surgical plates, mesh, sutures etc, which has high demand due to its bio-degradable nature • The availability of sugarcane in Perlis positions Perlis in a very strategic puts for the manufacturing and processing of bio-plastics • If the remaining sugarcane land of about 3,300ha is to be preserved by Felda for bio-plastics processing, it is sufficient for processing of bio-plastic products to cater to the large packaging and medical equipments market. The bio-packaging materials can also be used to package halal food in the Halal Food Park • However, note that Felda has plans to phase out the sugarcane plantation in Chuping • Perlis has various other raw materials that can be used for bio-plastics manufacturing, i.e. cassava, kenaf, etc • This project can be a joint effort with UniMAP as they embark on biosystem and bio-technology industry and training in the campus, where further research & development can be done in future. 																										
<p>Existing Demand & Current Supply</p>	<p>Market Demand for Bio-plastics</p> <ul style="list-style-type: none"> • Global demand for bio-plastics will grow at an average of 25% each year compared to 5% growth of conventional plastics (Source: Chemical Market Associates Inc) • Volume of bio-plastics will jump to 1.2 million tons in 2020 from 200,000 tons in 2010 • Major driver of packaging market demand, shifting towards bio-packaging based on renewable and sustainable materials • Massive potential to penetrate the medical equipment industry that has also been switching to the usage of bio-plastics. <p>Bio-degradable Plastic Packaging Market</p> <ul style="list-style-type: none"> • Global value of bio-degradable plastic packaging market will reach USD1.85 bil in 2011 (Source: VisionGain) • The market for bio-plastics packaging is growing by 20-30% a year and is forecasted to reach 884,000 tons by 2020 with a CAGR of 24.9% • The plastic packaging market can include the FMCG packaging, food & drinks packaging, and healthcare packaging • Plastic healthcare packaging has a growing market trend and is forecasted to grow at 22.4% to 2021 <div> <table border="1"> <caption>Biodegradable Plastic Healthcare Packaging Market Forecast 2011 - 2016</caption> <thead> <tr> <th>Year</th> <th>Sales (USD'mil)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>60</td></tr> <tr><td>2011</td><td>70</td></tr> <tr><td>2012</td><td>80</td></tr> <tr><td>2013</td><td>90</td></tr> <tr><td>2014</td><td>100</td></tr> <tr><td>2015</td><td>110</td></tr> <tr><td>2016</td><td>120</td></tr> <tr><td>2017</td><td>130</td></tr> <tr><td>2018</td><td>140</td></tr> <tr><td>2019</td><td>150</td></tr> <tr><td>2020</td><td>160</td></tr> <tr><td>2021</td><td>165</td></tr> </tbody> </table> </div> <p>Source: Visiongain, 2011</p>	Year	Sales (USD'mil)	2010	60	2011	70	2012	80	2013	90	2014	100	2015	110	2016	120	2017	130	2018	140	2019	150	2020	160	2021	165
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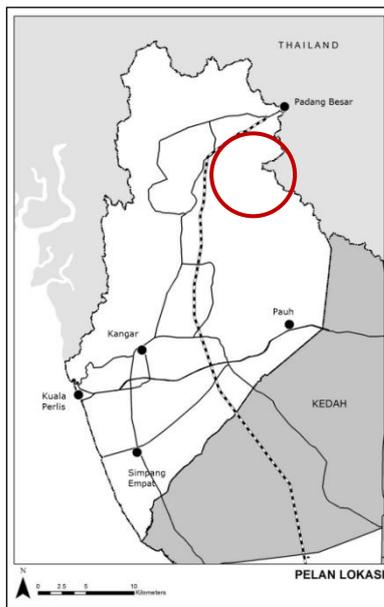
Medical Applications

- Biodegradable medical implants are one of the fastest growing areas in a global orthopaedics market valued at \$10 billion and forecast to grow to \$15 billion



- Bio-plastics are used as medical implants, replacing titanium plates, as they eliminate the need for second surgery for removal
- Many major medical manufacturers like Cereplast have begun using single-use plastic products and disposable medical packaging that consist of up to 50% renewable content. Placon launched the EcoStar PET family of products last year that includes clamshells, in-process trays, and glucose meter packaging. EcoStar PC50 products are composed of at least 50% post-consumer content and 85% total recycled content.

Location Plan / Land Size



Location: Agri-Bio-Tech Park
Land Size: 50 ha
Land Ownership: State Government

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Depiction</p>	<p>Raw Materials</p>  <p>Processing Plant</p> 																					
<p>Project Benchmark</p>	<p>Malaysia Bioplastic Pilot Plant</p> <p>The fully automated Polyhydroxylalkanoate (PHA) Bioplastics plant was designed and built through partnership between SIRIM Bhd, Universiti Sains Malaysia (USM), Universiti Putra Malaysia (UPM), and the Massachusetts Institute of Technology (MIT), United States. With a capacity of 2,000 litres, the plant is linked to the waste system and specially designed to remediate the effluent of the pilot plant.</p>																					
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Main Agencies</td> <td>MITI</td> <td>Coordinate imports of raw material for bio-plastics processing from neighbouring countries</td> </tr> <tr> <td>Department of Agriculture</td> <td> <ul style="list-style-type: none"> Look into possibility of cultivating raw material in Perlis (i.e. cassava, kenaf, corn etc) Development of regulatory policies and control for processing of bio-plastics </td> </tr> <tr> <td>MIDA</td> <td> <ul style="list-style-type: none"> Issue investment incentives </td> </tr> <tr> <td>Other Agencies</td> <td>UniMAP</td> <td> <ul style="list-style-type: none"> R&D on biomass technology application </td> </tr> <tr> <td>Private Sector</td> <td>Joint-Venture Companies</td> <td> <ul style="list-style-type: none"> Carry out operations of the bio-plastic plant & business </td> </tr> </tbody> </table>			Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	MITI	Coordinate imports of raw material for bio-plastics processing from neighbouring countries	Department of Agriculture	<ul style="list-style-type: none"> Look into possibility of cultivating raw material in Perlis (i.e. cassava, kenaf, corn etc) Development of regulatory policies and control for processing of bio-plastics 	MIDA	<ul style="list-style-type: none"> Issue investment incentives 	Other Agencies	UniMAP	<ul style="list-style-type: none"> R&D on biomass technology application 	Private Sector	Joint-Venture Companies	<ul style="list-style-type: none"> Carry out operations of the bio-plastic plant & business
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PROJECT BRIEF - INDUSTRIAL DEVELOPMENT PARK

Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> • Sale of bio-plastics material to export market for purposes of packaging or medical equipment (Phase 1) • Sale of packaging or medical equipment ingredients through molding and compounding (Phase 4) 			
	Operating Expenditures Description	<ul style="list-style-type: none"> • Utilities and maintenance of processing plant, research centre and testing centre • Salary of workers • Maintenance of equipment • R&D cost 			
	Capital Expenditures Description	<ul style="list-style-type: none"> • Import of raw materials for processing • Building of factory and centres • Initial purchase of technology • Patent of technology 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	219.5	211.3	5	5
	Estimated OPEX (RM million)	1.0	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	12.5	428.3	100	-
	Operating Expenditure	1.0	-	-	-
Implementation Action Plan	Initiator	Actions			Year
	DOA, Perlis	Business Strategy & Implementation Plan for Bio-plastics Processing			2012
		Regulatory policies for bio-plastics processing			2012
		Cultivation possibilities of raw materials			2014
	UPEN/SEDC, Perlis	Invitation to private sector for participation			2012
	State Government	Provision of land for processing plant			2012
		Provision of infrastructure and amenities for project			2013
UniMAP	Research & Development			Ongoing	

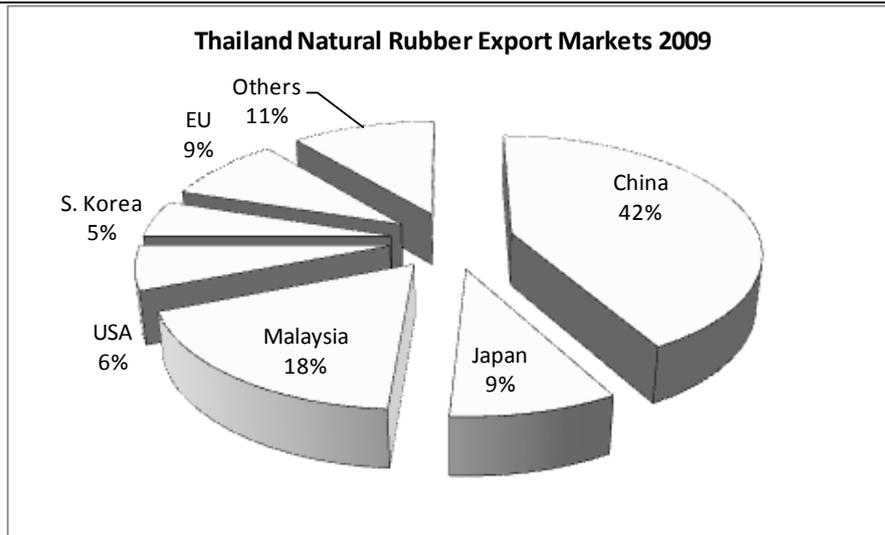
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

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	150				442				114				NA																																																																					
Drivers & Enablers	<ul style="list-style-type: none"> Water and electricity supply Road infrastructure Transportation facilities 																																																																																	
Early Steps Necessary	<ul style="list-style-type: none"> Discussion with Felda to maintain sugarcane land Identify sources of raw material Identification of private investors 																																																																																	
Possible Barriers & Threats	<ul style="list-style-type: none"> Lack of unique selling proposition as there is possibility of lack of raw materials Raw material prices through import fluctuation Lack of technical expertise, capacity and production skills 																																																																																	
Preliminary Business Model	<pre> graph TD RM((Raw Material)) --> PP[Processing Plant] IA[Investor A] --> JV[JV] IB[Investor B] --> JV JV --> PP PP --> MP[Monomer Production] PP --> C[Compounding] PP --> M[Molding] MP --> BP[Bio-plastics] C --> BP M --> BP BP --> EM[Export Market] </pre>																																																																																	

Strategic Project Brief [INDUSTRIAL DEVELOPMENT PARK]

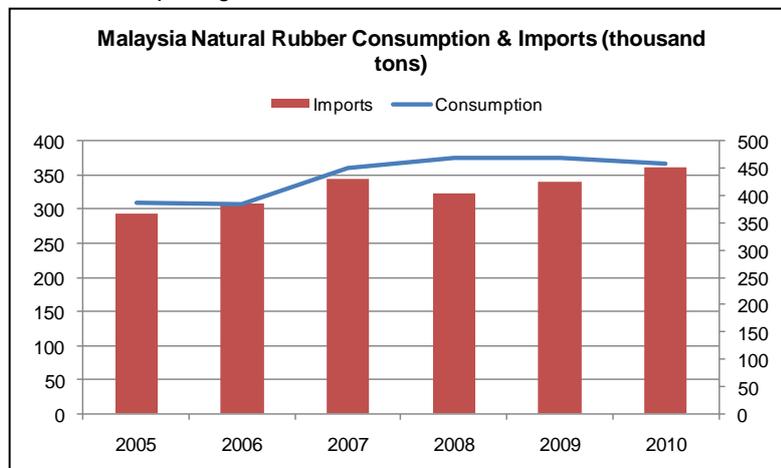
Project Code	IP4	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Rubber Processing Industrial Cluster (RPIC) Development			
Project Description	The RPIC requires 100ha of land for industries related to rubber. This leverages on the abundant amount of rubber trees in Felda land as well as Southern Thailand. It requires various industrial lots to be leased to private investors to process rubber into high value rubber products from natural rubber like medical applications, industrial gloves and condoms.			
Issues	<ul style="list-style-type: none"> • Lack of constant supply to meet quality standards of large hypermarkets, supermarkets, thus leading to marketing challenges that impacts on “off-take” and price • Low value-added in Perlis 			
Rationale	<p>Government’s Initiative to Reinstate Malaysia’s Position</p> <ul style="list-style-type: none"> • Restore position as major producer and strengthen competitive exporters status in the global market • Done through Economic Transformation Programme (ETP), focusing on rubber • One of the EPP aims is to “accelerate downstream products” • Rubber estates converted into palm oil plantations caused decline in natural rubber supply difficult to cater to integrated rubber industry eg. rubber gloves <p>Relevance to Perlis</p> <ul style="list-style-type: none"> • Majority of sugarcane land owned by Kilang Gula Felda Perlis (KGFP) has been converted into rubber plantations (owned by Felda), marking potential for large amount of natural rubber production • MRB will work closely with Felda to ensure efficient transfer of technologies to increase rubber yield • Large amount of natural rubber exports from Thailand through Perlis via rail. Potential for rubber production into latex or industrial gloves (currently operated by Shorubber) • Shorubber purchases most of the processed latex rubber from manufacturers • Convenient to have rubber processing plant in Perlis because it is near to raw materials • Thailand continues to have a high amount of exports of natural rubber Malaysia consumed 18% of the rubber exports in 2009 • Abundance of rubber trees in Southern Thailand • Meeting and discussions with private investors in the rubber industry in Southern Thailand shows the need for new location for expansion due to various reasons including political issues • The proximity of Perlis to these resources makes it a valuable and strategic place to run a rubber processing cluster. 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis



Source: Rubber Research Institute of Thailand

Malaysia's consumption of natural rubber of processing increased from 2005 to 2010, at the same time, imports grew.



Source: Thai Rubber Association

Existing Demand & Current Supply

Global Demand, Production & Opportunity for Perlis

- Global demand growing at 8% to 10% p.a.
- Specifically medical surgical gloves totalled 135 billion pieces in 2009
- In 2011, global demand expected to hit 155 billion pieces due to H1N1 outbreak and continuous healthcare reform in US
- Malaysia is the biggest contributor, supplying 63% of global demand



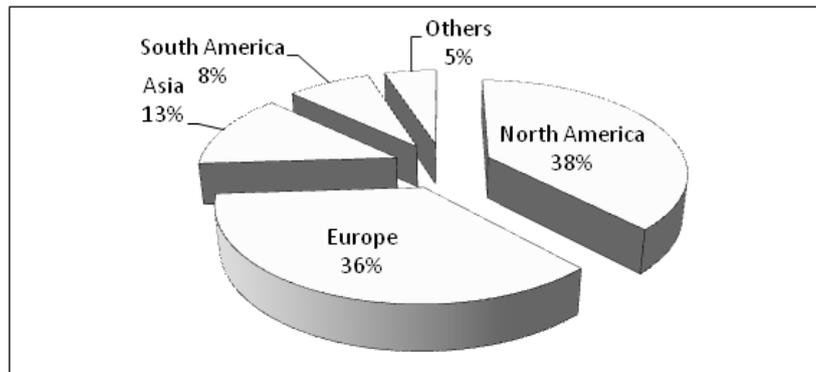
Source: OSK Research Report

- Huge market share is due to the long learning curve required for new rubber manufacturers, located centrally in a latex production region (Malaysia, Thailand, Indonesia) and the support from Government in providing natural gas, water and allowing the hiring of foreign labour

Export Market for Malaysia

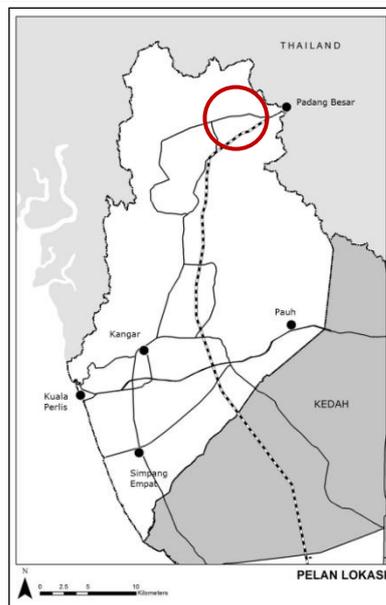
- 70% of medical grade gloves is exported to developed countries, with North America having the biggest share of 38% of gloves

Export Region for Malaysia



Source: Malaysian Rubber Export Promotion Council

Location Plan / Land Size

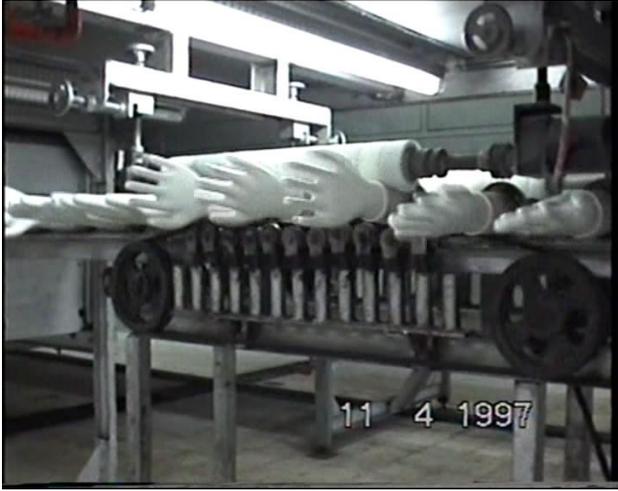


Location: SME General Industries, Padang Besar

Land Size: 100 ha

Land Ownership: State Government

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Depiction</p>					
<p>Project Benchmark</p>	<p>Top Glove Corporation Bhd Commenced operations in 1991 with a comprehensive product range of 13 major types of rubber gloves. 80% of production is for the healthcare sector and the rest for the non-healthcare sector. Remains as one of the largest rubber gloves manufacturers in Malaysia, controlling 22.1% of the global market share. It currently has 21 manufacturing facilities across 3 countries and targets to have a total of 463 lines with a capacity of 41.55 billion pieces per annum.</p>				
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>				
	<p>Description</p>	<p>Name</p>		<p>Role & Responsibilities</p>	
	<p>Main Agencies</p>	<p>Malaysian Rubber Board</p>		<p>Provide inputs and advisory</p>	
		<p>Malaysian Rubber Export Promotion Council</p>		<p>Market promotion of rubber products in the world market</p>	
	<p>Other Agencies</p>	<p>SEDC</p>		<ul style="list-style-type: none"> • Identify operator • Provision of incentives 	
<p>Private Sector</p>	<p>Private Operator</p>		<ul style="list-style-type: none"> • Operate processing cluster • Identify investors • Manage industrial lots 		
<p>Programme Costing Assumptions</p>	<p>Description of the Programme Costing</p>				
	<p>Revenue Streams</p>	<ul style="list-style-type: none"> • Leasing of land/lots • Sale of rubber gloves to export market 			
	<p>Operating Expenditures Description</p>	<ul style="list-style-type: none"> • Utilities and maintenance of processing plant, research centre and testing centre • Salary of workers • Maintenance of equipment • R&D cost 			
	<p>Capital Expenditures Description</p>	<ul style="list-style-type: none"> • Import of raw materials for processing • Building of factory and centres 			
<p>Estimated Budget</p>	<p>Implementation Phase</p>	<p>Phase 1</p>	<p>Phase 2</p>	<p>Phase 3</p>	<p>Phase 4</p>
		<p>2012 – 2015</p>	<p>2026 – 2020</p>	<p>2021 – 2025</p>	<p>2026 – 2030</p>
	<p>Production (MT/year)</p>	<p>-</p>	<p>-</p>	<p>-</p>	<p>-</p>
	<p>Estimated CAPEX (RM million)</p>	<p>42.5</p>	<p>815.0</p>	<p>15.0</p>	<p>-</p>
	<p>Estimated OPEX (RM million)</p>	<p>2.0</p>	<p>-</p>	<p>-</p>	<p>-</p>

PROJECT BRIEF - INDUSTRIAL DEVELOPMENT PARK

Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	25	847.5	100	0
Operating Expenditure	2.0	-	-	-	

Implementation Action Plan	Initiator	Actions	Year	
	SEDC	Feasibility study of rubber processing plant		2012
		Approvals and planning		2013
		Infrastructure to site		2015
		Construction		2017
Private Operator	Operate and lease to private investors		2019	

Implementation Timeline	2012				2013				2014				2015				2016				2017				2018				2019				2020			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	<p> ■ Feasibility Study/Approval/Planning - Milestone: Project Launch ■ Design/Land Acquisition - Milestone: Project Ground-breaking ■ Infrastructure/Incubation - Milestone: Infra-to-site completion ■ Construction/Project Development - Milestone: Project Completion ■ Revenue Start ■ Peak Production Revenue/Investment </p>																																			

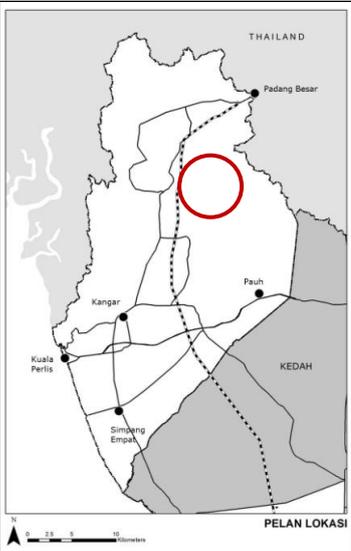
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	220	875	220	NA

Drivers & Enablers	<ul style="list-style-type: none"> Water and electricity supply Road infrastructure Transportation facilities
Early Steps Necessary	<ul style="list-style-type: none"> Link up with Felda to provide latex rubber Identification of private investors
Possible Barriers & Threats	<ul style="list-style-type: none"> Raw material price fluctuations Currency exposure Lack of raw material for economies of scale

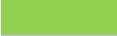
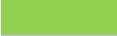
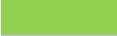
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [INDUSTRIAL DEVELOPMENT PARK]

Project Code	IP5	New Project?	Existing?	Quick Win?
		N	Y	N
Project Name	Minerals & Resources Mining			
Project Description	<p>This project calls for a detailed feasibility study of the availability of minerals and resources like dolomite, gold and coal for mining. The feasibility study has to be done by the Geoscience Department to quantify whether these minerals really exist, and if they do, whether there are sizeable amounts</p> <p>As for dolomite, a manufacturing plant can be set up to manufacture dolomite goods/tourism products in Perlis for the Langkawi market.</p>			
Issues	<ul style="list-style-type: none"> • Availability, commercial viability, and environmental sustainability of deposits • Low value-added in Perlis 			
Rationale	<p>Available Resources</p> <ul style="list-style-type: none"> • Large available dolomite reserves in Perlis • Currently a few companies are conducting quarrying activities for dolomite • Note that there are gold and coal resources in Perlis • Further information needs to be obtained from the Minerals and Geoscience Department Malaysia (JMG) on the quantum of such resources • If the quantum of such resources is small, the project should not be considered as it is a very labour intensive industry without skilled knowledge and a sizeable quantum, it remains unfeasible <p>Dolomite Exporting as Raw Materials</p> <ul style="list-style-type: none"> • Reported that billions of ringgits are lost because limestone is exported in raw form • Shipped out at RM60 per ton while other countries import them and process into high value products reselling at RM390 per ton <p>Relations to Perlis</p> <ul style="list-style-type: none"> • Dolomite reserves in Perlis being quarried • Focus on manufacturing for purposes of exporting to Langkawi as high value tourism products • Perlis is one of the major producers of Dolomite “Batu Reput” in Malaysia and majority of the deposits contain high-purity calcium and magnesium carbonate • It is said that there are minerals and resources in Perlis that can be mined like gold and coal which are of very high value. However, further investigations and study needs to be done to ensure no environmental disturbance as well as sufficient quantum to ensure sustainability. 			
Existing Demand & Current Supply	<p>Demand for Dolomite</p> <ul style="list-style-type: none"> • Low value-added usage in construction – does not lend itself to long transport distances • Industrial dolomite – for iron & steel industry in steelmaking slag flux process where dolomite is used to replace quicklime • Soft and easily crushed to fine powder – used by farmers to reduce soil acidity • Processing dolomite (high temperature calcination)- high capital investment for plants <p>Coal</p> <p>Worldwide coal demand has increased since 2002, especially in Asia. Global coal consumption was 6.26 billion tons in 2006. Up until 2030, coal consumption is expected to grow at 2.1%, driven by the growth in demand throughout Asia particularly in the power generation sector. China, United States, Australia, Russia, South Africa and Indonesia are the major coal producing nations. The price of coal has been rising consistently since July 2007 and the current price is roughly USD120 per ton.</p> <p>Coal production has been decreasingly slowly, due to mine closure as well as lower demand.</p>			

	<p>Malaysia's coal reserves are located primarily in Sarawak and Sabah, with smaller deposits in Selangor, Perlis and Perak. According to the Mineral and Geoscience Department, the country's coal resources are estimated at 1.72 billion tonnes, of which 274 million were measured, 347 million indicated and the balance 1.1 billion inferred. In Sarawak and Sabah alone, coal reserves are estimated to have an in situ value of 300 million tonnes worth over RM150bil. By 2010, Malaysia's demand for coal is expected to reach 19 million tonnes, according to the Malaysian Chamber of Mines, which champions the cause of the local mining sector.</p> <p>Gold</p> <p>At 1,033 tons, total gold supply in the fourth quarter of 2011 was 8 % weaker than the same period in 2010. The data also showed that overall supply was 4% down on the 2010 figure of 3,994 tons.</p> <p>In Malaysia, gold production in 2007 declined by 16.7 per cent from 3,497 kgs in 2006 to 2,913 kgs. The output came from five gold mines located in Pahang, Kelantan, and Johor. The country's largest gold producer is the Penjom Gold Mine located in Kuala Lipis, Pahang. It is a joint-venture between local and foreign interests, and is the largest open pit primary gold mine in Malaysia contributing over 90 per cent of the country's annual gold output. According to studies by the Department of Minerals & Geoscience, there are prospective gold deposits in several other states such as Terengganu, Negeri Sembilan, Sabah and Sarawak</p>														
<p>Location Plan / Land Size</p>		<p>Location: In-Situ Land Size: 25 ha Land Ownership: State Government</p>													
<p>Depiction</p>															
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td>Minerals & Geoscience Malaysia</td> <td>Quantify minerals reserve</td> </tr> <tr> <td>Private Sector</td> <td>Investor</td> <td>Operate processing plant</td> </tr> </tbody> </table>			Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	Minerals & Geoscience Malaysia	Quantify minerals reserve	Private Sector	Investor	Operate processing plant
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

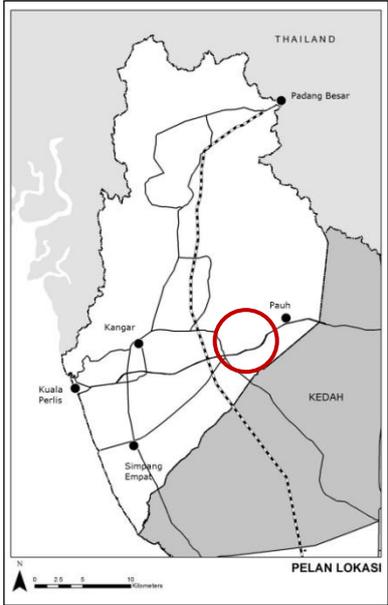
Assumptions	Operating Expenditures Description	<ul style="list-style-type: none"> Utilities and maintenance of processing plant, research centre and testing centre Salary of workers Maintenance of equipment R&D cost 																																																																																																																					
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Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																																																																		
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		Provision of facilities and land allocation			2013																																																																																																																		
	SEDC	Design & land acquisition			2014																																																																																																																		
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PROJECT BRIEF - INDUSTRIAL DEVELOPMENT PARK

<p>Drivers & Enablers</p>	<ul style="list-style-type: none"> • Water and electricity supply • Road infrastructure • Transportation facilities
<p>Early Steps Necessary</p>	<ul style="list-style-type: none"> • Identify quantum of minerals and resources
<p>Possible Barriers & Threats</p>	<ul style="list-style-type: none"> • Lack of sizeable quantum for mining • Possible disruption of environment
<p>Preliminary Business Model</p>	<pre> graph TD SGA[State Government / Agencies] -- "Investments Infrastructure Contracts" --> PI[Private Investor] DQC[Dolomite Quarrying Company] --> PI PI -- "Investor / Operator" --> DM[Dolomite Manufacturing] </pre>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [INDUSTRIAL DEVELOPMENT PARK]

Project Code	IP6	New Project?	Existing?	Quick Win?
		N	Y	N
Project Name	Plastic to Fuel Technologies			
Project Description	<p>Syngas@Saham Utama is a committed investor and has already begun its Research & Development phase. This project is about manufacturing of machinery to convert plastic waste into diesel fuel. This machinery will be sold to any company which has plastic waste to be converted into diesel for secondary usage.</p> <p>This project caters for an expansion of the project after 2020 in the future which will be done in the Pauh Putra Technology Park. As fuel energy depletes, projects like this offer much scope.</p>			
Issues	<ul style="list-style-type: none"> • Low value-added in Perlis • Lack of investments 			
Rationale	<p>Global Waste Situation</p> <ul style="list-style-type: none"> • Volume of household waste is significantly correlated to global GDP (Plastic Recycling Solutions) • 5% - 15% of municipal waste volume is plastic waste 			
Existing Demand & Current Supply	<p>Waste Generation and CO₂ Emission</p> <ul style="list-style-type: none"> • Population growth and increasing urbanization have a negative impact on the global waste situation and CO₂ emission <p>Natural Fossil Fuels and Demand for Plastics</p> <ul style="list-style-type: none"> • Increasing shortage in natural fossil fuels • With the development of emerging markets and increasing shortage of other materials, the global demand for plastics continues to rise 			
Location Plan / Land Size			<p>Location: Pauh-Putra Technology Park Land Size: 25ha Land Ownership: State Government</p>	

<p>Depiction</p>																	
<p>Project Benchmark</p>	<p>Polymer Energy, LLC A joint venture between Northern Technologies, a leading materials science company, and Zbigniew Tokarz, the inventor of an innovative technology called Polymer Energy. It offers a viable, economical and environmentally responsible alternative to current methods of plastic waste disposal where plastic wastes are converted into diesel and crude oil. The Polymer Energy system is robust by design, operating 24 hrs a day, processing plastic with up to 15% water and impurities. The output oil can be further processed in a refinery or used to power low-rpm machines such as electric generation turbines</p>																
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Accelerating the Economic Transformation of Perlis

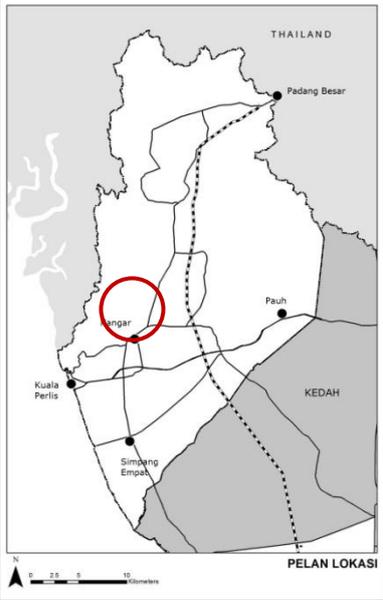
	Capital Expenditures Description	<ul style="list-style-type: none"> • Land acquisition • Purchase of plant and machineries • Building of R&D Centre • Building of demonstration plant • Building of fabrication factory 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	-	4.25	29.4	3.8
	Estimated OPEX (RM million)	-	0.5	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	12.5	24.4	100	0
	Operating Expenditure	0.5	-	-	-
Implementation Action Plan	Initiator	Actions			Year
	SEDC	Approval and Planning			2020
		Land Design & Development			2021
		Construction to Site			2021
	MIDA	Provision of Incentives			2020
Private Sector	Operational			2024	
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs	
	56	224.9	100	NA	
Drivers & Enablers	<ul style="list-style-type: none"> • Proper road system • Availability of utility resources • Public sector participation and cooperation 				
Early Steps Necessary	<ul style="list-style-type: none"> • NA 				
Possible Barriers & Threats	<ul style="list-style-type: none"> • Lack of demand for such technologies due to lack of promotion • Cheaper and more efficient technology 				

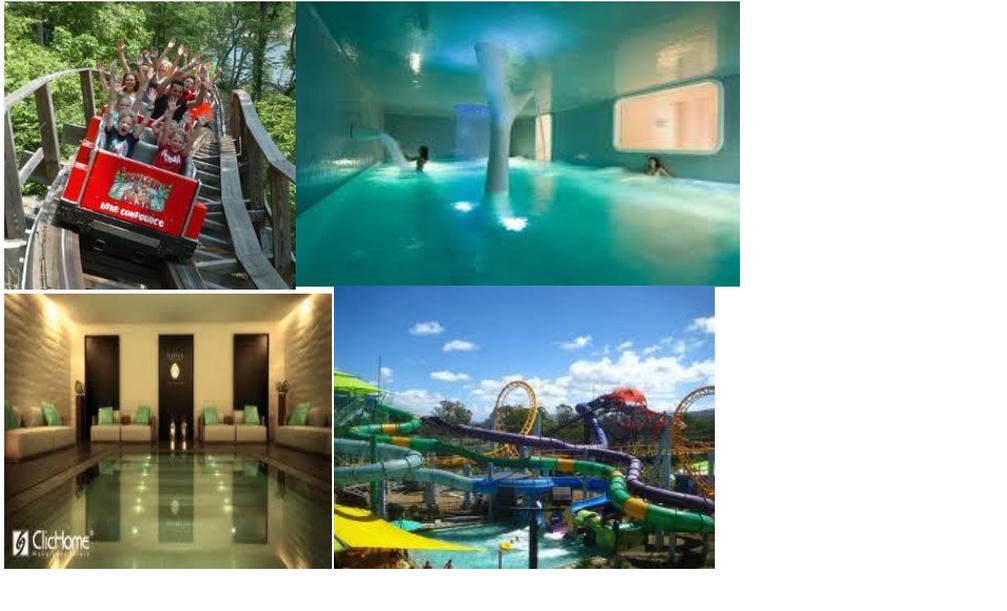
E. TOURISM

Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM1	New Project?	Existing?	Quick Win?												
		Y	N	Y												
Project Name	Transforming Sungai Batu Pahat into a major family fun-tourism destination and privatising these facilities															
Project Description	<ul style="list-style-type: none"> The main proposals for the Sungai Batu Pahat area involve two stages. The first proposal is to privatize and enhance the tourist experience of the existing tourism attractions and integrate them into tourism 'honey pot'. A revitalized Sungai Batu Pahat should offer a tourist experience based on family fun, by improving the existing tourism products in terms of presentation, interpretation and service quality. These attractions should be linked in the form of a vibrant tourism circuit in which visitors could buy a single entrance ticket to visit and patronize all the attractions over a 3 day period. Once this circuit is established, it could then be linked to the attractions at Gua Kalam to form an attractive tourism corridor, with the potential of being promoted as a 'must visit' destination. Once the existing attractions have been upscaled, new products can be developed in the form of agri theme parks based on thematic concepts that showcase the distinctiveness of Perlis. The agri based theme parks, similar in concept to the revitalized Bukit Cahaya Seri Alam Agricultural Park in Shah Alam, shall create an anchor to attract mainstream tourists on package tours as well as families on self-drive holidays. The facilities and activities could include thematic gardens and farms, and rides and spills that offer fun and entertainment to attract mass tourists. To enhance the quality of tourism, a range of accommodation can be developed, ranging from high end eco-lodges to affordable chalets. The affordable accommodation should be constructed in the earlier phases and high end eco-lodges shall follow once Sg Batu Pahat has managed to attract a critical mass. In addition the existing spa (yet to open) can be transformed into a wellness centre focusing on alternative medicine, aromatherapy, management, weight reduction etc. Upgrading/introducing new products within the Sg. Batu Pahat area based on family fun such as agri-based theme parks Privatising existing tourism attractions to enhance tourist experience, management and promotion <table border="1"> <thead> <tr> <th>Component</th> <th>Dimension/Location</th> </tr> </thead> <tbody> <tr> <td>▪ 1 Agri theme park</td> <td>3-5 hectares / Sg.Batu Pahat</td> </tr> <tr> <td>▪ 1 High-end resort and spa (200-300 rooms)</td> <td>10 hectares / Sg.Batu Pahat</td> </tr> <tr> <td>▪ Upgrade all relevant attractions around Sg.Batu Pahat in term of tourism physical facilities such as parking, toilets, interpretation etc.</td> <td>Taman Ular, Herb Garden, Harumanis Farm, etc.</td> </tr> <tr> <td>▪ Affordable chalets (150-200rooms)</td> <td>Sungai Batu Pahat</td> </tr> <tr> <td>▪ Upgrade existing spa to be a Perlis Wellness Centre (alternative medicine, aromatherapy, stress relief, weight reduction etc)</td> <td>Sungai Batu Pahat</td> </tr> </tbody> </table>				Component	Dimension/Location	▪ 1 Agri theme park	3-5 hectares / Sg.Batu Pahat	▪ 1 High-end resort and spa (200-300 rooms)	10 hectares / Sg.Batu Pahat	▪ Upgrade all relevant attractions around Sg.Batu Pahat in term of tourism physical facilities such as parking, toilets, interpretation etc.	Taman Ular, Herb Garden, Harumanis Farm, etc.	▪ Affordable chalets (150-200rooms)	Sungai Batu Pahat	▪ Upgrade existing spa to be a Perlis Wellness Centre (alternative medicine, aromatherapy, stress relief, weight reduction etc)	Sungai Batu Pahat
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Issues</p>	<ul style="list-style-type: none"> • Lack of critical mass and poor quality tourist experience which has restricted tourist arrivals and spending
<p>Rationale</p>	<ul style="list-style-type: none"> • The need to create a major and 'must visit' tourist destination in Perlis • Leveraging on the strategic location of Sungai Batu Pahat and the existing tourism resources to develop an attractive destination for mainstream tourists • Perlis requires a major tourism attraction to attract mainstream visitors and create a critical mass to entice tourism investments. • The existing products are fragmented and lacking in 'pull' factors; thus tourists often bypass Perlis on the way to other tourism destinations. • The Sungai Batu Pahat has existing attractions such as the Snake and Reptile Farm, Herbs Centre, Harumanis Mango Centre, spa (yet to open) etc. However, they are individually managed by government agencies and lack vibrancy. • In addition, the tourism facilities at the nearby attraction, Gua Kelam, also suffer from poor maintenance. Potentially the Sungai Batu Pahat area could be developed into a major tourism destination offering family fun, which will attract mainstream visitors and families as well as increase length of stay.
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • Domestic tourism is gradually becoming a dominant force, with more families travelling and visiting tourism destinations within Malaysia. • 2010 statistics published by Department of Statistics show that 46.8% of Malaysians above 15 years travelled within the country. • Visits are seasonal and often influenced by school/public holidays and special tourism events. • There were 137.9 million trips made by domestic visitors in 2010, of which 68 % were from urban areas. • Average Length of Stay was 2.58 days in 2010. • Visiting Friends and Relatives (VFR) was the main reason (70.6%) and vacationing was secondary (18.2%). • Perlis could attract more domestic tourist by developing a 'must visit' destination and organizing a signature tourism event. • Potential exists to attract tourists from Southern Thailand.
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  </div> <div style="flex: 1; padding-left: 10px;"> <p>Location: Sg. Batu Pahat</p> <p>Land Size: 15ha</p> <p>Land Ownership: Most of the exiting tourist attractions are operated and managed by the related government agencies</p> </div> </div>

<p>Depiction</p>																		
<p>Project Benchmark</p>	<p>The Bukit Cahaya Seri Alam Agriculture Park in Shah Alam which had been transformed into a National Botanical Garden in 2011. The agri theme park can act as an anchor to attract mainstream tourists on package tours or self-drive holidays.</p>																	
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Development of agri theme parks</td> <td>UPEN, Jabatan Pertanian and private sector</td> <td>Creating partnerships to facilitate development of agri theme parks</td> </tr> <tr> <td>Privatisation and upscaling of existing tourist attractions</td> <td>UPEN, MPK and private sector</td> <td>Upgrading and creating new tourism products offering 'family fun' through privatisation</td> </tr> <tr> <td>Promoting new products</td> <td>Tourism Malaysia</td> <td>Promoting Perlis as 'family fun' destination for domestic tourists and foreign tourists from Southern Thailand</td> </tr> </tbody> </table>			Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Development of agri theme parks	UPEN, Jabatan Pertanian and private sector	Creating partnerships to facilitate development of agri theme parks	Privatisation and upscaling of existing tourist attractions	UPEN, MPK and private sector	Upgrading and creating new tourism products offering 'family fun' through privatisation	Promoting new products	Tourism Malaysia	Promoting Perlis as 'family fun' destination for domestic tourists and foreign tourists from Southern Thailand
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																																																						
		2012 – 2015	2016 – 2020	2021 – 2025	2026 - 2030																																																																																																						
	Production (MT/year)	-	-	-	-																																																																																																						
	Estimated CAPEX (RM million)	7.5	159.12	3.12	-																																																																																																						
	Estimated OPEX (RM million)	0.5	-	-	-																																																																																																						
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Operating Expenditure	0.5	-	-	-																																																																																																							
Implementation Action Plan	Initiator	Actions			Year																																																																																																						
	UPEN and related government agencies	Prepare action plans			2012																																																																																																						
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<p>Preliminary Business Model</p>	<pre> graph TD NCIA[NCIA Funding, incentive] --> FORESTRY[FORESTRY DEPT./MPK Create new products/activities at Gua Kelam and Sg. Batu Pahat] NCIA --> PERLIS[PERLIS STATE PARK Facilities Upgrading] FORESTRY --> TM[Tourism Malaysia Promotion Organise Related Event] PERLIS --> TM CPSC[Cooperation with private sector] -.-> FORESTRY CPSC -.-> TM </pre>
<p>Other Related Projects</p>	<ul style="list-style-type: none"> • Shall be integrated with upscaling of Gua Kelam tourism facilities

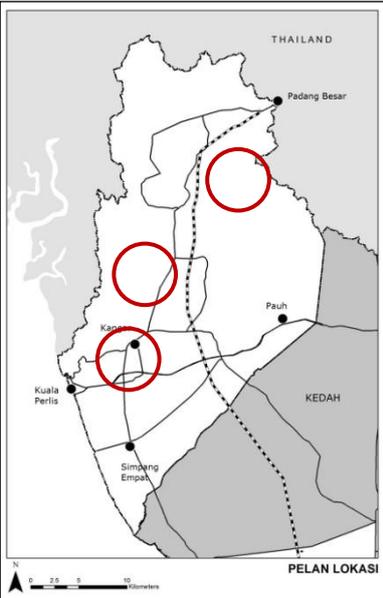
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM2	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Development of the agrotourism corridor as scenic route			
Project Description	<ul style="list-style-type: none"> Proposes the development of an agro-tourism corridor scenic route. The proposed corridor will follow the existing road system to form a loop from Kangar to the MADA paddy rice bowl, Harumanis mango plantations and Chuping sugar cane plantations. Appropriate R&R facilities can be developed with tourist facilities and retail outlets for local communities to showcase and sell local agro-tourism products and handicrafts. Among the key components of this project is the upgrading of 10-20 tourists attractions along the corridor, the construction of two R&R facilities and the placement of 30-40 signages which will guide tourists to key locations along the route. The project will entail the identification of a scenic route that connects the various agro-tourism resources and attractions. It will showcase the natural beauty of the MADA padi schemes and the quaint kampungs dotted in the landscape, the panoramic view of the limestones hills especially 'Chuping Hills', the vast sugar cane plantations etc. Along the proposed agro-tourism corridors, R & R facilities shall be developed with tourist facilities such as info kiosks and well maintained public toilets. The R & R shall also provide outlets for the local communities to showcase and sell local food, agro-tourism products (such as Harumanis mango) and handicrafts etc. The agro-tourism corridor/route shall be well signposted and laybys shall also be provided at appropriate locations for tourists to stop and take photographs with the rural/natural setting providing the quintessential Perlis backdrop. The main implementing agencies of this project are NCIA, MPK, MADA, KEMAS and SME Associations. These agencies will be responsible for the identification, nurturing and development of the rural SMEs to operate outlet at the proposed R&Rs which shall be constructed by MPK. One of the crucial early steps of this project is to ensure the 'buy-in' from key stakeholders, especially MPK, MADA and SME Associations as they are the ones who can drive the project to success by providing support in the creation of attractive retail outlets as well as in promoting the agro-tourism corridor. The main barriers to this project are the lack of commercial viability of retail outlets and the poor maintenance of R&Rs. 			

	Location	Kangar-Kuala Perlis-Sg.Batu Pahat-Chuping-Wang Kelian-Padang Besar-Arau
	Route	R15, R16, R125, R115, R131, 7, 179
	Distant	120 km
	Scenic Route Component	<p>Main attractions (agri tourism)</p> <ul style="list-style-type: none"> ▪ Harumanis Farm ▪ Sugar Cane Plantations ▪ Paddy fields ▪ Herb Garden <p>Supporting attractions</p> <p>a. <u>Local Food</u></p> <ul style="list-style-type: none"> ▪ Traditional local Malay foods at Warung Pokok Sawa ▪ Laksa Perlis at Kuala Perlis ▪ Seafood restaurants at Kuala Perlis (Malay, Thai and Chinese style) ▪ Food stalls to be constructed at picturesque sites within MADA paddy area <p>b. <u>Culture & Heritage</u></p> <ul style="list-style-type: none"> ▪ Museum Kota Kayangan ▪ Royal Town (Arau), etc <p>c. <u>Shopping</u></p> <ul style="list-style-type: none"> ▪ Padang Besar Duty-Free Zone ▪ Wang Klian Market ▪ Rural SMEs selling agri products and handicrafts <p>d. <u>Eco Tourism</u></p> <ul style="list-style-type: none"> ▪ Gua Kelam 1 & 2 ▪ Perlis State Park <p>e. <u>Others</u></p> <ul style="list-style-type: none"> ▪ Snake Park, Sg. Batu Pahat ▪ Ostrich Farm ▪ Melati Lake (picnicking)
	Infrastructure/ Tourism Facility	<ul style="list-style-type: none"> ▪ Upgrade existing R&R at Timah Tasoh (Handicraft, route interpretation etc) ▪ Develop another R&R at Chuping (Toilet, SME products, food outlets, route interpretation, etc) ▪ Provide sign-posting along the route.
	Tours Period	<ul style="list-style-type: none"> ▪ 1 day tour ▪ 2 days 1 night
	Tour Mode	<ul style="list-style-type: none"> ▪ Package tour (tour operators) ▪ Self drive
	Main Target Markets	<ul style="list-style-type: none"> ▪ Families (domestic & international) ▪ Cyclists ▪ Photographers
Issues	Lack of integration between the rural economic sector and tourism development	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

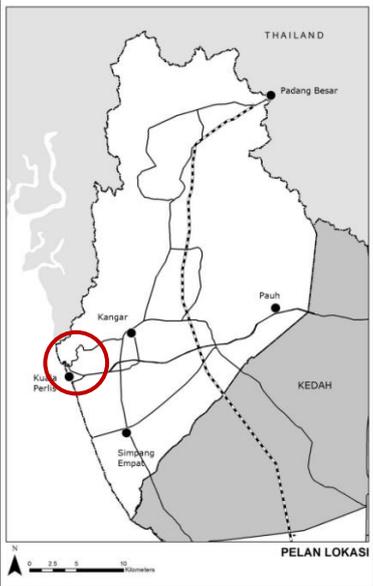
<p>Rationale</p>	<ul style="list-style-type: none"> • Perlis is rich in agro-tourism resources such as the MADA padi schemes, Harumanis mango farms and sugar cane plantations that in tandem with the natural beauty of the limestone hills, offer picturesque and stunning landscapes. • However these agri and rural resources are fragmented from the perspective of tourism product development and have yet to be showcased in an integrated manner. For instance the MADA paddy fields offer the perfect backdrop for the development of kampung-stays (stand alone accommodation within kampung setting). Furthermore these resources are well connected via the existing State road system, which makes it conducive for the development of a scenic route for self- drive holidays. • A Flexible itinerary is ideal for both package tours and self drive holidays given that the trip could be completed within half a day or extended to a full day • This would appeal to international as well as domestic tourists. According to the Department of Statistics, a total of 137.9 million trips were made by domestic tourists in 2010 of which 68% were from urban areas. Interviews with one of the biggest tour operators in Malaysia, Mayflower Travel, revealed a significant increase in the number of foreign tourists renting cars for self-drive holidays (fly-drive). Establishment of a scenic route within Perlis can capitalize on this opportunity.
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • Malaysia had 24.6 million tourist arrivals in 2010, compared to 23.6 million arrivals in 2009. • Tourism receipts in 2010 increased to RM56.5 billion compared to RM53.4 billion in 2009. • Tourist arrivals to Perlis significantly increased to 102,547 (Malaysians & Foreigners) in 2009 compared to 69,585 in 2008. • Currently Perlis is being bypassed by tourists on their way to Thailand or Pulau Langkawi. • However there is high visitation to the border town shopping attractions, especially Wang Kelian and Padang Besar, which attract between 70 to 100 tourist buses on each day of the weekend. • These tourist buses often combine shopping excursions with visits to tourism attractions around Gua Kelam/ Sg. BatuPahat. • Hence the agro-tourism corridor would offer them an ideal extension of their itinerary. <p>(Source: SNV-Crest ,Market for Responsible Tourism, 2009)</p>
<p>Location Plan / Land Size</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Location: Kangar, Sg.Batu Pahat and Chuping</p> <p>Land Size: NA</p> <p>Land Ownership:</p> <p>The agro-tourism corridor will follow the existing road system that forms a loop from Kangar to the MADA paddy rice bowl, Harumanis manggo plantations and Chuping sugar cane plantation etc. Signage shall be provided at appropriate locations and R & R facilities shall be constructed at scenic rural locations where stalls selling agri products and tourist facilities shall be provided</p> </div> </div>

<p>Depiction</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Kota Bharu Handicraft Corridor</p>  </div> <div style="text-align: center;"> <p>Mekong Discovery Trail, Cambodia</p>  </div> </div>																													
<p>Project Benchmark</p>	<p>Two examples of tourism corridors which act as good benchmarks for this project are the Mekong Discovery trails in Cambodia and the proposed Kuala Terengganu-Merang scenic route in the ECER. The Mekong Discovery trails were started as a conceptual scenic route to connect and showcase the rich natural and cultural resources in Cambodia and its neighbouring Greater Mekong Sub Region countries. With financial support from the Asian Development Bank (ADB), this PPT project has been successfully embraced by the tourism industry which has translated this concept into tour packages sold to international tourists.</p>																													
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<p>Drivers & Enablers</p>	<ul style="list-style-type: none"> • Rural development agencies and MADA to support creation of attractive and vibrant retail outlets selling agro-tourism products • Well signposted route/agro-tourism corridor and well maintained toilets and info kiosks • Support from industry players to promote agro-tourism corridor
<p>Early Steps Necessary</p>	<ul style="list-style-type: none"> • ‘Buy in’ from key stakeholders, especially MPK, MADA and SME Associations.
<p>Possible Barriers & Threats</p>	<ul style="list-style-type: none"> • Poor maintenance of R &Rs and lack of commercial viability of retail outlets leading to drops in tourist interest and closures.
<p>Preliminary Business Model</p>	<p style="text-align: center;">Perlis Agritourism Corridor</p> <p>Funding → NCIA/UPEN/MOTOUR</p> <p>Implementation →</p> <ul style="list-style-type: none"> ▪ Majlis Perbandaran Kangar ▪ Jabatan Pertanian ▪ MADA ▪ Tourism Malaysia <p>Operation → Tour Operator</p> <p>Collaboration</p> <ul style="list-style-type: none"> ▪ Products owner ▪ Hoteliers (MAH) ▪ MATTA <p>Design corridor Product development Marketing Maintenance</p>

Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM3	New Project?	Existing?	Quick Win?															
		Y	N	Y															
Project Name	Setting up of small scale tourism enterprises and incubators to produce handicrafts for the Langkawi tourism market																		
Project Description	<ul style="list-style-type: none"> This aim is to create a network of small scale tourism enterprises that caters to the Langkawi tourism market. This project mainly involves the establishment of handicraft artisan-suppliers within the proposed Kuala Perlis Maritime City. A committee comprising related government agencies such as UPEN/ KEMAS/ Lembaga Kraftangan and industry players based in Langkawi will identify the high end market in Langkawi. The related agencies should then identify and engage artisans in Perlis to produce prototypes. Production shall then commence at the incubators/outlets at the proposed Kuala Perlis Maritime City. These incubators shall have a dual function; firstly as an attraction for tourists in transit, and secondly, as the production centre for high quality handicrafts to be ferried to Langkawi via Kuala Perlis. The main physical component of this project is the construction of a handicraft complex within the proposed Kuala Perlis Maritime City which can accommodate between 10-20 handicraft suppliers/incubators. In addition to this, an SME R&D centre and a special event hall are proposed, in which the latter could be used to organize exhibitions and special tourism events. During the annual LIMA event in Langkawi, side events could be organized at the hall to take advantage of the high tourist arrivals and the potential spillover effect. Quality control is paramount and seeking UNESCO's Seal of Excellence is a way of achieving this, which in turn will secure a better price for the merchandise. Ten units shall be established in the initial stage. The rear section can be the incubator and the front section showcase and sell handicrafts (core business to supply handicrafts to souvenir shops/hotels in Langkawi) To complement this project, special events showcasing agrotourism and side events should be organised during LIMA and other hallmark events in Langkawi and Penang The key implementing agents of this project are NCIA, MARA, Lembaga Kraftangan, KEMAS, SME Associations, LADA and the Langkawi tourism industry. These agencies are responsible for the training and providing of micro credit facilities to artisans and rural SMEs, prototype development, setting up of retail outlets and incubators, monitoring product and packaging quality, ensuring efficient supply of handicrafts to the Pulau Langkawi market, and to obtain UNESCO's Seal of Excellence for the products. Training by NCIA is especially important in the early stages in order to ensure high quality handicrafts are produced and marketed. <table border="1"> <thead> <tr> <th>Component</th> <th>Dimension/Location</th> <th>Cost Estimation (RM)</th> </tr> </thead> <tbody> <tr> <td>▪ 1 handicraft complex consist of 10-20 handicraft/SME stalls</td> <td>1 hectare</td> <td>14,000,000</td> </tr> <tr> <td>▪ SME R&D centre and training</td> <td>0.5 hectare</td> <td>5,000,000</td> </tr> <tr> <td>▪ Special event hall (i.e agriculture festival)</td> <td>0.5 hectare</td> <td>2,000,000</td> </tr> <tr> <td colspan="2">Total Cost</td> <td>21,000,000</td> </tr> </tbody> </table>				Component	Dimension/Location	Cost Estimation (RM)	▪ 1 handicraft complex consist of 10-20 handicraft/SME stalls	1 hectare	14,000,000	▪ SME R&D centre and training	0.5 hectare	5,000,000	▪ Special event hall (i.e agriculture festival)	0.5 hectare	2,000,000	Total Cost		21,000,000
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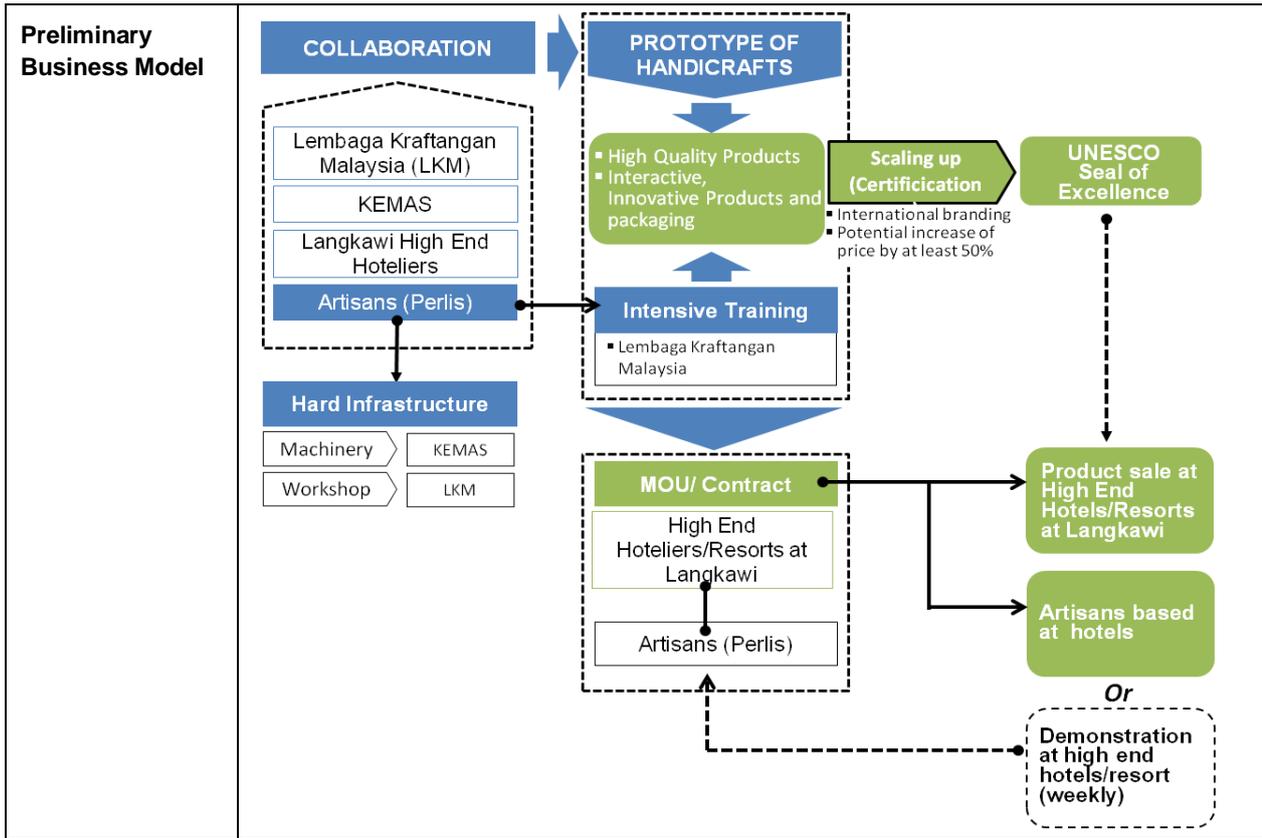
<p>Issues</p>	<p>Lack of opportunity for the local communities to optimise the economic benefits of rural tourism</p>	
<p>Rationale</p>	<ul style="list-style-type: none"> • The economic potential of focusing on the handicraft sector to drive the tourism industry in Perlis is relatively limited given low visitor arrivals to the state. Nonetheless, there is a large demand for high quality handicrafts from 'high end' international tourists visiting Pulau Langkawi, which the existing supply cannot meet. • While it is true that most of the tourist trinkets that are being sold to mass tourists are sourced from China, Indonesia and Vietnam where the production cost is considerably lower, interviews with the artisans in Pulau Langkawi revealed that tourists staying in the high end resorts such as Four Seasons and Datai seek high quality local handicrafts and souvenirs. For instance a small wood carving made by a local artisan in Kuah could be sold for RM200 at the artisan's home and the same item is sold at RM800 in the Four Seasons. • The anticipated increase in the arrivals of high end tourists to Pulau Langkawi (once the initiatives proposed in the Langkawi Economic Blueprint are implemented), is expected to further increase demand for handicrafts. • Perlis tourism may not have the critical mass to stimulate the growth of tourism SMEs but the Pulau Langkawi factor should ensure that handicraft production is commercially viable 	
<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • Tourist arrivals to Perlis went up to 102,547 (Malaysians & Foreigners) in 2009 compared to 69,585 in 2008 • Tourist arrivals to P. Langkawi totalled 2.4 million in 2010, which was the 6th highest in the country, as is expected to grow further 	
<p>Location Plan / Land Size</p>		<p>Location: Kuala Perlis Land Size: 2 ha Land Ownership: To be located along designated row of shops within the proposed Kuala Perlis Maritime City. Ten units shall be established in the initial stage.</p>
<p>Depiction</p>		

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Project Benchmark	A fine example of a similar project is the Angklung Saung Udjo in Bandung, Indonesia. This family-based project to preserve and revitalise the Sundanese culture, notably the Angklung, has resulted in the creation of job opportunities for 11 of the surrounding villages to produce more than 12,000 angklung each month for sale within Indonesia and all over the world. Closer to home, the handicrafts produced by the Mah Meri Orang Asli community in Pulau Carey, Selangor, are another success story. While the community has always been producing wood carvings for religious purposes, the product was not ready for the tourist market until outside assistance improved the quality of the product and certification with UNESCO's Seal of Excellence. As a result these carvings can now fetch up to RM20, 000 in price and are sold not only in the kampong but also in hotels and the souvenir shop at the National Museum.				
Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name		Role & Responsibilities	
	Handicraft SMEs and incubators	MARA/KEMAS/Lembaga Kraftangan		Provide business premise and incubators	
	Packaging and transportation	MARA/SME association		Ensure good packaging and efficient delivery to P.Langkawi	
Sale	MARA/LADA/Lembaga Kraftangan/SME association		Sale of handicrafts at showroom/shops/resorts in P.Langkawi		
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	Profit from wholesale and retail sales at outlets in Kuala Perlis Maritime City			
	Operating Expenditures Description	Raw materials, salary for artisans and workers as well as transportation to P.Langkawi			
	Capital Expenditures Description	Construction of retail outlets and incubators			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	20216 – 2020	2021 – 2025	2026 - 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	23.3	0.6	-	-
	Estimated OPEX (RM million)	0.3	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	11.5	12.4	100	0
Operating Expenditure	0.3	-	-	-	

Implementation Action Plan	Initiator	Actions		Year																																																																																																																																																				
	NCIA	To provide training for artisans and rural SMEs		2015																																																																																																																																																				
		To provide micro credit facility for rural SMEs		2016																																																																																																																																																				
	MARA/KEMAS	To set up retail outlet and incubators		2016																																																																																																																																																				
		To monitor quality of products and packaging		2016																																																																																																																																																				
SME Association/Lembaga Kraftangan/ MARA	To ensure efficient supply of handicrafts for P.Langkawi market		2016																																																																																																																																																					
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Drivers & Enablers	<ul style="list-style-type: none"> MOU/contract with resorts and retailers in P.Langkawi for Perlis SME association to supply handicrafts 																																																																																																																																																							
Early Steps Necessary	<ul style="list-style-type: none"> Training by NCIA to ensure high quality handicrafts 																																																																																																																																																							
Possible Barriers & Threats	<ul style="list-style-type: none"> Inadequate and irregular supply as well as lack of quality control 																																																																																																																																																							

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis



Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM4	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Setting up of the Wang Kelian Tourism Town			
Project Description	<ul style="list-style-type: none"> • CIQ complex • Staff Housing for Immigration , Polis , UPP , Customs , State Park • Community facilities (Primary School , police , fire station , clinic) • Commercial center , supermarket and shops , budget hotels • Shopping Arcade • Residential houses • Wholesale market • Food court • Coach and Lorry Parking bays 			
Issues	<ul style="list-style-type: none"> - Lack of commercial activities at the border town - Lack of housing and social facilities and public amenities - Lack of proper CIQ facilities 			
Rationale	<ul style="list-style-type: none"> - The proposal for a Tourism town at Wang Kelian was also recommended in a number of studies such as Rancangan Pengurusan Hutan Perlis 2012 and State Park Conservation Study (WWF), 2006 - Enhance cross border trade and tourism - Absence of a tourism town on the Thai side 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> - High tourist arrival at Kuala Perlis - Road connection to Satun 			
Location Plan / Land Size				

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Depiction</p>																						
<p>Project Benchmark</p>	<p>Payson Arizona Nestled among the majestic mountains of the Mogollon Rim is the breathtaking and serene town of Payson, Arizona. Graced with spectacular natural beauty, this small town is located between the Sierra Ancha and the Mazatzal Mountain Ranges. Giant saguaros march up the low hill, forests cover their higher slopes, and rivers run rampantly through surrounding canyons. The surrounding Tonto National Forest is a major recreational draw for outdoor enthusiasts. Just minutes away from town are several beautiful rim lakes, countless trout streams, and miles of mountain biking, hiking and horse trails. The back drop for many of these events is the spacious 40-acre Green Valley Park. This park is an excellent fishing, picnic, and recreation destination. Although Payson is a modern town with an array of first-class accommodations, dining, and shopping opportunities, it also boasts a downtown main street rich in Western Heritage, featuring art galleries, antique stores, and first-rate restaurants.</p> <p>Suzhou City, China Suzhou, a cultural and historical city, is located in the south of Jiangsu province, some 50 miles west of Shanghai, along the old Grand Canal. Suzhou is best known for its landscaped gardens, over 150 of them. Suzhou's gardens are not known for their size, but their delicate designs, containing hills and ponds, terraces, corridors, towers, and almost everything that is needed in an "imperial garden." The city is dotted with lakes and ponds connected by a spider's web of canals. And all the canals are lined with whitewashed houses with gray-tiled roofs.</p>																					
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td> <ul style="list-style-type: none"> Prime Ministers Department </td> <td>Secure the budget and manage the implementation</td> </tr> <tr> <td rowspan="3">Other Agencies</td> <td> <ul style="list-style-type: none"> Customs </td> <td>CIQ Complex</td> </tr> <tr> <td> <ul style="list-style-type: none"> Local Authority </td> <td>Food Court, Coach and Lorry Parking</td> </tr> <tr> <td> <ul style="list-style-type: none"> Government Agencies (Immigration , Police ,UPP , Customs, Health , Education) </td> <td>Community Facilities and Staff Housing</td> </tr> <tr> <td>Private Sector</td> <td> <ul style="list-style-type: none"> Private Developers </td> <td> <ul style="list-style-type: none"> - Commercial centre , supermarket, shops - budget hotels - Shopping Arcade - Residential houses - Wholesale market </td> </tr> </tbody> </table>			Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	<ul style="list-style-type: none"> Prime Ministers Department 	Secure the budget and manage the implementation	Other Agencies	<ul style="list-style-type: none"> Customs 	CIQ Complex	<ul style="list-style-type: none"> Local Authority 	Food Court, Coach and Lorry Parking	<ul style="list-style-type: none"> Government Agencies (Immigration , Police ,UPP , Customs, Health , Education) 	Community Facilities and Staff Housing	Private Sector	<ul style="list-style-type: none"> Private Developers 	<ul style="list-style-type: none"> - Commercial centre , supermarket, shops - budget hotels - Shopping Arcade - Residential houses - Wholesale market
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<p>Programme</p>	<p>Description of the Programme Costing</p>																					

Costing Assumptions	Revenue Streams	<ul style="list-style-type: none"> • Sale of Commercial Property • Sale of Residential Property 			
	Operating Expenditures Description	NA			
	Capital Expenditures Description	<ul style="list-style-type: none"> • Improvement of Infrastructure and Utilities • Construction of Commercial Property • Construction of Residential Property 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	13.5	196.9	185.6	-
	Estimated OPEX (RM million)	1.0	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	66.4	329.6	100	0
	Operating Expenditure	1.0	-	-	-
Implementation Action Plan	Initiator	Actions			Year
	UPEN	Prepare and implement the overall Master Plan			2014
	Land Office	Regazettement of related land from Forest Reserve			2014
	UPEN	Source for a strategic partner & form JV company as Master Developer			2015
	Joint-Venture Company (Master Developer)	Source for and sign up sub-developers / infrastructure concessionaires for separate land parcels			2016
	Sub-developers / infrastructure concessionaire	Prepare and submit LCP, planning layout plans, building plans, engineering plans, EIA, ESCP etc. at project level to competent authorities, including MPK, for approval			2016
	Sub-developers / infrastructure concessionaire	Appoint contractors to construct buildings and on-site infrastructure			2017
	Sub-developers	Manage, sales and marketing			2020
	Infrastructure concessionaire	Build, operate and transfer infrastructure facilities			2020
	Property owner/ Entrepreneur	Manage and operate building and associated facilities within property lot			2020
Utility service providers	Provide and maintain infrastructure facilities and services			2020	

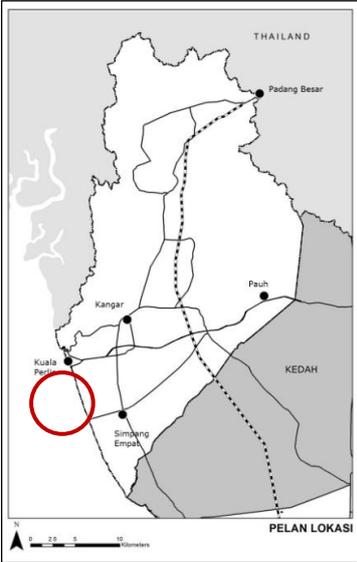
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementation Timeline	Phase 1 (10M P)												Phase 2 (11M P)																							
	2012				2013				2014				2015				2016				2017				2018				2019				2020			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Impact & Specific KPIs	GDP (RM million)				Total Investment (RM million)				Jobs Created				Other KPIs																							
	180				397				365				NA																							
Drivers & Enablers	<p>Drivers Cross border shopping street and mall Perlis State Park (Eco-Tourism)</p> <p>Enablers Improvement of road access to Wang Kelian Tourism facilities (chalet, resort, etc)</p>																																			
Early Steps Necessary	<ul style="list-style-type: none"> • Prepare overall masterplan for the tourism town • Prepare Exco papers to excise the affected area from Forest Reserve 																																			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Objections from Forestry Department in excising the affected land • Controls on discharge into the rivers as it is in the headlands of the water catchment area 																																			
Preliminary Business Model	Private-Public Partnership																																			

Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM5	New Project?	Existing?	Quick Win?																
		Y	N	N																
Project Name	Establishment of the Kuala Perlis Tourism Complex																			
Project Description	<ul style="list-style-type: none"> The tourism complex shall have a Tourist Information Centre, kiosks for travel agents/car rental companies, budget hotels, tourism SMEs/incubators. There will also be a food tourism hub where tourists can enjoy local delicacies in restaurants which also offer cultural performances <table border="1"> <thead> <tr> <th>Component</th> <th>Dimension/Location</th> </tr> </thead> <tbody> <tr> <td>▪ 1 TIC</td> <td>25m²</td> </tr> <tr> <td>▪ 3-5 car rental kiosks</td> <td>10m² each</td> </tr> <tr> <td>▪ 2-3 standard sea food restaurant</td> <td>25m²</td> </tr> <tr> <td>▪ 2-3 travel agent kiosks</td> <td>10m² each</td> </tr> <tr> <td>▪ 2-3 budget kiosks</td> <td>10m² each</td> </tr> <tr> <td>▪ 3 handicraft kiosks</td> <td>12m² each</td> </tr> <tr> <td>▪ 1 performance hall</td> <td>80m²</td> </tr> </tbody> </table> <ul style="list-style-type: none"> The key implementing agencies of this project are NCIA, UPEN, MPK and the private sector. The NCIA, UPEN and MPK will largely be involved in the formulation of a detailed master plan for the Maritime City in addition to the construction of the Kuala Perlis Maritime City in collaboration with the private sector. The private sector will largely be responsible for the operation of the complex. It is crucial to identify companies which excel at operating signature restaurants and quality budget accommodation to ensure the success of this project. 				Component	Dimension/Location	▪ 1 TIC	25m ²	▪ 3-5 car rental kiosks	10m ² each	▪ 2-3 standard sea food restaurant	25m ²	▪ 2-3 travel agent kiosks	10m ² each	▪ 2-3 budget kiosks	10m ² each	▪ 3 handicraft kiosks	12m ² each	▪ 1 performance hall	80m ²
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▪ 3 handicraft kiosks	12m ² each																			
▪ 1 performance hall	80m ²																			
Issues	Lack of a vibrant waterfront property development in which tourism plays an essential role																			
Rationale	<ul style="list-style-type: none"> To leverage on the proposed Kuala Perlis Maritime City development which will position Kuala Perlis as the premier gateway to a revitalised Pulau Langkawi. To capture higher spending from transit tourists by providing a spectrum of tourist facilities such as budget hotels, retail outlets and a vibrant food tourism hub 																			
Existing Demand & Current Supply	Pulau Langkawi is one of Malaysia's top tourist destination's attracting 2.4 million tourists in 2010. Recently the Federal government announced a RM 450million. Budget to be allocated to Pulau Langkawi, which according to the Langkawi Tourism Blueprint, will be used to improve the products, level of services, environmental management and promotion on the island.																			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>		<p>Location: Kuala Perlis Land Size: 1 ha Land Ownership: As part of the Kuala Perlis Maritime City Development</p>	
<p>Depiction</p>			
<p>Project Benchmark</p>	<p>Macau Fishermen's Wharf in Macau has over 150 stores and restaurants and offers a wide variety of tourism activities and services to its visitors.</p>		
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>		
	<p>Description</p>	<p>Name</p>	<p>Role & Responsibilities</p>
	<p>NCIA/UPEN/MPK</p>	<p>To formulate detailed master plan for Maritime City</p>	<p>Special focus on the tourism complex</p>
	<p>NCIA/UPEN/MPK/ private sector</p>	<p>Construction of Kuala Perlis Maritime City</p>	<p>To offer incentives to private sector to operate outlets and signature restaurants</p>
	<p>Private sector</p>	<p>Operation of tourism complex</p>	<p>To ensure high level of services</p>
<p>Programme Costing Assumptions</p>	<p>Description of the Programme Costing</p>		
	<p>Revenue Streams</p>	<p>Rental of retail outlets, license fees and taxes</p>	
	<p>Operating Expenditures Description</p>	<p>Staff remuneration shall be higher than current level to attract trained and high quality manpower</p>	
	<p>Capital Expenditures Description</p>	<p>Shall be integrated within overall CAPEX of Kuala Perlis Maritime City development</p>	

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																																																																																					
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																																																																																																																																					
	Production (MT/year)	-	-	-	-																																																																																																																																					
	Estimated CAPEX (RM million)	0.3	19.3	0.25	0.25																																																																																																																																					
	Estimated OPEX (RM million)	0.3	-	-	-																																																																																																																																					
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Implementation Action Plan	Initiator	Actions			Year																																																																																																																																					
	NCIA/UPEN/MPK	Prepare overall master plan			2020																																																																																																																																					
	Private sector	Development of tourism complex as a component of Kuala Perlis Maritime City			2021																																																																																																																																					
	Private sector especially tourism industry players/Tourism Malaysia	Operation of components of tourism complex			2021																																																																																																																																					
		Marketing and promotion																																																																																																																																								
Implementation Timeline	<table border="1"> <thead> <tr> <th colspan="10">Phase 1 (10 M P)</th> <th colspan="8">Phase 2 (11M P)</th> </tr> <tr> <th colspan="2">2012</th> <th colspan="4">2013</th> <th colspan="4">2014</th> <th colspan="4">2015</th> <th colspan="4">2016</th> <th colspan="4">2017</th> <th colspan="4">2018</th> <th colspan="4">2019</th> <th colspan="4">2020</th> </tr> <tr> <th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </tbody> </table>																Phase 1 (10 M P)										Phase 2 (11M P)								2012		2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																																																																	
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Drivers & Enablers	The role of major property developers to drive the overall development and the creation of appropriate incentives by NCIA																																																																																																																																									
Early Steps Necessary	The identification of suitable companies to operate the signature restaurants and quality budget accommodation																																																																																																																																									

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Possible Barriers & Threats</p>	<p>Low quality manpower and poor maintenance Among the possible threats to this project are the inability to obtain high quality manpower which will result in inadequate service quality and poor maintenance by the operators.</p>								
<p>Preliminary Business Model</p>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">KUALA PERLIS TOURISM COMPLEX</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 5px;">NCIA/UPEN/MPK</td> <td style="padding: 5px;">Prepared Plan</td> </tr> <tr> <td style="padding: 5px;">Private Sector/ Investor</td> <td style="padding: 5px;">Construction</td> </tr> <tr> <td style="padding: 5px;">Private Sector/ Tourism Industry Player</td> <td style="padding: 5px;"> <ul style="list-style-type: none"> ▪ Marketing ▪ Operation of retail outlet </td> </tr> <tr> <td></td> <td style="padding: 5px;"> <div style="border: 1px dashed black; padding: 5px;"> <ul style="list-style-type: none"> ▪ TIC ▪ Car rental kiosk ▪ Hotel kiosk ▪ Ticketing, etc </div> </td> </tr> </table> </div>	NCIA/UPEN/MPK	Prepared Plan	Private Sector/ Investor	Construction	Private Sector/ Tourism Industry Player	<ul style="list-style-type: none"> ▪ Marketing ▪ Operation of retail outlet 		<div style="border: 1px dashed black; padding: 5px;"> <ul style="list-style-type: none"> ▪ TIC ▪ Car rental kiosk ▪ Hotel kiosk ▪ Ticketing, etc </div>
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Private Sector/ Investor	Construction								
Private Sector/ Tourism Industry Player	<ul style="list-style-type: none"> ▪ Marketing ▪ Operation of retail outlet 								
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Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM6	New Project?	Existing?	Quick Win?												
		Y	N	Y												
Project Name	Upgrading of tourist facilities at the Perlis State Park and Gua Kelam for group-based activities															
Project Description	<p>The project shall upgrade the present tourism complex at the Perlis State Park by providing activities such as obstacle courses, team building facilities, extreme sports and environmental education station etc. Better accommodation facilities for groups such as permanent camp sites and a dormitory that could be converted into smaller rooms can also be provided. To provide activities for children while their parents are shopping at Wang Kelian, an interactive environmental education centre should also be established. There is also a need for better maintenance and to rehabilitate the tourism facilities at Gua Kelam that were damaged by flooding and breakdown in the internal train system.</p> <table border="1"> <thead> <tr> <th>Component</th> <th>Dimension/Location</th> </tr> </thead> <tbody> <tr> <td>▪ Extreme sport/team building facilities</td> <td>As per requirement</td> </tr> <tr> <td>▪ Permanent camp sites</td> <td>16m² each</td> </tr> <tr> <td>▪ 2 multi-purpose halls</td> <td>1 hectare</td> </tr> <tr> <td>▪ 2-3 Interactive tourist facilities such as hanging bridge, canopy walks etc)</td> <td>As per requirement</td> </tr> <tr> <td>▪ 1 interactive environmental education centre</td> <td>2 hectares</td> </tr> </tbody> </table> <p>The key implementing agencies for this project are the Perlis State Park, State Education Department and local universities. The Perlis State Park will be responsible for providing new facilities and upgrading existing ones that support team building activities and environmental education. The State Education Department and local universities will collaborate with Perlis State Park to set up and operate an interactive environmental education centre. One of the key enablers is for the state park's tourism unit to form partnerships with schools, universities and associations/clubs. It is important to understand the needs of these groups as well as the needs of team building groups and environmental/tourism clubs in order to provide the best services and facilities necessary.</p>				Component	Dimension/Location	▪ Extreme sport/team building facilities	As per requirement	▪ Permanent camp sites	16m ² each	▪ 2 multi-purpose halls	1 hectare	▪ 2-3 Interactive tourist facilities such as hanging bridge, canopy walks etc)	As per requirement	▪ 1 interactive environmental education centre	2 hectares
	Component	Dimension/Location														
▪ Extreme sport/team building facilities	As per requirement															
▪ Permanent camp sites	16m ² each															
▪ 2 multi-purpose halls	1 hectare															
▪ 2-3 Interactive tourist facilities such as hanging bridge, canopy walks etc)	As per requirement															
▪ 1 interactive environmental education centre	2 hectares															
Issues	Decreasing tourist arrivals to the major tourism attractions in Perlis															
Rationale	<ul style="list-style-type: none"> • Perlis State Park and Gua Kelam have been experiencing a drop in visitor . • The need to offer more 'soft ecotourism' activities to cater for mainstream tourists • To appeal to school groups and associations/clubs to carry out environmental education programmes and team building activities etc. • To offer nature-related activities to children while parents engage in border town shopping in Wang Kelian 															
Existing Demand & Current Supply	<ul style="list-style-type: none"> • Nature-based tourism accounts for 20-40% of all international tourists to Malaysia. • In Malaysia, 15% of all international visitors travel to ecotourism destinations and 46% participate in ecotourism activities • The total number of tourist arrivals to Perlis State Park in the Year 2010 is very low, with 1,978 arrivals. The year 2011 saw a significant rise in arrivals, with 2,917 arrivals. However, these figures are still too low for an ecotourism attraction. • Gua Kelam saw positive growth in tourist arrivals, with a 35% growth rate in 2011 compared to 2010. 															

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

		Tourist arrivals to Perlis State Park and Gua Kelam, 2010 and 2011									
		Gua Kelam		Total	Perlis State Park		Total				
		Domestic	International		Domestic	International					
		2010	98,485	2010	132	98,617	2010	1,884	2010	94	1,798
		2011	133,842	2011	102	133,944	2011	2,776	2011	141	2,917

<p>Location Plan / Land Size</p>		<p>Location: Existing Site Land Size:2ha Land Ownership:</p> <p>At present the tourism complex is located at the Perlis State Park at Wang Kelian.</p>
<p>Depiction</p>		
<p>Project Benchmark</p>	<p>A good benchmark for this project is Gunung Stong in Kelantan which has seen a recent rise in domestic arrivals. The operators at Gunung Stong had recently introduced new soft ecotourism activities to cater to new demand from domestic tourists.</p>	

Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name		Role & Responsibilities	
	Upgrading of tourism facilities	Perlis State Park		Provision of facilities for team environmental education building activities	
Establishment of environmental education centre	Perlis State Park in collaboration with the State Education Department and local universities		Setting up and operating an interactive environmental education centre		
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> Income from rental of facilities and services related to the operation of environmental education centre Income from food and beverage (F & B) outlets 			
	Operating Expenditures Description	<ul style="list-style-type: none"> More rangers and interpreters need to be hired unless tourism business is privatised. 			
	Capital Expenditures Description	<ul style="list-style-type: none"> Capital expenditure required to construct new facilities for team building and environmental education centre 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	21.1	0.3	0.3	-
	Estimated OPEX (RM million)	0.3	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	6.7	15.0	100	0
Operating Expenditure	0.3	-	-	-	
Implementation Action Plan	Initiator	Actions			Year
	Perlis State Park	Prepare upgrading plan			2012
	Perlis State Park	Construct new tourism facilities			Late 2012
	Perlis State Park, State Education Department and local universities	Operate new facilities in a collaborative manner			2014

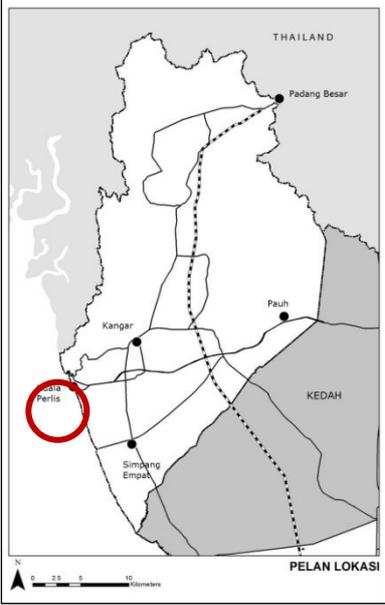
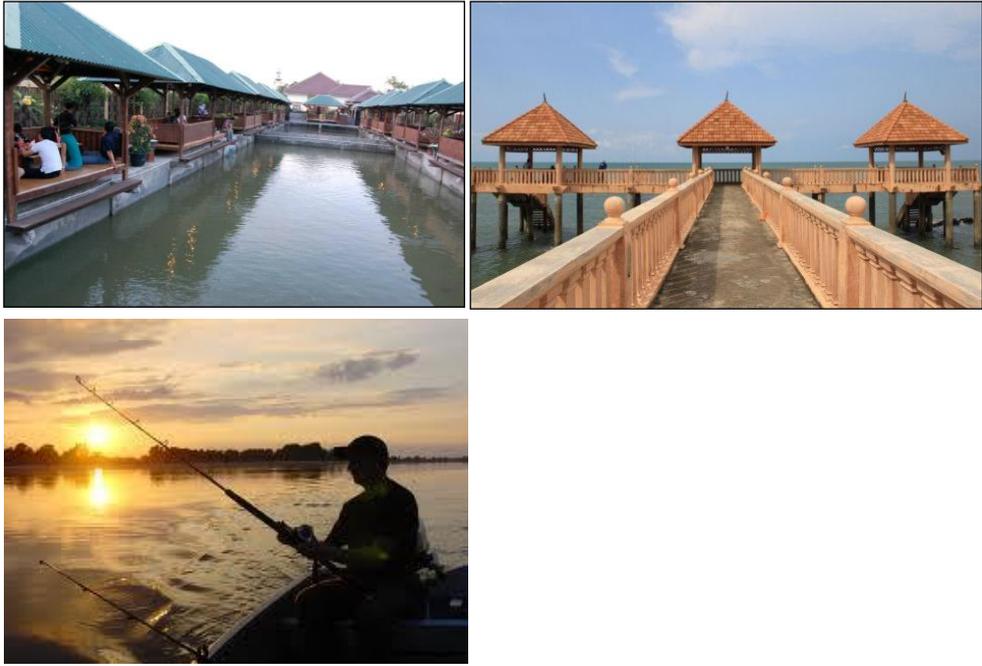
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementation Timeline	Phase 1 (10M P)																Phase 2 (11M P)																	
	2012	2013				2014				2015				2016				2017				2018				2019				2020				
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
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	█ Infrastructure/Incubation - Milestone: Infra-to-site completion																█ Construction/Project Development - Milestone: Project Completion																	
	█ Revenue Start																█ Peak Production Revenue/Investment																	
Impact & Specific KPIs	GDP (RM million)				Total Investment (RM million)				Jobs Created				Other KPIs																					
	50				22				50				NA																					
Drivers & Enablers	<ul style="list-style-type: none"> Perlis State Park's tourism unit and partnerships with schools, universities and associations/clubs 																																	
Early Steps Necessary	<ul style="list-style-type: none"> Understand the needs of team building groups and environmental/tourism clubs in schools and universities 																																	
Possible Barriers & Threats	<ul style="list-style-type: none"> Poor maintenance 																																	
Preliminary Business Model	<p>PERLIS STATE PARK</p> <p>Prepared</p> <p>Facilities</p> <ul style="list-style-type: none"> Campsite/ dormitory Extreme sport facilities (flying fox, abseiling etc.) New adventure trail <p>Marketing</p> <p>Team building package for school and university students</p>																																	

Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM7	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Development of a Recreational Fishing Centre			
Project Description	<p>The project calls for the establishment of recreational fishing centre to capitalize on the current surge in recreational fishing as well as support synergistic economic activities. The complex would have two major thrusts:</p> <ul style="list-style-type: none"> ➤ A recreational pond complex for short stay duration tourists who may not have the time or resources to travel to sea. ➤ A jetty for angling boats to berth. The boats would enable 1-2 trips offshore trips for angling. <p>The complex will be based on the food court business model. The centre will consist of a number of related component activities operated independently under a central management. These would include:</p> <p>Recreational Fishing Facilities</p> <ul style="list-style-type: none"> • Outdoor angling (fee) ponds for marine and brackishwater fish. The proposed centre would have at least 5 1-ha ponds. • Indoor angling (fee) ponds for <i>udang galah</i>. • Jetty and boat services for offshore angling. <p>Hospitality Facilities</p> <ul style="list-style-type: none"> • Chalet • Restaurants • Souvenir/supply shops • Entertainment outlets <p>Angling Marina</p> <p>This would comprise a jetty for angling boats to moor and take on passengers</p>			
Issues	Lack of tourism and recreational products in the State			
Rationale	<ul style="list-style-type: none"> • There is little data, published or otherwise, on these activities, though anecdotal information suggests that both have considerable potential for growth and development. • Data from MIER suggests that there are as many as 2 million anglers in the country and the activity may have an economic value up to RM 1.5 billion annually. 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> • There are several angling ponds located around Kuala Perlis and Beseri, and the demand is growing. • The development of recreational fishing will attract anglers all around Malaysia and Thailand since Kuala Perlis is the entry point for angling hotspots around Langkawi and Thailand. • Promoted well, recreational fishing can amount to being an important adjunct to the commercial fishing in the state. The main upside of recreational fishing development would be: <ul style="list-style-type: none"> - It would increase the number of tourism products in the State, for both domestic as well as foreign tourists. - It is consistent with the current health of coastal resources in the state. - It would provide potential employment to coastal fishermen to participate in the industry. 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>		<p>Location: Maritime terminal, Kuala Perlis Land Size: 6 ha Land Ownership: State</p>													
<p>Depiction</p>															
<p>Project Benchmark</p>	<p>NA</p>														
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td>LKIM</td> <td> <ul style="list-style-type: none"> Construction of basic infrastructure. Promotion of investment </td> </tr> <tr> <td>Other Agencies</td> <td> <ul style="list-style-type: none"> Department of Fisheries Marine Department </td> <td> <ul style="list-style-type: none"> Construction of basic infrastructure. Promotion of investment </td> </tr> </tbody> </table>			Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	LKIM	<ul style="list-style-type: none"> Construction of basic infrastructure. Promotion of investment 	Other Agencies	<ul style="list-style-type: none"> Department of Fisheries Marine Department 	<ul style="list-style-type: none"> Construction of basic infrastructure. Promotion of investment
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Programme Costing Assumptions	Description of the Programme Costing																																																																																																																																																																										
	Revenue Streams	<ul style="list-style-type: none"> Retail trade (fish tackle) Food and fuel Accommodation Fee for angling 																																																																																																																																																																									
	Operating Expenditures Description	<ul style="list-style-type: none"> Manpower Utilities Maintenance Feed 																																																																																																																																																																									
	Capital Expenditures Description	<ul style="list-style-type: none"> Pond development (including infrastructure). Supporting equipment (water and air reticulation infrastructure). Hospitality area. 																																																																																																																																																																									
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	Production (Visitor days/year)	7,300	10,950	14,600	18,250																																																																																																																																																																						
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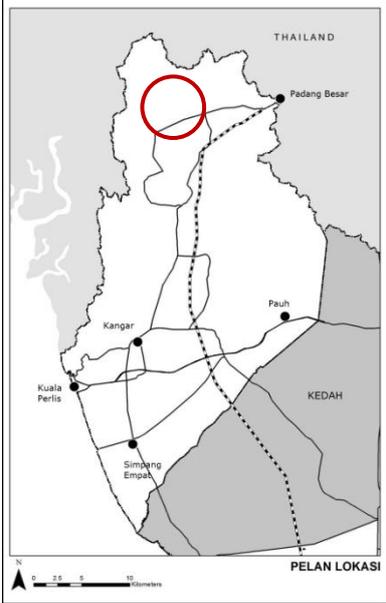
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	25	3	50	NA
Drivers & Enablers	<ul style="list-style-type: none"> • Relatively pristine marine environment/habitat. • Availability of equipment and boat services for angling activities. • Availability of necessary infrastructure such as roads, electricity supply and drainage. • Participation of trained full-time operators and guides. • Participation of private sector as anchor companies in restaurants or recreational fishing centres management. • Strong marketing and promotional support. 			
Early Steps Necessary	<ul style="list-style-type: none"> • Detailed feasibility studies must be carried out and a business plan developed for prospective investors. 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Potential resource declines due to oceanographic and climate changes, pollution cause by industrialization, and urban encroachment. • Poor market and economic data on angling and importance of angling to tourism mix. 			

Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM8	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Development of a high-end Perlis hillside resort, spa and 21 st century village			
Project Description	<p>It is proposed that a wellness resort and spa to be located in Wang Kelian, The high end wellness resort and spa will provide on Malay traditional massage, alternative medicine, aromatherapy, herbal treatment, weight reduction and stress relief etc. A kampong-stay should also be established as a pilot project, located within a '21st century village' in Ujung Bukit.</p> <p>A21st Century Village?</p> <ul style="list-style-type: none"> • Vibrant economy & reasonable income level • Attractive to youths / younger generation • Good liveability & basic infrastructure 			
Issues	Lack of high yield tourism projects in Perlis to significantly transform the GDP			
Rationale	<ul style="list-style-type: none"> • As the tourism industry in Perlis matures and critical mass is created, tourism will be ready to play a pivotal role as an economic driver. • In this light, private investors should find Perlis an attractive location to develop high-end boutique resorts at strategic locations. • A generic resort may not be able to attract investors, thus creating differentiation and a unique selling proposition (USP) are vital success factors. • The site in Wang Kelian that has a panoramic view of Timah Tasoh Dam is favourable for high end resort development. It is also located close to Perlis State Park, which will offer guests a wide range of ecotourism activities. • The 21st. Century Village is another initiative to move up tourism in Perlis along the value chain by facilitating partnerships between the existing homestays and private investors to develop high yield tourism. 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> • World Bank estimates on health and wellness tourism worldwide exceed US\$40 billion a year, an increase of 30 per cent per annum • In 2006, international tourist arrivals worldwide eclipsed 846 million and 255 motivated by religious reasons/pilgrimages, health and treatment (World Bank,2006) • The number of foreigners seeking healthcare services in Malaysia has grown from 75,210 (2001) patients to 296,687 (2006) patients - generated a total of RM203.66 million (USD 59 million) in revenue. From January to March 2007, Malaysia received 77,009 medical tourists. (source: Association of Private Hospitals Malaysia) 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

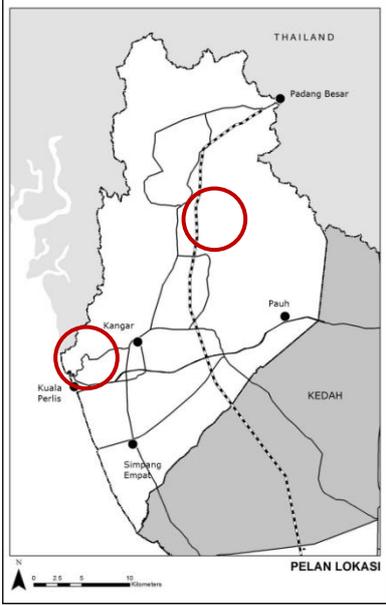
<p>Location Plan / Land Size</p>		<p>Location: Wang Kelian for wellness resort and pilot project at Homestay Ujung Bukit for kampungstay/21st Century Village</p> <p>Land Size: 10 hectares</p> <p>Land Ownership:</p> 																		
<p>Depiction</p>																				
<p>Project Benchmark</p>	<ul style="list-style-type: none"> ▪ Bon Ton Resort, Langkawi ▪ Terrapuri Heritage Village, Setiu ▪ Pandawas Villa, Ubud, Bali, Indonesia 																			
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Development policies and guidelines</td> <td>NCIA/UPEN and private sector</td> <td>Establish public/private sector partnership (PPP)</td> </tr> <tr> <td>Monitoring</td> <td>NCIA/UPEN</td> <td>Incentives</td> </tr> <tr> <td>Operation of wellness spa</td> <td>Private sector</td> <td rowspan="2">Adhere to international standards</td> </tr> <tr> <td>Operation of kampungstay</td> <td>Private sector and local tourism cooperative</td> </tr> </tbody> </table>			Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Development policies and guidelines	NCIA/UPEN and private sector	Establish public/private sector partnership (PPP)	Monitoring	NCIA/UPEN	Incentives	Operation of wellness spa	Private sector	Adhere to international standards	Operation of kampungstay	Private sector and local tourism cooperative
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Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	Tax and licence for wellness resort/Kampung Stay			
	Operating Expenditures Description	Salary for well trained therapists and cost of sourcing for supply of aromatherapy oils herbal health products etc.			
	Capital Expenditures Description	Construction of wellness resort and facilities			
a. High End Wellness Resort Components					
Component		Dimension/Location	Cost Estimation (RM)		
▪ 1 high-end boutique resort and wellness spa (100-200 rooms) + Infrastructure (parking space, access road, utilities)		10 hectares	100,000,000		
▪ 2 themed restaurants		1 acre	3,000,000		
▪ Stage (cultural performance)		1 acre	800,000		
▪ Signposting (20-30)		Where appropriate	200,000		
Total Cost			104,000,000		
b. 21st. Century Village Components					
Component		Dimension/Location	Cost Estimation (RM)		
▪ High End Kampungstay		20 units	6,000,000		
▪ Upgrade existing road access		3-5km	3,000,000		
▪ Interpretation/reception centre		1acre	500,000		
▪ Landscaping (arch, tree plantations etc)		Where appropriate	2,000,000		
▪ Restaurant (traditional design)		1 hectare (on paddy field)	800,000		
Total			10,500,000		
GRAND TOTAL			114,500,000		
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 - 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	-	-	-	-
	Estimated OPEX (RM million)	2	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / 2CAPEX	-	-	-	-
Operating Expenditure	2	-	-	-	

Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM9	New Project?	Existing?	Quick Win?										
		Y	N	Y										
Project Name	Organisation of signature tourism events of international standards													
Project Description	<ul style="list-style-type: none"> Perlis Adventure and Extreme Sports Event A cluster of sports, adventure and extreme sports events could be organised at specific locations over 3 days. The events could include cycling, mountain biking, extreme sports, paintball, kayak race etc. Perlis Fruit and Food Festival During the harvest and the major fruiting seasons (e.g. Harumanis), a cluster of food and fruit based events could be organised. These events should incorporate food festivals to showcase the best of Perlis food such as Laksa and Bihun Sup. <p>Event Physical Development Components</p> <table border="1"> <thead> <tr> <th>Component</th> <th>Dimension/Location</th> </tr> </thead> <tbody> <tr> <td>▪ Race Tracks</td> <td>2km</td> </tr> <tr> <td>▪ Exhibition Hall/field/stage</td> <td>2 acre</td> </tr> <tr> <td>▪ Jetty at Meranti Lake</td> <td>30'x20'</td> </tr> <tr> <td>▪ F&B stalls, etc</td> <td>20-40 stalls</td> </tr> </tbody> </table>				Component	Dimension/Location	▪ Race Tracks	2km	▪ Exhibition Hall/field/stage	2 acre	▪ Jetty at Meranti Lake	30'x20'	▪ F&B stalls, etc	20-40 stalls
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▪ Race Tracks	2km													
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▪ F&B stalls, etc	20-40 stalls													
Issues	Lack of international class events to enhance the visibility of Perlis as a tourism destination													
Rationale	<ul style="list-style-type: none"> Special tourism events are essential in creating instant awareness among tourists and are often effectively used during the low tourist season to boost arrivals Perlis does not have a signature or hallmark event that is synonymous with the State's identity Perlis should leverage on its strengths notably its physical features and attributes which make it conducive for sports and adventure based events as well as its rural and agricultural resources. Conversely Perlis does not have cultural resources that are comparable to those offered by Terengganu and Kelantan. The state could also capitalise on the major events being held in Langkawi by organising side events to coincide with LIMA. 													
Existing Demand & Current Supply	<ul style="list-style-type: none"> According to the 2010 Statistics on Domestic Tourism published by the Statistics Department, special events had significantly influenced domestic visitors to travel to a particular destination Many events in Malaysia are poorly organised and promoted and seldom attain the status of a hallmark event. The F1 GP is a world class event that attracts fans (hence tourists) from all over the world but home grown events could be equally effective, such as the Sarawak Rainforest Music Festival The influence of a hallmark tourism event in increasing tourist arrivals is significant. For instance the Rainforest World Music Festival (Kuching) attracted only 320 attendees in its inception year (1998) the number of attendees had rapidly grown to more than 22,000 by 2010, of which 55% purposely came for the event The critical success factors in organising special events are to organise it on the same date every year, and for the dates to be publicised in a Calendar of Events 													

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>		<p>Location: Kuala Perlis, PSP and Tasik Meranti Land Size: NA Land Ownership: NA</p>																
<p>Depiction</p>																		
<p>Project Benchmark</p>	<ul style="list-style-type: none"> ▪ Jerejak Rainforest International DH Challenge, Penang ▪ The Chanthaburi Fruit Festival, Thailand ▪ Inagural Langkawai International Laksa Carnival (LILAC) (Chef Wan as ambassador) 																	
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Strategic Development Plan For Perlis
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Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	80	6	100	NA
Drivers & Enablers	Industry players to set up consortium to jointly organise and promote events			
Early Steps Necessary	Identify and get 'buy-in' from key stakeholders			
Possible Barriers & Threats	Poor management and lack of service quality			
Preliminary Business Model	<pre> graph TD A[ORGANISATION OF SIGNATURE TOURISM EVENTS OF INTERNATIONAL STANDARD] --> B[Private Sector] B --> C[Organiser] C --- D["Physical development Management"] C --> E[Event] E --- F["International Adventure and Extreme Sports Event Perlis International Fruit and Food Festival"] G["Others Event LIMA Event LILAC, etc"] -- Packaging --> C H["Other private sector / Government"] -- Collaboration --> C I["Marketing Tourism Malaysia RTM, TV3, Astro etc"] --- H J["Sponsorship Jabatan Pertanian Sport and Youth Ministry"] --- H K["Side event"] -.-> F </pre>			

Strategic Project Brief [LEVERAGING TOURISM]

Project Code	TM10	New Project?	Existing?	Quick Win?																																
		Y	N	N																																
Project Name	Perlis River promenade development																																			
Project Description	<p>Sungai Perlis flows through the Kangar Town Centre towards the sea at Kuala Perlis. The scenic landscapes such as fishing port, paddy fields, traditional kampungs and historical Kangar along the river offer tremendous opportunities to tap on the tourist potentials of the river. At the same time, underutilized and derelict land at strategic locations can be capitalized for high-end riverside housing development. In addition, the river reserve can be exploited and developed as a linear waterfront park with activity nodes to enhance vibrancy and liveliness of town centre.</p> <p>The main components of Development are as follows:</p> <ul style="list-style-type: none"> - Clean up, rehabilitation and beautification of Perlis River - River Cruise business operation (Kuala Perlis – Pengkalan Asam) - River Promenade (Pengkalan Asam – Esplande Sg. Perlis - Dataran Sg. Rapoh) - Boat terminals / parking area - Residential and retail development 																																			
Issues	<ul style="list-style-type: none"> - Produce a viable business plan to clean up, rehabilitate and improve the Perlis River, to raise the height clearance of existing bridges, to build tidal barrages, and of divert upstream flood water. 																																			
Rationale	<ul style="list-style-type: none"> - New urban tourism product via river cruise - River clean up, rehabilitation and improvement - Linear waterfront park with activity nodes to enhance vibrancy and liveliness of town centre - Opportunities for high-end riverside housing development 																																			
Existing Demand & Current Supply	<ul style="list-style-type: none"> - High tourist arrivals at Kuala Perlis <p>No. of Ferry Passengers from Langkawi to Kuala Perlis</p> <table border="1"> <thead> <tr> <th>Months</th> <th>No. Passengers</th> <th>Months</th> <th>No. Passengers</th> </tr> </thead> <tbody> <tr> <td>Jan</td> <td>116,489</td> <td>Jul</td> <td>165,750</td> </tr> <tr> <td>Feb</td> <td>153,612</td> <td>Aug</td> <td>78,763</td> </tr> <tr> <td>Mar</td> <td>163,028</td> <td>Sept</td> <td>153,292</td> </tr> <tr> <td>Apr</td> <td>129,021</td> <td>Oct</td> <td>183,355</td> </tr> <tr> <td>May</td> <td>164,975</td> <td>Nov</td> <td>206,725</td> </tr> <tr> <td>Jun</td> <td>205,026</td> <td>Dec</td> <td>335,400</td> </tr> <tr> <td></td> <td></td> <td>TOTAL</td> <td>2,055,436</td> </tr> </tbody> </table> <ul style="list-style-type: none"> - The above indicates the potential tourist route by the river cruise connecting Kuala Perlis and the state capital of Kangar 				Months	No. Passengers	Months	No. Passengers	Jan	116,489	Jul	165,750	Feb	153,612	Aug	78,763	Mar	163,028	Sept	153,292	Apr	129,021	Oct	183,355	May	164,975	Nov	206,725	Jun	205,026	Dec	335,400			TOTAL	2,055,436
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>	
<p>Depiction</p>	
<p>Project Benchmark</p>	<p>River Rhine Dusseldorf, Germany</p> <p>The "Rheinufer Promenade" is the perfect place for a strolling, relaxing and seeing and being seen. It connects the Old Town and the Rhine and offers a magnificent view and attractive restaurants. It is the starting-place for panoramic cruises on the Rhine river. The neighbouring area, Duesseldorf's not-so-old post-war "Old Town" is Germany's largest and most vibrant nightlife area. The promenade allows for extension of the evening and night-time activities straight to the river. Additionally, the waterfront is lined with residential and office buildings.</p> <p>Summer Palace, Yiheyuan, China</p> <p>The Summer Palace, as an imperial garden, is divided into three essential parts viz. the administrative, the residential and the scenic areas. The scenic areas encompasses the Kunming Lake and surroundings</p>

	<p>Melaka River Promenade and river cruise</p>				
					
	<p>From its role as a meeting point between the East and West in the 16th Century, the Melaka River has morphed into a tourism destination today. Both locals and foreigners come to soak in its history from the diverse architecture found along its banks. Passengers on the Melaka River cruise get a feel of the multi-cultural and historical fabric of the country. Nearby the river promenade. There are plenty of attractions such as Menara Taming Sari, St Paul’s Hill (A Famosa), Dataran Pahlawan MegaMall, Mahkota Parade Shopping Mall, Istana Museum Melaka, The Stadthuys, Christ Church Melaka, The Maritime Museum and the popular Jonker Walk.</p>				
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>				
	<p>Description</p>	<p>Name</p>		<p>Role & Responsibilities</p>	
	<p>Main Agencies</p>	<p>Kangar Municipal Council</p>		<p>Cleaning up, rehabilitation and beautification of the river</p>	
	<p>Other Agencies</p>	<p>JPS, DOE, UPEN</p>			
<p>Private Sector</p>	<p>River cruise operator cum property developer</p>		<p>Build boat terminals and ancillary retail development, and cruise operation and management</p>		
<p>Programme Costing Assumptions</p>	<p>Description of the Programme Costing</p>				
	<p>Revenue Streams</p>	<p>Sale of commercial property Sale of residential property River cruise service</p>			
	<p>Operating Expenditures Description</p>	<p>Operation of river cruise</p>			
	<p>Capital Expenditures Description</p>	<p>Land acquisition Infrastructure and landscaping Construction of residential and commercial properties</p>			
<p>Estimated Budget</p>	<p>Implementation Phase</p>	<p>Phase 1</p>	<p>Phase 2</p>	<p>Phase 3</p>	<p>Phase 4</p>
		<p>2012 – 2015</p>	<p>2016 – 2020</p>	<p>2021 – 2025</p>	<p>2026 – 2030</p>
	<p>Production (MT/year)</p>	<p>-</p>	<p>-</p>	<p>-</p>	<p>-</p>
	<p>Estimated CAPEX (RM million)</p>	<p>79.1</p>	<p>118.0</p>	<p>1.8</p>	<p>-</p>
	<p>Estimated OPEX (RM million)</p>	<p>1.5</p>	<p>-</p>	<p>-</p>	<p>-</p>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

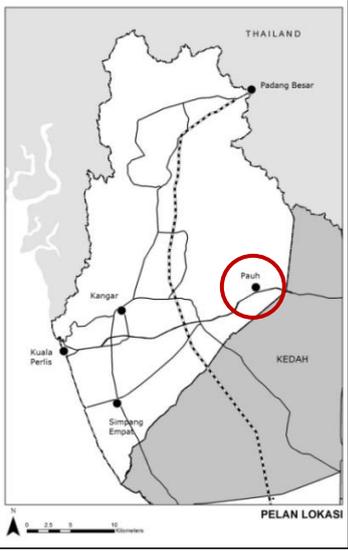
Investments / Funding Sources	Investments (RM million)																																																																																																																										
		Public Sector	Private Sector																																																																																																																								
			Private Sector	Local (%)	Foreign (%)																																																																																																																						
Development Expenditure / CAPEX		73.7	125.0	100	0																																																																																																																						
Operating Expenditure		1.5	-	-	-																																																																																																																						
Implementation Action Plan	Initiator	Actions			Year																																																																																																																						
	Kangar Municipal Council	Rehabilitate, improve and beautifying the riverfront			2013																																																																																																																						
	DID	Cleaning up the river and control the water level			2015																																																																																																																						
	DOE	Monitor and improve the river water quality			2016																																																																																																																						
	River cruise operator cum property developer	Develop the riverfront (retail, housing, chalet, etc) Build boat terminal and operate the river cruise			2017																																																																																																																						
Implementation Timeline	<table border="1"> <thead> <tr> <th colspan="10">Phase 1 (10M P)</th> <th colspan="6">Phase 2 (11M P)</th> </tr> <tr> <th>2012</th> <th colspan="4">2013</th> <th colspan="4">2014</th> <th colspan="4">2015</th> <th colspan="4">2016</th> <th colspan="4">2017</th> <th colspan="4">2018</th> <th colspan="4">2019</th> <th colspan="4">2020</th> </tr> <tr> <th>Q4</th> <th>Q1</th> <th>Q2</th> <th>Q3</th> <th>Q4</th> </tr> </thead> <tbody> <tr> <td></td> </tr> </tbody> </table>																Phase 1 (10M P)										Phase 2 (11M P)						2012	2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																																																					
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2012	2013				2014				2015				2016				2017				2018				2019				2020																																																																																														
Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																																																																																															
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																																																																																																																							
	50	200	520	NA																																																																																																																							
Drivers & Enablers	Drivers River cruise and its ancillary development especially housing, retail, chalet, food & beverages Enablers River cleaning, rehabilitation, improvement and beautification																																																																																																																										
Early Steps Necessary	Produce a detailed viable business plan for private-led and funded project																																																																																																																										
Possible Barriers & Threats	Lack of government funding for environment improvement/ financial support for private initiative Potential adverse environmental impact on river aquatic life and ecosystem																																																																																																																										
Preliminary Business Model	Private-public Partnership																																																																																																																										
Other Related Projects	<ul style="list-style-type: none"> Flood mitigation scheme Boat Park 																																																																																																																										

F. EDUCATION & TRAINING

Strategic Project Brief [EDUCATION & TRAINING]

Project Code	ED1	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Establishing a Reputable International University Branch Campus			
Project Description	<p>The proposal is to attract a foreign reputable university to set up their branch campus in the educational hub of Perlis. The benefits of attracting students from the Mekong Valley and Greater Thailand will be enormous as students will gain an international degree at their doorstep at a cheaper cost.</p> <p>There are many other countries especially from China and Africa seeing opportunities for gaining low-cost international degrees. A 173.32 ha plot of land assigned in Perlis for the suggested branch campus can be split into two parts, with a portion dedicated to establish the campus. A reputed foreign university merely by the brand name will bring students to earn a degree at an affordable price. There are many foreign universities now seeking opportunities to open branch campuses and this should be exploited.</p>			
Issues	<ul style="list-style-type: none"> The need to create greater visibility for the education hub planned for Perlis 			
Rationale	<p>Positioning in Perlis</p> <ul style="list-style-type: none"> A reputed university offering specialized hospitality course catered for Middle eastern tourists visiting Malaysia will attract large number of local and foreign students to Perlis. Perlis shares borders with Thailand. The creation of an education hub can provide educational opportunities to potential students from China, Lao PDR, Myanmar, Thailand, Cambodia and Vietnam, with a combined population of 240 million people. 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> South Thailand has about 9 million people, approximately 14% of the total population. It is a huge human resource to tap from for educational opportunities. In the 2008 report for sustainable development for Southern Thailand, education hubs in the region have been already emphasized. The report clearly emphasized the inclusion of Songkhla province and its many educational institutions which can be a major strength for Perlis to exploit. This is especially so when this area of the south is to become a major land bridge that can attract large-scale investment. In particular it could play an important role in developing links with the south provinces, through special programmes and perhaps co-operation with Malaysian and Middle East universities. Collectively such initiatives should follow a strategy with a clear theme, such as 'reconciliation through education' that can be championed by Government to bring about the regeneration of the South. The Emirates Academy of Hospitality management is the Leading Provider of Hospitality Education in the Middle East, and is fully licensed by the UAE's Ministry of Higher Education and Scientific Research. It is also accreditation by the UK's Institute of Hospitality and the THE-ICE in Australia. The Academy is located in Dubai, just opposite the world's only seven-star hotel the Burj Al Arab, and is part of the international luxury hotel chain, the Jumeirah Group. An institution like this can be invited to open a branch campus In Perlis. A branch campus from this academy can provide subjects tailored with the end objective of exposing and sensitizing the needs of the tourists from the Middle Eastern countries. The increasing costs in the UK and Europe will further provide an opportunity to these students to complete their tertiary education in Perlis especially if there is an international educational institution set up here. The Star reported that figures had increased between 2006 and 2008 by 30%, bringing the overall numbers of international students in Malaysian international schools and higher education institutions to 65,000. 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>		<p>Location: Pauh Putra Land Size: 40ha Land Ownership: State</p>			
<p>Project Benchmark</p>	<p>AIMST in Kedah is a good example of how a university can stimulate development in one surrounding area.</p>				
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>				
	<p>Description</p>	<p>Name</p>	<p>Role & Responsibilities</p>		
	<p>Main Agencies</p>	<p>NC / State Government</p>	<p>Infrastructure development</p>		
		<p>SEDC</p>	<ul style="list-style-type: none"> • Identify operator for setting up the university • Provide incentives 		
	<p>Private Sector</p>	<p>Private Operator</p>	<p>Anchor a reputed university that can open a campus in Perlis</p>		
<p>Programme Costing Assumptions</p>	<p>Description of the Programme Costing</p>				
	<p>Revenue Streams</p>	<ul style="list-style-type: none"> • International students • Industry-academic links where the R and D surrounding existing resources can generate income 			
	<p>Operating Expenditures Description</p>	<ul style="list-style-type: none"> • Payment for machinery and equipment maintenance • Payment for Utilities, maintenance and security of processing plant • Payment for Salaries for lecturers and support staff 			
	<p>Capital Expenditures Description</p>	<ul style="list-style-type: none"> • Building of campus • Building of hostel for accommodation /student houses • Building of staff quarters • Building of lecture theatres and classes • Purchase of various machineries and laboratory equipment • Building of various sports and other recreational centers • Building of infrastructure to support centres of excellence to activate and sustain industry related initiatives • Purchase of buses and transport 			
<p>Estimated Budget</p>	<p>Implementation Phase</p>	<p>Phase 1</p>	<p>Phase 2</p>	<p>Phase 3</p>	<p>Phase 4</p>
		<p>2012-2015</p>	<p>2016-2020</p>	<p>2021-2025</p>	<p>2026-2030</p>
	<p>Estimated CAPEX (RM million)</p>	<p>61.5</p>	<p>1,468.1</p>	<p>17.8</p>	<p>17.8</p>
	<p>Estimated OPEX (RM million)</p>	<p>0.3</p>	<p>-</p>	<p>-</p>	<p>-</p>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [EDUCATION & TRAINING]

Project Code	ED2	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Strengthening Industry-Academia Collaboration for Socio-economic Benefit			
Project Description	This initiative is simply to match existing institutions offering industry relevant courses with industries in the northern belt of the country. R&D Centres of excellence surrounding such industries can be created, especially with its rich diverse resources. This will generate a more vibrant innovative entrepreneurial R&D community. The absence of industry-academia nexus is due to gaps in information. The centralized Koridor Utara implementing office can coordinate industry –academia collaboration.			
Issues	<ul style="list-style-type: none"> • The need to activate strong R&D surrounding the diverse rich resources so that more centres of excellence surrounding such industries can be created. • The need to generate a more innovative entrepreneurial community. • Making institutions more industry relevant so that students have a higher employability rate • Getting more young graduates to make Perlis their home 			
Rationale	Stronger industry-institution links can develop agriculture, green technology, tourism and manufacturing in the state.			
Existing Demand & Current Supply	Potential Industries in Perlis		Institutions having potential Courses for possible industry –academia tie up	
	Halal Pharmaceutical and Nutraceutical Manufacturing		Institut Latihan Perindustrian (ILP)/UiTM	
	Pauh Putra Technology Park		UiTM/ILP	
	Bio-technology Processing plant from upstream raw materials		UiTM/ Institut Latihan Perindustrian Kolej Komuniti Arau, Institut Kemahiran Mara Beseri, UiTM	
	Downstream rubber processing into rubber products		UiTM	
	Downstream raw sugar processing into refined sugar and food processing		Kolej Komuniti Arau	
	Development of wellness resort		Alliance University College of Medical Sciences	
	Automotive		Institut Kemahiran Mara Beseri	
	Solar		UNiMap	
	The table above shows the potential industries that can tie up with relevant institutions . It is noteworthy to highlight that only 2 courses from UiTM, which are Diploma in Planting Industry Management and Bachelor of Science Plantation Technology & Management exists even though Perlis has a relatively large agricultural sector.			
Location Plan / Land Size	Location: Industry-based Land Size: n/a Land Ownership: State			
Project Benchmark	The industry-academia concept prevails in many institutions, with internship placement and institutional tie-ups for research collaboration. Hence there are many models that can be emulated.			

PROJECT BRIEF – EDUCATION & TRAINING

Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name		Role & Responsibilities	
	Main Agencies	NCIA / State Government		Identifying industry players	
SEDC Industry players Institutions in Perlis		<ul style="list-style-type: none"> Identify institutions of higher learning that can twin with industries Provide incentives for such twinning opportunities 			
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> Industry and academia tie-ups can generate funds when successful products are developed and marketed. 			
	Operating Expenditures Description	<ul style="list-style-type: none"> Incentives for effective ties and seed grants for initial infrastructure Initial payment for utilities, maintenance 			
	Capital Expenditures Description	<ul style="list-style-type: none"> Building of support infrastructure for initial incubators Meeting and travelling costs to woo investors both local and international 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012-2015	2016-2020	2021-2025	2026-2030
	Estimated CAPEX (RM million)	0.5	4.15	-	-
	Estimated OPEX (RM million)	0.15	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	4.65	-	-	-
Operating Expenditure	0.15	-	-	-	
Implementation Action Plan	Initiator	Actions			Year
	SEDC	<ul style="list-style-type: none"> Screen and select appropriate industries and institutions 			2012 (4 th Quarter)
		<ul style="list-style-type: none"> A table of indentified potentials and gaps for respective industries and institutions to form collaborations Monitor progress and flag up best practices commercialization 			2012-2013 2014
		<ul style="list-style-type: none"> To identify the right human resource to champion such collaborations Identify venue and sites for incubating such collaborations. 			2012
	Institutions	<ul style="list-style-type: none"> Identification of international players to ne brought in to flag up such projects 			2012
<ul style="list-style-type: none"> To form initiatives and identify priority areas for collaborations 			2012		
Industry players	<ul style="list-style-type: none"> To form initiatives and identify priority areas for collaborations 			2012	

Strategic Project Brief [EDUCATION & TRAINING]

Project Code	ED3	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Training and Human Resource Development			
Project Description	This initiative strives to create a model in the key stakeholders that will drive Perlis to achieve the desired goal through capacity building and training. The <i>Negeri Ilmu</i> concept will only materialize if an excellence culture is created in Perlis. This initiative is the DNA to sustain all other interventions to make Perlis achieve the desired goal.			
Issues	<p>For the entire number of projects implemented in Perlis</p> <ul style="list-style-type: none"> • The need to create greater and world class capacity building for attracting and sustaining foreign investors in Perlis. • The need to homogenize and embrace the vision by all stakeholders so that all operations can proceed in a seamless and synchronous manner. • The need to identify one good HR system or body that professionally identifies the required talents nationally and internationally for the diverse flagship areas. • For establishing a strong academic culture of excellence in all existing institutions of higher learning in Perlis • Strengthening academia in existing institutions by evaluating current status and addressing relevancy of courses to industry needs 			
Rationale	<p>Human resource development for a state will depend essentially on the overall development thrusts that the state has embarked and in this case on agriculture and agriculture based industry, logistics trade industries and service ,tourism , creating a knowledge state, biotechnology and new township. These are diverse areas of development managed by different stakeholders. Human resource competency in these differing fields requires varying professional skill sets.</p> <p>However the greatest need is to create training opportunities to these diverse stakeholders for seeing the whole vision in unison, otherwise silo operation and hierarchical walls will stifle and prevent homogenous implementation of the project. For this effective training need to be deployed to all leaders and captains of industries so that a pervasive culture of high performance can be embedded throughout the state.</p> <p>There is also a need to establish a strong academic culture of excellence in all institutions.</p>			
Existing Demand & Current Supply	<p>There is rapid need to develop a work culture that can support the changes envisaged in the new transformation plan for Perlis</p> <p>However growth in any area cannot be by just developing competency skill sets. `A developed state is only developed when His citizen says so...' (from the Perlis strategic slides by OECD) Hence the critical success factors for human resource development lies in the following :</p> <p>If the key elements of an educational hub are: teaching students, research and development, knowledge production, advisory and consultancy services, innovation among industries and corporations, and perhaps spinning off enterprises, then it is important to evaluate each of these areas to see the status of the educational hub.</p> <p>The needs are in the following manner :</p> <p>a) To install an excellent integral culture of excellence in the management and governance of Perlis state and state operational matters.</p> <p>To ensure that the integral culture of excellence must then be cascaded to all stakeholders within the focused areas of development.</p> <p>b) There are also specialized areas of developing human resources.</p> <ul style="list-style-type: none"> • In the key IMT-GT projects 2007-2008 for strengthening human resources, there was a need to a) exchange programs to create mutual understanding of Muslim culture b) promotion of women participation in the labour market c) technical meeting for the harmonization of standards. • There is therefore a need to develop a pool of competency in Perlis that can provide cross 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<p>the border expertise such as listed in the above areas</p> <p>c) Innovative approaches to turning villagers in rural areas and schools in Perlis to be entrepreneurial</p> <ul style="list-style-type: none"> • Dedicated efforts in converting villages to be entrepreneurial will be by unleashing a wave of setting up of industry based cooperatives. There should be sustained training and interventions at every level where the produce harvested reach the selling points with minimum interventions by middle man. This will enhance income. When tangible rewards can be seen mind set change will become more obvious when instituted and this can then increase human resources at the villages • There is a need to scale up success stories and share best practices. • Innovation efforts must be unleashed at schools where an entrepreneurial mindset change must take place when they are young at the primary. More of the school children should be given field time in plantation settings to orientate their minds to applying what they have acquired in the classrooms. Secondary schools and students at higher institutions should be given small seed grants to start small entrepreneurial initiatives. 		
Location Plan / Land Size	<p>Location: Industry-based</p> <p>Land Size: n/a</p> <p>Land Ownership: State</p>		
Project Benchmark	Successful models of implementation by other corporate organizations can be used as benchmark		
Implementing Agencies	Role and Responsibilities of Implementing Body		
	Description	Name	Role & Responsibilities
	Main Agencies	NCIA / State Government	Identification of personnel Identification of training provider
SEDC All institutions		Monitor the progress of implementation	
Programme Costing Assumptions	Description of the Programme Costing		
	Revenues	Revenue will be intangible as the implementation efficiency will bring results in a shorter time, thus cutting operating costs etc.	
	Operating Expenditures Description	<ul style="list-style-type: none"> • Payment for training providers • Payment of halls or hotels where the training is supposed to run 	
	Capital Expenditures Description	<ul style="list-style-type: none"> • Training of leaders • Training of operational managers 	

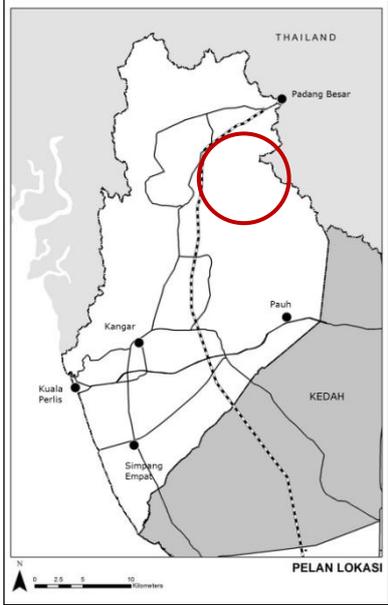
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Drivers & Enablers</p>	<ul style="list-style-type: none"> • To ensure that for the programme gets a buy-in from all relevant stakeholders • Effective marketing personnel to ensure that a buy-in is made • Effective incentive package to ensure that departments and stakeholders achieving the milestones are recognized. • A very experienced training provider be identified • Effective HR system to be put in place for the effective identification of professional talents so that they remain in Perlis for long duration
<p>Early Steps Necessary</p>	<ul style="list-style-type: none"> • Identification of training provider
<p>Possible Barriers & Threats</p>	<ul style="list-style-type: none"> • Difficulty to get a buy-in from all stakeholders • A challenge to ensure that all stakeholders see that training and human development is the most critical element to achieve results.

Strategic Project Brief [EDUCATION & TRAINING]

Project Code	ED4	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Establishing an Agro Technology University Branch Faculty			
Project Description	The initiative will have a foreign reputed university twin with an existing institution offering Agro-technology courses such as University Putera Malaysia, University Terengganu Malaysia or University Technology MARA and to invite them to open a branch campus which incorporates an agro park similar to the MARDI Cameron Highlands model for the purposes of research, teaching as well to be a tourist destination			
Issues	<ul style="list-style-type: none"> • The need to create greater visibility for the education hub planned for Perlis • The full potential of Perlis being an agriculture-based state has not been exploited and there is a need to attract greater numbers of local and international students to take up agriculture based courses to create high end industry-based initiatives. • A reputed university offering specialized agro-technology courses can attract many foreign students to Perlis 			
Rationale	<p>Positioning in Perlis</p> <ul style="list-style-type: none"> • Perlis is far up north, touching the borders of Thailand. The creation of an education hub can provide educational opportunities to potential students from Thailand, China, Lao PDR, Myanmar, Cambodia and Vietnam. There is a combined population of 240 million people. • The scarcity of food will be one of the biggest challenges the world will face. The courses offered must incorporate futuristic visions and empower cutting edge technologies to students so that they become more relevant. The biggest paradigm shift that needs to be made is to make students not seek employment but become employers and entrepreneurs. <p>In this respect University Malaysia Terengganu, University Technology MARA and University Putera Malaysia offer degree and post graduate programmes in Agro technology. These courses cover amongst other subjects managing post harvest technologies of fisheries, aquaculture, livestock and crops. There are many international universities and colleges in the world offering agriculture and agro-technology based courses. Imperial London College , Cranfield University and Scottish Agricultural College in the UK will be some of the more reputed ones. Tokoyo University of Agriculture and Technology is another leading Japanese institution.</p>			
Existing Demand & Current Supply	<ul style="list-style-type: none"> • South Thailand has about 9 million people approximately 14% of the total population. There is fundamentally a huge human resource to tap from for educational opportunities. • The food scarcity and the lack of reputed foreign university undertaking high end research for the purposes of increasing high yield crops will generate interest as there is a big demand in these areas. Such courses from reputed university will attract students locally and internationally. 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>		<p>Location: Chuping Valley Land Size: 40ha Land Ownership: State</p>	
<p>Project Benchmark</p>	<p>Currently the benchmark for such parks exists in the MARDI Agro-Technology Park in Cameron Highlands. The agro technology park is divided into six main areas: the English Garden, Herb Garden, Orchid Garden, Rose Garden, research centre and an information centre, where tourists can also buy souvenirs. Mardi's Agro technology Park is home to 40 varieties of roses, 10 strawberries, 100 citrus fruits, at least six types of anthurium, four varieties of apples, and pears. .</p> <p>The park receives 100,000 visitors annually. The Park is actually MARDI's oldest research station in the country and since Cameron Highland is a popular tourist destination, MARDI has followed through on the idea to turn it into an Agro-technology Park.</p> <p>The Agro Technology Park in Langkawi another development by MARDI was developed in 1990. It functions as a centre for technology transfer and information dissemination concerning agro-industry. The park is also designed as an eco-tourism spot for visitors to Langkawi. It is located at the neighbourhood of Lubuk Semilang Recreational Park with panoramic view of forested Gunung Raya catchment area.</p> <p>The major attractions include technology information centre, tropical fruit farms, sheltered hi-tech vegetable farms and naturally conserved surrounding areas for recreational purposes .</p>		
<p>Implementing Agencies</p>	<p align="center">Role and Responsibilities of Implementing Body</p>		
	<p align="center">Description</p>	<p align="center">Name</p>	<p align="center">Role & Responsibilities</p>
	<p>Main Agencies</p>	<p>NCIA / State Government</p>	<ul style="list-style-type: none"> • Infrastructure development
		<p>SEDC</p>	<ul style="list-style-type: none"> • Identify operator for setting up the university • Provide incentives
	<p>Private Sector</p>	<p>Private Operator</p>	<ul style="list-style-type: none"> • Anchor a reputed university that can open a campus in Perlis
<p>Programme Costing Assumptions</p>	<p align="center">Description of the Programme Costing</p>		
	<p>Revenue Streams</p>	<ul style="list-style-type: none"> • International students • Industry academic where the R and D surrounding existing resources can generate income 	
	<p>Operating Expenditures Description</p>	<ul style="list-style-type: none"> • Payment for machinery and equipment maintenance • Payment for utilities, maintenance and security of processing plant • Payment for salaries of lecturers and support staff 	

PROJECT BRIEF – EDUCATION & TRAINING

	Capital Expenditures Description	<ul style="list-style-type: none"> • Building of campus • Building of hostel • Building of staff quarters • Building of lecture theatres and classes • Purchase of machinery and laboratory equipments • Building of sports and recreational centres • Building of infrastructure to support centres of excellence to activate and sustain industry related initiatives • Purchase of buses and transport 																																																																																	
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																														
		2012-2015	2016-2020	2021-2025	2026-2030																																																																														
	Estimated CAPEX (RM million)	17.6	230.6	4.2	-																																																																														
	Estimated OPEX (RM million)	0.2	-	-	-																																																																														
Investments / Funding Sources	Investments (RM million)																																																																																		
		Public Sector			Private Sector																																																																														
					Private Sector				Local (%)				Foreign (%)																																																																						
	Development Expenditure / CAPEX	252.32	-	-	-																																																																														
	Operating Expenditure	0.2	-	-	-																																																																														
Implementation Action Plan	Initiator	Actions														Year																																																																			
	SEDC	Screen and select appropriate reputed university														2012 (Q4)																																																																			
		Negotiations and the creation of suitable incentive package														2012 (Q4)																																																																			
	SEDC	Identify and invite private investors for participation														2012 (Q4)																																																																			
		Selection of land and allocation														2013																																																																			
	Private Investors	Building campus site														2013																																																																			
		Student enrolment														2014																																																																			
Full operation of University														2015																																																																					
Implementation Timeline	<table border="1"> <tr> <td>2012</td> <td colspan="4">2013</td> <td colspan="4">2014</td> <td colspan="4">2015</td> <td colspan="4">2016</td> <td colspan="4">2017</td> <td colspan="4">2018</td> <td colspan="4">2019</td> <td colspan="4">2020</td> </tr> <tr> <td>Q4</td><td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> <td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> <td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> <td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> <td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> <td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> <td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> <td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> </tr> </table>																	2012	2013				2014				2015				2016				2017				2018				2019				2020				Q4	Q1	Q2	Q3	Q4																												
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

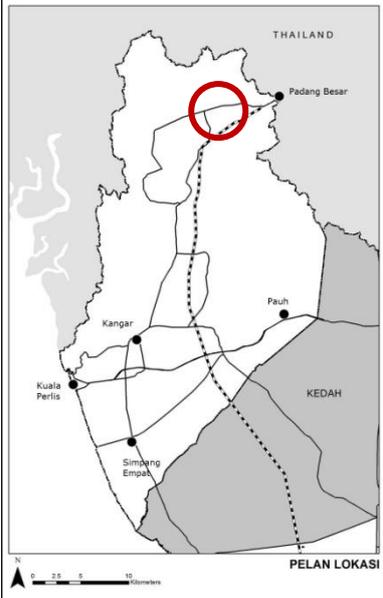
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	65	253	350	To have the branch campus of an International Agro University offering courses with one of the existing universities in Malaysia in Perlis by Jan 2015
Drivers & Enablers	<ul style="list-style-type: none"> • Proper road systems and the allocation of a preferable scenic spot for the campus • Effective marketing personnel to bring in the international student population • Effective incentive package to attract international university. 			
Early Steps Necessary	<ul style="list-style-type: none"> • Identification of private investors • Identification of the appropriate university 			
Possible Barriers & Threats	<ul style="list-style-type: none"> • Difficulty to have private investors participation to run the university • The student population will take time to grow. Investors might not have the patience to see the returns. • Lack of professional and support staff 			

G. TRADING & SERVICES

Strategic Project Brief [TRADING & SERVICES]

Project Code	TS1	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Free Industrial Zone			
Project Description	<p>Companies operating in a FIZ can enjoy duty-free imports of raw materials, including packaging materials and machinery and equipment used directly in the production of approved products as in their Manufacturing Licence (ML) (unless these manufacturers are exempted from ML). The FIZ manufacturers are also exempted from the payment of sales tax, excise duty and service tax. Machinery and equipment allowed to be brought in duty-free include testing equipment; tools; quality control gadgets, labelling machines, workbenches; weighing scales; spare parts for the processing equipment; replacement machinery; grinding stones and welding shields.</p> <p>The target of the proposed FIZ is for goods that are brought into or manufactured in the FIZ to cater for the international export market.</p> <p>The Free Industrial Zone in Padang Besar will be about 153.33ha which includes the existing ICD, future expansion of ICD, and General Industries. This is located adjacent to the proposed Rubber Processing Industrial Cluster (RPIC) which will be allocated for the manufacture of high value rubber goods. Site visit and discussions with rubber investors in Southern Thailand indicates that 95% of rubber including rubber sheets, rubber wood or natural rubber are being transported to Padang Besar through the ICD to be transported to Penang. It is known that the cost for that is USD200 rather than the more expensive route via Songkhla at USD450.</p> <p>This adds to the viability of the ICD and the general industries area to qualify for location in a FIZ. Under the Free Zone Act, a company has to export at least 80% of its output and its raw materials/ components are mainly imported to qualify to be a location in a FIZ, even though the government does encourage the use of local raw materials/components. If a FIZ company has obtained an approval from the Ministry of International Trade and Industry to reduce its export condition to 60%, it can also apply to the Customs to be allowed to export 60% instead of 80%.</p>			
Issues	<ul style="list-style-type: none"> • Lack of thrusts for economic development • Creating conducive environment to encourage trade • Leveraging on cross border positioning as one of the key gateways into Perlis • Lack of foreign investments 			
Rationale	<p>The objective of having tax-free industrial zones is to enhance competitiveness for export. Consumer goods and electronics are being manufactured in Thailand whereas high-end and precision electronics e.g. semiconductors and computers are being manufactured in Pulau Pinang.</p> <p>The Free Industrial Zone is targeted to cater for an export market of goods being manufactured in the zone and create a conducive environment to encourage trade and services in Perlis. The Free Industrial Zone will be located within the planned Perlis Border Special Economic Zone (SEZ). Within the SEZ, enormous industrial activities will be being carried out -the Halal Food Park, Agri-bio-tech Park as well as Pauh Putra Technology Park which will manufacture a wide array of goods including halal food products, bio-plastic, electrical and electronics, cement, plant and machinery, minerals and other industries for expansion.</p> <p>The Free Industrial Zone within the SEZ will have various special incentives, fiscal or non-fiscal, to ensure that investors that carry out manufacturing or industrial activities can enjoy the benefit of low-cost land, Class-A infrastructure and tax free incentives.</p>			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Existing Demand & Current Supply</p>	<p>Padang Besar Industrial Area is about 32.75 hectares, with several bonded warehouses in the area, with container yards on the way to the rail station.</p> <p>Currently around 300 containers a day are transported by rail in 30-40 container batches from Padang Besar to North Butterworth Container terminal containing mostly rubber and rubberwood from Thailand, some of which are transported to Padang Besar by road. Containers returning to Hat Yai are mainly empty.</p>	
<p>Location Plan / Land Size</p>		<p>Location: Free Industrial Zone Land Size: 153.33ha (Includes ICD, SME General Industries) Land Ownership: State</p>
<p>Depiction</p>		
<p>Project Benchmark</p>	<p>Batam Free Trade Zone</p> <p>Taking an area of 71,500ha, with a focus on heavy industries, fishing & agriculture, telecommunications and tourism, it has strong cooperation with Singapore, with a joint steering committee to make policies and supervision. It is located in a strategic position, close to the international trade route in Indonesia.</p>	

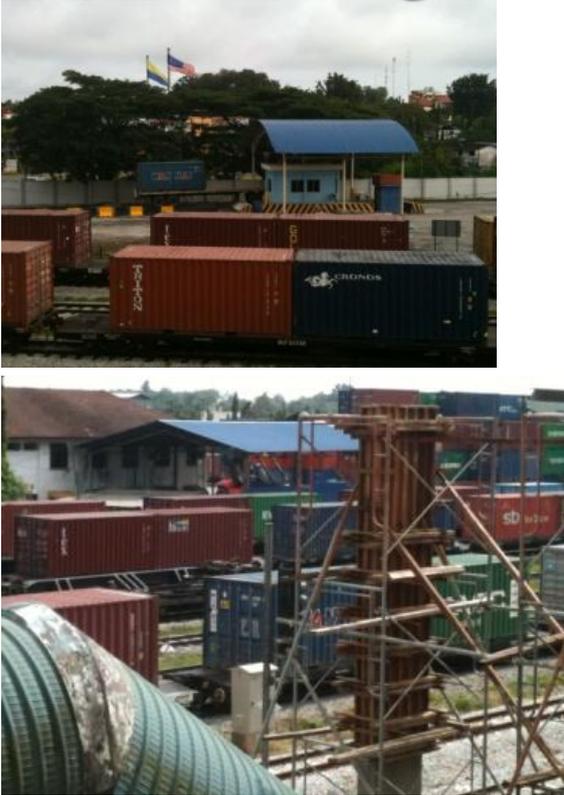
Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name	Role & Responsibilities		
	Main Agencies	UPEN	Delineation of FCZ, FIZ and SEZ areas		
		UPEN	Designation of authority (NCIA) for FCZ (ICD, Wholesale and Retail Zone) and FIZ		
		NCIA	Application to Minister of Finance for Gazette		
Other Agencies	Minister of Finance	Gazette of FCZ and FIZ			
Private Sector	Private Operator	Operate FIZ RFP for potential investors			
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> Rent/Leasing of land or industrial lots 			
	Operating Expenditures Description	<ul style="list-style-type: none"> Utilities Maintenance Salaries 			
	Capital Expenditures Description	<ul style="list-style-type: none"> Construction Infrastructure 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 - 2030
	Production (units/year)	-	-	-	-
	Estimated CAPEX (RM million)	19.5	524.1	11.8	11.8
	Estimated OPEX (RM million)	1.0	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	35.75	531.4	100	0
Operating Expenditure	1.0	-	-	-	
Implementation Action Plan	Initiator	Actions		Year	
	UPEN	Confirm feasibility of industries		2013	
	UPEN	Delineation of FCZ and FIZ areas		2013	
	NCIA	Application to Minister of Finance for Gazette		2014	
	Minister of Finance	Gazette of FCZ and FIZ		2015	
State/SEDC	Provision of infrastructure and Incentives		2016		

Strategic Project Brief [TRADING & SERVICES]

Project Code	TS2	New Project?	Existing?	Quick Win?
		N	Y	N
Project Name	ICD and Its Future Expansions			
Project Description	<p>The current ICD in Padang Besar acts just as a container terminal for goods from Southern Thailand to be transported to other places like Penang or South Malaysia via rail. Site visits show that there are large amounts of containers placed in the terminal and apart from rubber, food products are also being transported via the terminal to and fro Southern Thailand and Malaysia. Site visit and discussions with rubber investors in Southern Thailand indicates that 95% of rubber including rubbersheets, rubberwood or natural rubber are being transported to Padang Besar through the ICD to be transported to Penang. Thailand has repeatedly called for 24-hour CIQ operations for the existing ICD which is operating at 40% capacity and where transit time can be improved from 6 hours to 5 days to under 6 hours.</p> <p>To cater for a larger end market to export to the international market, the proposal is to expand the ICD in Padang Besar into various other services instead of just being a terminal. This will enhance the trading sector in Perlis, with high impact manufacturing and industrial activities proposed for the next 20 years. It is important to have a place for goods to be stored and exported via dry ports as they are safer and more economical. The position of the ICD in Padang Besar is strategic in terms of linking international markets, especially Thailand. For instance, it is known that the cost for that is USD200 rather than the more expensive route via Songkhla at USD450.</p> <p>A private investor has submitted a proposal requesting 300 acres to construct a Class I Inland Container Depot inclusive of double tracking with state of the art facilities, including extensive use of gantries and renewable energy. The proposed layout seems to have all the main components.</p>			
Issues	<ul style="list-style-type: none"> • Lack of economic development thrusts • Encouragement of trade and services in State • Lack of foreign investments 			
Rationale	<p>UNESCAP recognizes the importance of dry ports as a means of integrating regional transport networks and is promoting the development of dry ports in hinterland areas including the 12 landlocked developing countries in Asia to provide new opportunities for international trade. Dry ports functioning similar to sea ports can effectively promote economic and social development in the surrounding areas including employment and income generation.</p> <p>In order to integrate regional transport networks in Asia, all transport links (including railway, road and waterway) and transport nodes (including seaports, dry ports and intermodal interfaces) need to be fully developed. Amongst these, seaports have developed rapidly and many large seaports have emerged in the region i.e.19 in Asia.</p> <p>ICD along Trans Asian Railway</p> <p>Padang Besar is on the route of the Trans Asian Railway. UNESCAP is implementing a project “Development of Dry Ports along the Asian Highway and Trans-Asian Railway.” The main objectives of the project are to review institutional and regulatory issues related to development of dry ports and assist member countries in developing and negotiating an intergovernmental agreement on dry ports.</p>			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Existing Demand & Current Supply</p>	<p>The Padang Besar Inland Clearance Depot (ICD) is the main entry/exit point for imports and exports into the State of Perlis and has extensive road and rail linkages for ease of movements of goods. As the majority of trade in Perlis is conducted via the ICD, the trade flow can be analysed by looking at the flow of goods through this checkpoint.</p> <p>Table Error! No text of specified style in document..1: Padang Besar Inbound Commodity Flow (2010)</p> <table border="1"> <thead> <tr> <th colspan="2">Rail</th> <th colspan="4">Road</th> </tr> <tr> <th colspan="2">Containerised</th> <th colspan="2">Containerised</th> <th colspan="2">Non-Containerised</th> </tr> <tr> <td colspan="2">100,378 TEU</td> <td colspan="2">38,470 TEU</td> <td colspan="2">637,651 MT</td> </tr> <tr> <th>Commodity</th> <th>TEU 2010</th> <th>Commodity</th> <th>TEU 2010</th> <th>Commodity</th> <th>MT 2010</th> </tr> </thead> <tbody> <tr> <td>Rubber</td> <td>98,370</td> <td>Auto Parts</td> <td>14,426</td> <td>Auto Parts</td> <td>264,625</td> </tr> <tr> <td>Perishables</td> <td>240</td> <td>Perishables</td> <td>8,733</td> <td>E&E</td> <td>241,032</td> </tr> <tr> <td>Others</td> <td>1,768</td> <td>E&E</td> <td>8,156</td> <td>Perishables</td> <td>112,864</td> </tr> <tr> <td></td> <td></td> <td>Computer Parts</td> <td>4,462</td> <td>Others</td> <td>19,130</td> </tr> <tr> <td></td> <td></td> <td>Others</td> <td>2,693</td> <td></td> <td></td> </tr> </tbody> </table> <p><i>Source: Royal Malaysian Customs, Padang Besar, quoted by Frost & Sullivan in "Feasibility Study for Padang Besar Inland Clearance Depot, April 22, 2011"</i></p> <p>Table Error! No text of specified style in document..2: Padang Besar Outbound Commodity Flow (2010)</p> <table border="1"> <thead> <tr> <th colspan="4">Rail</th> <th colspan="4">Road</th> </tr> <tr> <th colspan="2">Landbridge</th> <th colspan="2">Containerised</th> <th colspan="2">Containerised</th> <th colspan="2">Non-Containerised</th> </tr> <tr> <td colspan="2">10,400 TEU</td> <td colspan="2">30 MT (~3TEU)</td> <td colspan="2">24,699 MT (~2,058 TEU)</td> <td colspan="2">764 MT</td> </tr> <tr> <th>Commodity</th> <th>TEU 2010</th> <th>Commodity</th> <th>MT 2010</th> <th>Commodity</th> <th>TEU 2010</th> <th>Commodity</th> <th>MT 2010</th> </tr> </thead> <tbody> <tr> <td>Sugar</td> <td>2,600</td> <td>Electronics</td> <td>20</td> <td>Auto Parts</td> <td>19,760</td> <td>Seafood</td> <td>496</td> </tr> <tr> <td>E&E</td> <td>2,080</td> <td>Rubber Tyres</td> <td>4</td> <td>Electricals</td> <td>2,963</td> <td>Auto Parts</td> <td>138</td> </tr> <tr> <td>Building Material</td> <td>5,720</td> <td>Others</td> <td>6</td> <td>Seafood</td> <td>1,976</td> <td>Electricals</td> <td>130</td> </tr> </tbody> </table> <p><i>Source: Royal Malaysian Customs, Padang Besar, quoted by Frost & Sullivan, ibid.</i></p>	Rail		Road				Containerised		Containerised		Non-Containerised		100,378 TEU		38,470 TEU		637,651 MT		Commodity	TEU 2010	Commodity	TEU 2010	Commodity	MT 2010	Rubber	98,370	Auto Parts	14,426	Auto Parts	264,625	Perishables	240	Perishables	8,733	E&E	241,032	Others	1,768	E&E	8,156	Perishables	112,864			Computer Parts	4,462	Others	19,130			Others	2,693			Rail				Road				Landbridge		Containerised		Containerised		Non-Containerised		10,400 TEU		30 MT (~3TEU)		24,699 MT (~2,058 TEU)		764 MT		Commodity	TEU 2010	Commodity	MT 2010	Commodity	TEU 2010	Commodity	MT 2010	Sugar	2,600	Electronics	20	Auto Parts	19,760	Seafood	496	E&E	2,080	Rubber Tyres	4	Electricals	2,963	Auto Parts	138	Building Material	5,720	Others	6	Seafood	1,976	Electricals	130
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<p>Depiction</p>																		
<p>Project Benchmark</p>	<p>Range of facilities and services include:</p> <ul style="list-style-type: none"> • Speedy clearance of imports or shipment of exports (containers) from / to a Port • Stuffing/unstuffing of containers for shipment/delivery • Warehousing for in-transit cargo awaiting export or delivery. (bonded and non-bonded) • Storage, cleaning, repairs of containers • Integrated logistics and value – added services • Road/rail intermodal connectivity • Full customs documentation and clearance • Customs brokerage services <p>The exception is Padang Besar ICD which only transfers containers from trucks for onward shipment by rail and vice – versa. Prospects-wise, the ICDs of Sg. Way and Prai have been particularly hard hit. One of the reasons for this is the proliferation of Public Bonded Warehouses especially in the Port Klang area, within the vicinity of the Port. The emergence of more than 20 Bounded Warehouses very near to the Port reduced the need to use the Sg. Way ICD. For the ICD at Prai, the opening of the Free Commercial Zone in Butterworth Terminal led to its decline. By operating from warehouses in the Free Commercial Zone, the operators were able to save one LOLO (load on load off) which otherwise would be applicable, if using the Prai ICD.</p>																	
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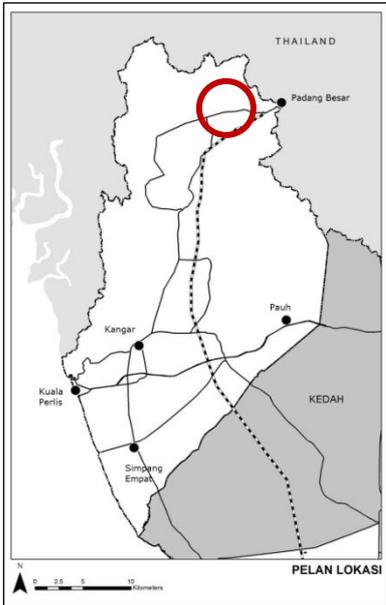
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	Other Agencies	Minister of Finance	Gazette of FCZ for ICD		
	Private Sector	Private Operator	Implementation of ICD expansion subject to feasibility which would include export of Palm Kernel and Consumer Electronics to Thailand as well as renewable energy proposal		
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> Logistics charges Container terminal rent/charges Warehousing charges Equipment rental 			
	Operating Expenditures Description	<ul style="list-style-type: none"> Salaries Maintenance 			
	Capital Expenditures Description	<ul style="list-style-type: none"> ICD Yards Infrastructure Warehouse Equipment CIQ Office Security systems 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 2
		2012 – 2015	2016 – 2020	2021 – 2025	2026 - 2030
	Production (units/year)	-	-	-	-
	Estimated CAPEX (RM million)	39.9	185.35	3.55	-
	Estimated OPEX (RM million)	-	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	57.0	171.8	100	0
Operating Expenditure	-	-	-	-	
Implementation Action Plan	Initiator	Actions			Year
	UPEN	Approval of ICD Expansion proposal/Further Feasibility			2013
	UPEN	Delineation of FCZ area			2014
	UPEN	Designation of authority (NCIA) for FCZ (ICD)			2014
	NCIA	Application to Minister of Finance for Gazette			2014
	Minister of Finance	Gazette of FCZ and FIZ			2014
Private Sector	Implementation of ICD expansion subject to feasibility			2017	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [TRADING & SERVICES]

Project Code	TS3	New Project?	Existing?	Quick Win?												
		Y	N	Y												
Project Name	Wholesale and Retail Zone															
Project Description	<p>This project is an adoption of one of the project proposed in RKK for the development of Padang Besar Town. It falls under the secondary node for the facelift of Kompleks Arked Niaga and Gapura Square Centre. Each of the business premises will be linked with a sheltered walkway. The objective of the development is to enhance the area for a comfortable business condition which prioritizes pedestrian walkways.</p> <p>Further enhancements on stalls, building maintenance will be carried out to make the retail area attractive for both tourists and community to carry out retail activities in the zone. There will be proper car parks, parking for buses that ferry tourists and basic public amenities.</p> <p>There is scope for Perlis to leverage on the following tourism products:</p> <ul style="list-style-type: none"> • Buyung Kechor, Perlis (pots for Laksa) • Souvenirs e.g. key chains, ash trays, picture frames ala Selangor Pewter made out of Perlis dolomite • Mats, purses, bags etc. made out of bamboo and ibus leaves • Wood carved products in the Langkasuka motif as seen on bus-stops in Perlis • Better quality leather goods from Thailand which are currently sold in Kuala Lumpur e.g. at Uptown, Jalan Tuanku Abdul Rahman, etc. 															
Issues	<ul style="list-style-type: none"> • Lack of economic development thrusts • Encouragement of trade and services in State • Improvement of services sector and attracting high-spending tourists 															
Rationale	<p>The fundamental objective of wholesale markets is to improve efficiency in the distribution of goods pipeline. By centralizing transactions at a single location, reducing the period for transactions, and separating wholesale and retail functions in the distribution system, wholesale markets promote greater transparency and better price formation through a clearer interplay of supply and demand. Storage and handling conditions are also enhanced, leading to significant reductions in post-harvest losses, especially in the case of perishable produce.</p>															
Existing Demand & Current Supply	<p>The existing Free Commercial Zone between Malaysia and Thailand immigration checkpoints sells what would normally be found in border duty free shops i.e. branded goods. Padang Besar on both sides of the border tends to sell imitation goods like t-shirts and shoes, on the Siamese side there shops selling Siamese rice. The Siamese side of Padang Besar (called Pekan Siam by Perlis locals) is larger than the Malaysian side.</p> <p>The types of businesses in Padang Besar Border Town are sub-divided into 2 types namely formal market and informal market. Most of the formal markets are dominated by service sectors where most of it are focused in the area of Kompleks Arked Niaga and Bazar DPMP.</p> <p>It is the informal market that does most of the cross border retail, but at a very small scale, selling small items to attract tourists. They are only opened during the weekends and holiday seasons.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 30%;">Wet Market</td> <td style="width: 30%;">68</td> <td style="width: 40%;">32.1%</td> </tr> <tr> <td>Day Market</td> <td>94</td> <td>44.3%</td> </tr> <tr> <td>Permanent Shops</td> <td>10</td> <td>4.7%</td> </tr> <tr> <td>Temporary Shops</td> <td>40</td> <td>18.9%</td> </tr> </tbody> </table> <p><i>Source: RKK Padang Besar, 2008</i></p>				Wet Market	68	32.1%	Day Market	94	44.3%	Permanent Shops	10	4.7%	Temporary Shops	40	18.9%
Wet Market	68	32.1%														
Day Market	94	44.3%														
Permanent Shops	10	4.7%														
Temporary Shops	40	18.9%														

<p>Location Plan / Land Size</p>		<p>Location: Padang Besar Land Size: 3ha Land Ownership: State</p>
<p>Depiction</p>		
<p>Project Benchmark</p>	<p>Chatuchak Weekend Market, Bangkok, Thailand Chatuchak Weekend Market is one of the world's largest weekend markets covers area of 27 acres divided into 27 Sections, contains more than 15,000 booths selling goods from every part of Thailand. It is very popular shopping centre to Thais and has become a popular place to tourists and foreigners who stay in Bangkok which has over 200,000 visitors each day (Saturday-Sunday) of which 30% is foreign. Almost everything can be found here at a bargaining local price (not a tourist price), and most vendors actually come from local factories, like antique wood carving, clay handicraft, local souvenirs from every parts of Thailand, Buddhist amulets, wooden furniture, hand-made decorated flowers, plant, ceramic wares, Thai Bejarong, Chinese wares, garden decorated plants, stones, trendy fashions, silk, hill-tribe outfits, fluffy dogs and other miscellaneous.</p> <p>Panjiayuan Weekend Market, Beijing, China The Panjiayuan Market is a super shopping market for all Chinese arts and crafts. It is made up of over three thousand individual stalls covering 48,500 square metres. There really is something for everyone here. Even Hilary Clinton has shopped at Panjiayuan. There is a little</p>	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	<p>overlap between stalls so you can compare and bargain but the range of goods is excellent. Stall owners come from twenty-four provinces around China to sell their wares. Panjiayuan Market is at its best on weekends. The Antique Zone is open every day and the Arts and Crafts Warehouse Zone is open on Saturday and Sunday only.</p> <p>Products on offer include jade, stone cups and bowls, teapots, swords and axes fashioned after Kung Fu Bruce Lee or Lord of the Rings movies, stone statues and Buddhas, all kinds of beads, antiques, ceramics, Chinese chess, lacquerware Chinese chests and baskets, curious and home decorations artwork, Chinese paintings and scroll paintings, calligraphy/painting brushes, Chairman Mao memorabilia, hand-painted porcelain vases and souvenirs, wooden boxes and masks.</p> <p>Grand Bazaar, Istanbul, Turkey</p> <p>The Grand Bazaar (Kapalıçarşı) in Istanbul is one of the largest covered markets in the world with 60 streets and 5,000 shops, and attracts between 250,000 and 400,000 visitors daily. It is well known for its jewellery, hand-painted ceramics, carpets, embroideries, spices and antique shops. Many of the stalls in the bazaar are grouped by type of goods, with special areas for leather, gold jewellery and the like.</p>				
Implementing Agencies	Role and Responsibilities of Implementing Body				
	Description	Name		Role & Responsibilities	
	Main Agencies	SEDC		Implementation of development plan	
	Other Agencies	MPK		Approval of Plans	
Private Sector	Private Operator		Operation of Bazaar/Zone		
Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> • Rental from tenants 			
	Operating Expenditures Description	<ul style="list-style-type: none"> • Maintenance • Utilities • Facilities upgrading 			
	Capital Expenditures Description	<ul style="list-style-type: none"> • Buildings • Upgrading of existing Bazaar • Infrastructure • Walkways • Parking Lots 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (units/year)	-	-	-	-
	Estimated CAPEX (RM million)	17.4	17.1	0.6	-
	Estimated OPEX (RM million)	0.5	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	2.4	32.7	100	0
Operating Expenditure	0.5	-	-	-	

Implementation Action Plan	Initiator	Actions		Year																														
	MPK	Approval of plan		2012																														
		Grouping of local retailers		2013																														
	SEDC	Provision of infrastructure		2015																														
Private Sector	Management and operational		2017																															
Implementation Timeline	Phase 1 (10 M P)																Phase 2 (11M P)																	
	2012	2013				2014				2015				2016				2017				2018				2019				2020				
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	[Color-coded timeline bars]																[Color-coded timeline bars]																	
																	<ul style="list-style-type: none"> Feasibility Study/Approval/Planning - Milestone: Project Launch Design/Land Acquisition - Milestone: Project Ground-breaking Infrastructure/Incubation - Milestone: Infra-to-site completion Construction/Project Development - Milestone: Project Completion Revenue Start Peak Production Revenue/Investment 																	
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																														
	75	36	50	NA																														
Drivers & Enablers	<ul style="list-style-type: none"> Proper walkways Public amenities & infrastructure 																																	
Early Steps Necessary	<ul style="list-style-type: none"> Approval of plan 																																	
Preliminary Business Model	<ul style="list-style-type: none"> Private operator model 																																	

H. MARITIME TERMINAL

Strategic Project Brief [MULTI-PURPOSE MARITIME TERMINAL]

Project Code	MT1	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	New Fish Landing Point at Kuala Perlis Maritime Terminal to be a Fisheries Transshipment Hub			
Project Description	<p>The proposed hub would be:</p> <ul style="list-style-type: none"> • A fully integrated fishing base incorporating all necessary infrastructure to enable the following: <ul style="list-style-type: none"> ○ Efficiency of operation, providing quick berth and bunkering services for fishing boats and fish trading boats. ○ Sanitary handling of fish landed at the port. ○ Commercial infrastructure to support trading and movement of fish. • The fishing hub should be linked closely with the primary driver of the state economy particularly tourism and recreation. In this respect, the fishing hub should incorporate: <ul style="list-style-type: none"> ○ Tourism oriented commercial infrastructure such as upmarket fish retail shops, souvenir stands and seafood restaurants. ○ A fisheries-based industrial area. 			
Issues	<ul style="list-style-type: none"> • Lack of proper fish landing facilities for deep sea vessels. • Poor sanitation and compliance to contemporary food safety standards. • Inability to take advantage of fish landings and aquaculture production from surrounding areas, including Thailand and Indonesia. 			
Rationale	<ul style="list-style-type: none"> • There are little offshore water in the state. However, Perlis is an important fish landing point in the country, accounting for 13% of national landings. Much of the fish landed comes from Thailand, from which it is distributed immediately out of the state. • Notwithstanding that, the port suffers limitations. Major limitations are as follows: <ul style="list-style-type: none"> ○ Shallow river mouth hinders the movement of fishing boats in and out the fishing base. Thus fishermen are unable to land their catch properly. ○ Limited landing infrastructure such as jetty/wharf, mooring facilities and docks. ○ No commercial infrastructure such as holding and handling amenities and marketing and distribution conveniences. Proper holding and handling facilities i.e. loading/unloading machinery, cold rooms and ice/freezing plants would be crucial to safeguard the quality of the raw material while auction halls, grading and packing areas and transport bunkers would facilitate organised transactions. ○ No linkage with urban/tourism economy. Tourism facilities such as fish retail centres, angling ponds, exhibition centres and seafood restaurants have positive effects on the fisheries industry, generating employment in the restaurant trade and providing additional markets for fish catch. • There have been previous efforts by boats from Burma and Vietnam to land at Kuala Perlis, but all have been dissuaded by the current limitations of the site. • Improving current facilities would: <ul style="list-style-type: none"> ○ Enable landings from Thai, Burmese and Vietnamese fishing boats and fish trading boats to increase. ○ Enable Perlis to link with Aceh for Indonesian fish. ○ Increase revenue capture within the state from fish landed at the port. • Their ability to increase fish landings in the port will enable the development of supporting industries such as processing that is dependent on a sustainable supply of high quality fish. • The issue of catch quality has acquired crucial dimensions in recent years. The global sea food trade is increasingly moving to working in environment that employs stringent 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

sanitary and phytosanitary standards. Standards such as global GAP demands quality standards be employed from point of origin (POL) of marketed commodities. It is inevitable that such standards will come to be imposed on local fishing ports. Kuala Perlis has not been designed to meet such contemporary standards.

Comments

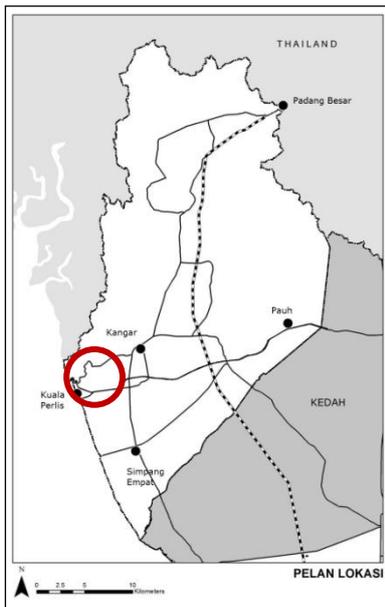
LKIM has plans for an international fisheries centre on the lines of the above proposed. However, the proposed complex is to be a 400m extension of the existing facility as shown below. The existing site has serious limitations and the current facility is not constructed according to currently prevailing norms relating to sanitary handling of fish and related food safety issues. Simply extending the existing port will not amount to a qualitative improvement in standards. It is suggested that the proposed new port be constructed on a reclaimed island off Kuala Perlis.



Existing Demand & Current Supply

- In 2009, the marine fish catch in Perlis amounted to 178,247 tonnes (or 13% of national landings) valued at RM805.6 million.
- It provided livelihood to 6,905 licensed fishermen operating 585 inboard and 565 outboard boats that are largely based at Kuala Perlis, Kurung Tengah and Kuala Sg. Baru.

Location Plan / Land Size



Location: Kuala Perlis

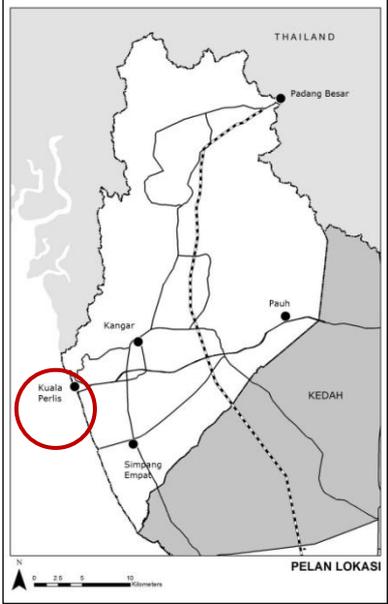
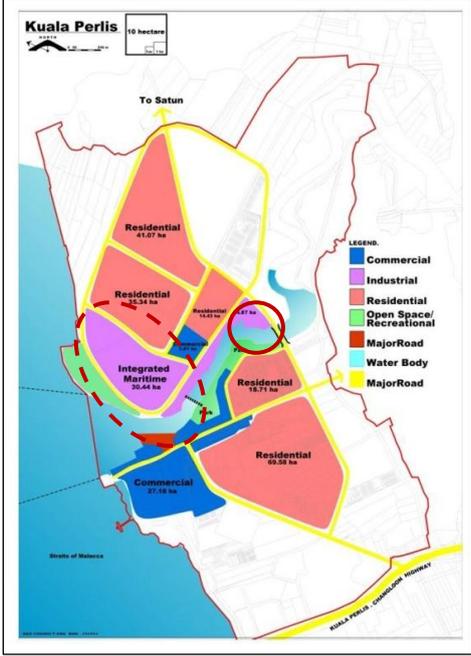
Land Size:

It is recommended that the hub be constructed on an island reclaimed off the Kuala Perlis coast. The present site has serious limitations in terms of redevelopment.

Land Ownership: State

<p>Depiction</p>					
<p>Implementing Agencies</p>	<p align="center">Role and Responsibilities of Implementing Body</p>				
	<p align="center">Description</p>	<p align="center">Name</p>	<p align="center">Role & Responsibilities</p>		
	<p>Main Agencies</p>	<p>Department of Fisheries</p>	<ul style="list-style-type: none"> • Construction of basic infrastructure • Promotion of investment 		
	<p>Other Agencies</p>	<p>LKIM</p>	<ul style="list-style-type: none"> • Construction of basic infrastructure • Promotion of investment 		
	<p>Private Sector</p>	<p>Private Operator</p>	<ul style="list-style-type: none"> • Operation of fish landing point 		
<p>Programme Costing Assumptions</p>	<p align="center">Description of the Programme Costing</p>				
	<p>Revenue Streams</p>	<ul style="list-style-type: none"> • Landing fees from fishing vessels • Landing fees from trading vessels • Repair service fees • Fuel sales • Rental of stalls and office space 			
	<p>Operating Expenditures Description</p>	<ul style="list-style-type: none"> • Building and grounds maintenance • Utilities • Fuel purchases • Man power 			
	<p>Capital Expenditures Description</p>	<ul style="list-style-type: none"> • Technical Feasibility Studies and Design • Construction 			
<p>Estimated Budget</p>	<p align="center">Implementation Phase</p>	<p align="center">Phase 1 2012 – 2015</p>	<p align="center">Phase 2 2016 – 2020</p>	<p align="center">Phase 3 2021 – 2025</p>	<p align="center">Phase 4 2026 - 2030</p>
	<p>Landings (MT/year)</p>	<p align="center">178,000</p>	<p align="center">178,000</p>	<p align="center">189,000</p>	<p align="center">200,000</p>
	<p>Estimated CAPEX (RM million)</p>	<p align="center">-</p>	<p align="center">53.12</p>	<p align="center">0.8</p>	<p align="center">0.8</p>
	<p>Estimated OPEX (RM million)</p>	<p align="center">0.3</p>	<p align="center">-</p>	<p align="center">-</p>	<p align="center">-</p>
<p>Investments / Funding Sources</p>	<p align="center">Investments (RM million)</p>				
		<p align="center">Public Sector</p>	<p align="center">Private Sector</p>		
				<p align="center">Private Sector</p>	<p align="center">Local (%)</p>
	<p>Development Expenditure / CAPEX</p>	<p align="center">25.2</p>	<p align="center">29.5</p>	<p align="center">100</p>	<p align="center">0</p>
	<p>Operating Expenditure</p>	<p align="center">0.3</p>	<p align="center">-</p>	<p align="center">-</p>	<p align="center">-</p>

Strategic Project Brief [MULTI-PURPOSE MARITIME TERMINAL]

Project Code	MT2	New Project?	Existing?	Quick Win?
		N	Y	N
Project Name	Boat Building and Repair Base			
Issues	<ul style="list-style-type: none"> To supply existing vessels from Kuala Perlis and expansion of proposed projects 			
Rationale	<ul style="list-style-type: none"> Serving deep sea fishing vessels from Kuala Perlis Port extension with proposed land reclamation Serving vessels collecting fish products to be sold at Kuala Perlis fish products centre Serving barter trade vessels from Satun up to Phuket 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> Ferries to Langkawi Perlis Marine Engineering Sdn Bhd (PME), one of the pioneers in aluminium boat building in Malaysia, specialising in building small and medium size aluminium high speed fast patrol boats. It is a subsidiary of the Perlis State Economic Development Corporation (PKENPs) 			
Location Plan / Land Size			<p>Location: Kuala Perlis Land Size: 33.18 ha Land Ownership: State</p> 	
Project Description	<p>A boat building and repair base is required to build and service vessels, given projected traffic increases from deep sea fishing vessels, fish product collection vessels and barter trade vessels.</p> <p>For the purposes of combating soil erosion and shoreline protection, land reclamation had been planned for eight parcels between Kuala Perlis and Kuala Sanglang, in 2 phases; however the technical team had determined that such measures would upset the hydrology and require further reclamation at other sites along the coast.</p> <p>Given that Perlis Marine Engineering Sdn Bhd's plan includes assisting Bangladesh with shipbuilding, it is anticipated that premises bigger than its current 12 acre site slightly inland up Perlis river may not be adequate.</p> <p>Proposed site plan above right shows existing area (red circle) of 4.87 ha (12 acres) and Integrated Maritime (dotted red oval) of 30.44 ha (75.2 acres) which would be adequate for future expansion and allow further area for boat park upon river rehabilitation.</p>			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Depiction</p>	<p>PME Location</p> <p>PME Products & Facilities</p>																	
<p>Project Benchmark</p>	<p>NA</p>																	
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td>UPEN</td> <td>Land allocation, monitoring</td> </tr> <tr> <td rowspan="2">Other Agencies</td> <td>PKNPs</td> <td>Approve business plan</td> </tr> <tr> <td>Marine Department, MOT and MMEA</td> <td>Confirm sea channels</td> </tr> <tr> <td>Private Sector</td> <td>PME</td> <td>Business plan</td> </tr> </tbody> </table>	Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	UPEN	Land allocation, monitoring	Other Agencies	PKNPs	Approve business plan	Marine Department, MOT and MMEA	Confirm sea channels	Private Sector	PME	Business plan
Role and Responsibilities of Implementing Body																		
Description	Name	Role & Responsibilities																
Main Agencies	UPEN	Land allocation, monitoring																
Other Agencies	PKNPs	Approve business plan																
	Marine Department, MOT and MMEA	Confirm sea channels																
Private Sector	PME	Business plan																

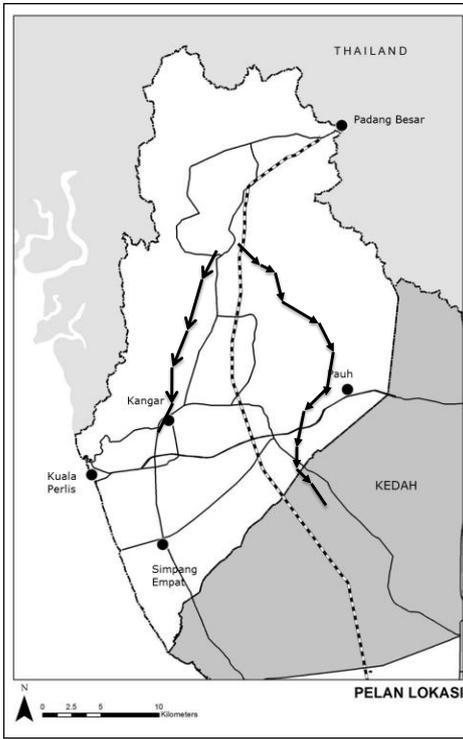
Programme Costing Assumptions	Description of the Programme Costing					
		Description	No	Price/unit	Total	
Revenue Streams		PDRM Strike Craft	15	380,000	5,700,000	
		PDRM Patrol Craft	11	4,200,000	46,200,000	
		MMEA Fast Patrol Craft	1	6,900,000	6,900,000	
		Bangladesh Strike Craft	4	380,000	1,520,000	
		Bangladesh Patrol Craft	2	4,200,000	8,400,000	
		Bangladesh Fast Patrol Craft	4	6,900,000	27,600,000	
		Fishing boats 50m 10knots 1.5m draft - 5,825 licensed fishermen operating 579 inboard and 296 outboard boats suggesting potential conversion of the 296 outboards	300	500,000	150,000,000	
		Langkawi and Tarutao motor launch	60	500,000	30,000,000	
		Langkawi and Tarutao water taxis	20	380,000	7,600,000	
		Total	417	-	283,920,000	
		Years	10	-	28,596,259	
		Investment (acres)	20	60,000,000	8,941,769	
		Margin to cover OPEX and return	69%	-	19,654,490	
	Operating Expenditures Description	Materials (30%) and manpower/related RM3,000/month				
	Capital Expenditures Description	Yard – RM60 million for 20 acres. NGVtech began in 1999 with 10 acres went up to 12 acres then 60 by 2008.				
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4	
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030	
	Production (MT/year)	42 boats	-	-	-	
	Estimated CAPEX (RM million)	18.25	726.6	5.0	-	
	Estimated OPEX (RM million)	0.3	-	-	-	
Investments / Funding Sources	Investments (RM million)					
		Public Sector	Private Sector			
			Private Sector	Local (%)	Foreign (%)	
	Development Expenditure / CAPEX	16.59	733.3	100	0	
Operating Expenditure	0.3	-	-	-		

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementation Action Plan	Initiator	Actions	Year																																																																																										
	UPEN	Confirm reclamation, allocate land	2011/ 2012																																																																																										
	Marine Department, MOT	Confirm sea channels	2012																																																																																										
	PME	Business plan	2012																																																																																										
	PKNPs	Approval of business plan, funding	2012																																																																																										
Implementation Timeline	<table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="8">Phase 1 (10M P)</th> <th colspan="8">Phase 2 (11M P)</th> </tr> <tr> <th colspan="2">2012</th> <th colspan="2">2013</th> <th colspan="2">2014</th> <th colspan="2">2015</th> <th colspan="2">2016</th> <th colspan="2">2017</th> <th colspan="2">2018</th> <th colspan="2">2019</th> <th colspan="2">2020</th> </tr> <tr> <th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <div style="display: flex; align-items: flex-start;"> <div style="width: 20px; height: 20px; background-color: red; margin-right: 5px;"></div> <div>Feasibility Study/Approval/Planning : Milestone- Project Launch</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 20px; height: 20px; background-color: orange; margin-right: 5px;"></div> <div>Design/Land Acquisition : Milestone- Project Ground-breaking</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 20px; height: 20px; background-color: yellow; margin-right: 5px;"></div> <div>Infrastructure/Incubation : Milestone- Infra-to-site completion</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 20px; height: 20px; background-color: lightgreen; margin-right: 5px;"></div> <div>Construction/Project Development : Milestone- Project Completion</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 20px; height: 20px; background-color: grey; margin-right: 5px;"></div> <div>Revenue Start</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 5px;"> <div style="width: 20px; height: 20px; background-color: black; margin-right: 5px;"></div> <div>Peak Production / Revenue/Investment</div> </div>																Phase 1 (10M P)								Phase 2 (11M P)								2012		2013		2014		2015		2016		2017		2018		2019		2020		Q4	Q1	Q2	Q3	Q4																																						
Phase 1 (10M P)								Phase 2 (11M P)																																																																																					
2012		2013		2014		2015		2016		2017		2018		2019		2020																																																																													
Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																																																																									
Impact & Specific KPIs	<table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>GDP (RM million)</th> <th>Total Investment (RM million)</th> <th>Jobs Created</th> <th>Other KPIs</th> </tr> </thead> <tbody> <tr> <td>75</td> <td>750</td> <td>250</td> <td>NA</td> </tr> </tbody> </table>	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs	75	750	250	NA																																																																																				
GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																																																																																										
75	750	250	NA																																																																																										
Drivers & Enablers	<ul style="list-style-type: none"> ISO certification Contracts from Malaysian port authorities to further strengthen track record and order book MoU with Japan on deep sea fishing and cooperation on ship-building and repair Big brother Technical Operational Service agreement with NGV Tech/ DK Yachts Maritime academy for ship-building as well as seafaring skills 																																																																																												
Early Steps Necessary	<ul style="list-style-type: none"> Confirmation of reclamation and land allocation MoUs Contracts 																																																																																												
Possible Barriers & Threats	<ul style="list-style-type: none"> Thailand's new port in Pak Bara, Satun is still being studied by the Thai Government and may be built in Myanmar instead. 																																																																																												
Preliminary Business Model	<ul style="list-style-type: none"> MoUs/Joint Ventures 																																																																																												

I. ENVIRONMENT & UTILITIES

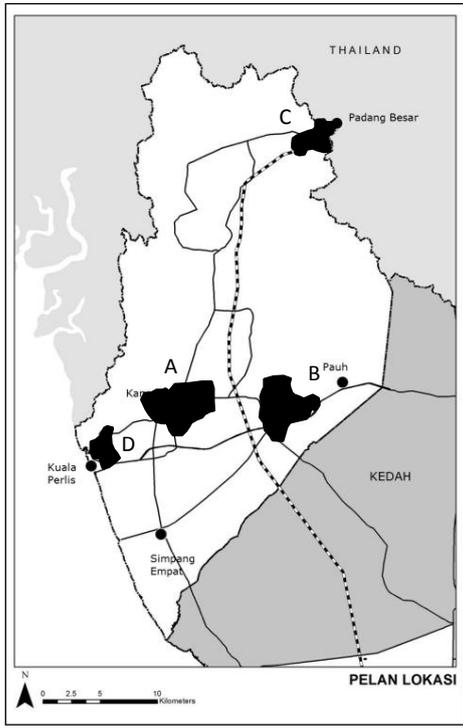
Strategic Project Brief [ENVIRONMENT & UTILITIES]

Project Code	EU1	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Flood Mitigation Scheme			
Project Description	Construction of diversion channel from Timah Tasoh dam by-passing the town areas to discharge excess water directly to the sea. The Western by-pass discharges into a canal in Kedah and then onwards to Selat Melaka.			
Issues	Floods especially in Arau, Pauh and Kangar due to the lack of an adequate drainage system and lack of diversion channels to cater for flows from the dam			
Rationale	<ul style="list-style-type: none"> Parts of Perlis including the major townships of Kangar and Arau, are subject to flooding Existing Timah Tasoh Dam provides water supply, irrigation, as well as flood control. There is a need to construct diversions to channel excess flood waters from the dam to bypass the town of Kangar. 			
Existing Demand & Current Supply	The West Diversion has been approved for construction. There is a need to construct the East Diversion			
Location Plan / Land Size			<p>Location: Timah Tasoh to Arau Channel (refer Plan)</p> <p>Land Size: 270 hectares</p> <p>Land Ownership: Diversion channel alignment needs to be determined before this can be included</p> <p>→ Proposed West Diversion Channel</p> <p>→ Proposed East Diversion Channel</p>	
Project Benchmark	<ul style="list-style-type: none"> SMART tunnel, KL Sg. Semarak/Kemasin diversion channel in Kelantan 			
Implementing Agencies	Role and Responsibilities of Implementing Body			
	Description	Name	Role & Responsibilities	
	Main Agencies	JPS	Implementation	
	Other Agencies	n/a	n/a	
Private Sector	n/a	n/a		

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																																
	Estimated CAPEX (RM)	275.0	275.0	-	-																																
Estimated OPEX (RM)	0.25	-	-	-																																	
Investments / Funding Sources	Investments (RM million)																																				
		Public Sector	Private Sector																																		
			Private Sector	Local (%)	Foreign (%)																																
	Development Expenditure / CAPEX	550.0	-	-	-																																
	Operating Expenditure	0.25	-	-	-																																
Implementation Action Plan	Initiator	Actions			Year																																
	JPS/State	Feasibility Studies			2012																																
	JPS	Feasibility and Design Works			2013																																
	JPS	Preliminary Construction			2016																																
Implementation Timeline	Phase 1 (10 M P)																Phase 2 (11 M P)																				
	2012	2013				2014				2015				2016				2017				2018				2019				2020							
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
																	<ul style="list-style-type: none"> Feasibility Study/Approval/Planning : Milestone- Project Launch Design/Land Acquisition : Milestone- Project Ground-breaking Infrastructure/Incubation : Milestone- Infra-to-site completion Construction/Project Development : Milestone- Project Completion Revenue Start Peak Production / Revenue/Investment 																				
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																																	
	25	550	25	Flood Areas reduced																																	
Early Steps Necessary	Feasibility Studies, EIA																																				
Possible Barriers & Threats	Funding, Land Acquisition																																				

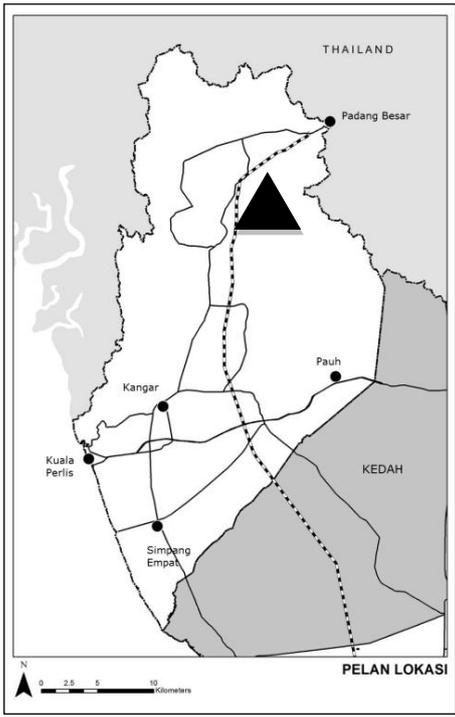
Strategic Project Brief [ENVIRONMENT & UTILITIES]

Project Code	EU2	New Project?	Existing?	Quick Win?
		N	Y	N
Project Name	Central Sewerage System			
Project Description	<ul style="list-style-type: none"> Construct central sewerage systems in Kuala Perlis, Arau/ Pauh and Padang Besar/ Chuping 			
Issues	<ul style="list-style-type: none"> Poor river quality, environmental concerns 			
Rationale	<ul style="list-style-type: none"> Improve environmental quality by treating effluent from sewerage systems Existing central sewerage system in Kangar has an existing capacity of 30,000 PE to be expanded to a future capacity of 110,000 PE Need to provide central sewerage systems in other areas 			
Existing Demand & Current Supply	There is a central sewerage systems in Kangar but there is no central systems in other areas			
Location Plan / Land Size			Location and Land Size: <p>A. Kangar – Wang Bintong (existing) Proposed expansion of the catchment zone centralized sewerage systems is in the Kangar City. The centralized sewerage Kangar to upgrade from 30,000 P E to 50,000 PE towards 2020</p> <p>B. Arau – 2.3 acres Estimated capacity 25,000 PE. The sewerage site which centralized in Arau/Pauh</p> <p>C. Padang Besar -2.3 acres Estimated capacity 25,000 PE. The sewerage site which centralized in Padang Besar</p> <p>D. Kuala Perlis – 3.2 acres Estimated capacity 30,000 PE</p>	
Depiction	n/a			
Project Benchmark	Central Sewerage Systems in KL and Penang.			
Implementing Agencies	Role and Responsibilities of Implementing Body			
	Description	Name	Role & Responsibilities	
	Main Agencies	IWK/JPP	Implementation	
	Other Agencies	n/a	n/a	
Private Sector	n/a	n/a		
Programme Costing Assumptions	Description of the Programme Costing			
	Revenue Streams	n/a		
	Operating Expenditures Description	n/a		

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	Capital Expenditures Description	Sewerage plant and sewerage pipe reticulation																																																																																										
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																																																																																							
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																																																																																							
	Estimated CAPEX (RM million)	-	160.0	-	-																																																																																							
	Estimated OPEX (RM million)	0.25	-	-	-																																																																																							
Investments / Funding Sources	Investments (RM million)																																																																																											
		Public Sector	Private Sector																																																																																									
			Private Sector	Local (%)	Foreign (%)																																																																																							
	Development Expenditure / CAPEX	160.0	-	-	-																																																																																							
	Operating Expenditure	0.25	-	-	-																																																																																							
Implementation Action Plan	Initiator	Actions			Year																																																																																							
	IWK	Feasibility Studies, Preliminary Engineering			2015																																																																																							
	IWK/JPP	Construction			2016																																																																																							
	IWK/JPP	Construction			2017																																																																																							
Implementation Timeline	<table border="1"> <thead> <tr> <th colspan="10">Phase 1 (10M P)</th> <th colspan="6">Phase 2 (11M P)</th> </tr> <tr> <th colspan="2">2012</th> <th colspan="2">2013</th> <th colspan="2">2014</th> <th colspan="2">2015</th> <th colspan="2">2016</th> <th colspan="2">2017</th> <th colspan="2">2018</th> <th colspan="2">2019</th> <th colspan="2">2020</th> </tr> <tr> <th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th><th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> </thead> <tbody> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>																Phase 1 (10M P)										Phase 2 (11M P)						2012		2013		2014		2015		2016		2017		2018		2019		2020		Q4	Q1	Q2	Q3	Q4																																					
	Phase 1 (10M P)										Phase 2 (11M P)																																																																																	
2012		2013		2014		2015		2016		2017		2018		2019		2020																																																																												
Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																																																																								
	<ul style="list-style-type: none"> Feasibility Study/Approval/Planning : Milestone- Project Launch Design/Land Acquisition : Milestone- Project Ground-breaking Infrastructure/Incubation : Milestone- Infra-to-site completion Construction/Project Development : Milestone- Project Completion Revenue Start Peak Production / Revenue/Investment 																																																																																											
Impact & Specific KPIs	GD (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																																																																																								
	-	160	-	Number of Connected Premises																																																																																								
Early Steps Necessary	Feasibility Studies, EIA																																																																																											
Possible Barriers & Threats	Funding																																																																																											

Strategic Project Brief [ENVIRONMENT & UTILITIES]

Project Code	EU3	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Solid Waste Disposal Facilities			
Project Description	Construct new Sanitary Landfill at Rimba Mas			
Issues	Disposal of solid waste disposal at the existing dump site is not satisfactory and poses an environmental hazard			
Rationale	<ul style="list-style-type: none"> • Improve current practice of dumping to a sanitary landfill • Existing solid waste is disposed in a dump site within the state. These dumpsites do not meet sanitary landfill standards. 			
Existing Demand & Current Supply	There is no existing sanitary landfill in Perlis			
Location Plan / Land Size			Location: Rimba Mas, Mukim Titi Tinggi Land Size: 30 ha	
Project Benchmark	Sanitary landfill in Selangor			
Implementing Agencies	Role and Responsibilities of Implementing Body			
	Description	Name		Role & Responsibilities
	Main Agencies	KPKT		Implementation
	Other Agencies	n/a		n/a
	Private Sector	n/a		n/a

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																												
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																												
	Production (MT/year)	-	-	-	-																												
	Estimated CAPEX (RM million)	120.0	-	-	-																												
	Estimated OPEX (RM million)	0.25	-	-	-																												
Investments / Funding Sources	Investments (RM million)																																
		Public Sector	Private Sector																														
			Private Sector	Local (%)	Foreign (%)																												
	Development Expenditure / CAPEX	120.0	-	-	-																												
	Operating Expenditure	0.25	-	-	-																												
Implementation Action Plan	Initiator	Actions			Year																												
	KPKT	EIA, Preliminary Engineering			2012																												
	KPKT	Construction – Initial cells			2014																												
	KPKT	Construction – by phases			2015																												
	KPKT	Operations			>2015																												
Implementation Timeline	Phase 1 (10M P)																Phase 2 (11M P)																
	2012	2013				2014				2015				2016				2017				2018				2019				2020			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
													</																				

Strategic Project Brief [ENVIRONMENT & UTILITIES]

Project Code	EU4	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Natural Gas Service Area Extension			
Project Description	Construct new gas pipelines to areas where there is demand for natural gas. There are potential consumers located in the Chuping area. There will be new industrial areas in Chuping/ Padang Besar, Kuala Perlis and Arau/ Pauh Putra.			
Issues	Provide natural gas to additional industrial areas			
Rationale	<ul style="list-style-type: none"> Provide gas supplies to support industrial development Currently natural gas is supplied to an existing IPP in Kuala Sanglang via high pressure pipes. In addition there is a city gate at Tambung Tulang for low and medium pressure reticulation. An existing industrial plant consumes 700,000 cu. meters per month of natural gas, which is piped from the city gate. 			
Existing Demand & Current Supply	700,000 cubic meters per month			
Location Plan / Land Size			<p>Location: Chuping, Jejawi, Pauh Land Size: n/a Land Ownership:</p> <p> Proposed Extension of Gas Supply</p>	
Depiction	n/a			
Project Benchmark	Gas reticulation systems in other industrial estates e.g. Shah Alam, Selangor and Gebeng, Pahang			
Implementing Agencies	Role and Responsibilities of Implementing Body			
	Description	Name		Role & Responsibilities
	Main Agencies	Gas Malaysia Sdn Bhd (GMSB)		Implementation
	Other Agencies	n/a		n/a
Private Sector	n/a		n/a	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																													
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																													
	Estimated CAPEX (RM million)	25.0	25.0	-	-																													
Estimated OPEX (RM million)	0.25	-	-	-																														
Investments / Funding Sources	Investments (RM million)																																	
		Public Sector	Private Sector																															
			Private Sector	Local (%)	Foreign (%)																													
	Development Expenditure / CAPEX	50.0	-	-	-																													
Operating Expenditure	0.25	-	-	-																														
Implementation Action Plan	Initiator	Actions			Year																													
	GMSB	Feasibility Studies, Preliminary Engineering			2012																													
	GMSB	Construction- Stage 1			2013																													
	GMSB	Construction – Stage 2			2016																													
	GMSB	Operations			>2015																													
Implementation Timelines	Phase 1 (10M P)																Phase 2 (11M P)																	
	2012	2013				2014				2015				2016				2017				2018				2019				2020				
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	Feasibility Study/Approval/Planning : Milestone- Project Launch																Design/Land Acquisition : Milestone- Project Ground-breaking																	
	Infrastructure/Incubation : Milestone- Infra-to-site completion																Construction/Project Development : Milestone- Project Completion																	
	Revenue Start																Peak Production / Revenue/Investment																	
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																														
	-	50	-	n/a																														
Early Steps Necessary	Preliminary Engineering																																	
Possible Barriers & Threats	Scarcity of Gas Supplies																																	

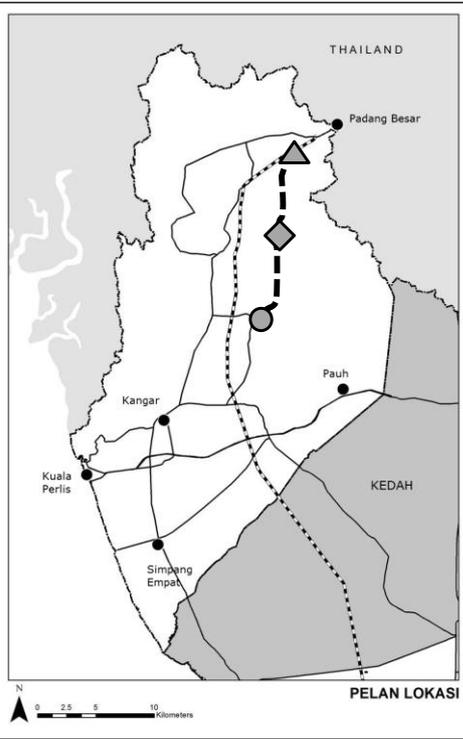
Strategic Project Brief [ENVIRONMENT & UTILITIES]

Project Code	EU5	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Water Supply System			
Project Description	<ul style="list-style-type: none"> Construct additional capacity for water treatment plants after year 2012 in Timah Tasoh and Arau (allow for additional 130 MLD TOTAL) Improve existing distribution system 			
Issues	<ul style="list-style-type: none"> Limited water capacity of water treatment plants 			
Rationale	<ul style="list-style-type: none"> Increase water supply capacities to meet projected demands Existing capacities of water treatment plants is only sufficient to meet present demands but will not be able to meet future demand 			
Existing Demand & Current Supply	Existing design capacity of water treatment plant is 228 MLD and demand is approximately 200 MGD			
Location Plan / Land Size			<p>Location: Timah Tasoh Dam and Arau</p> <p>Land Size:</p> <ul style="list-style-type: none"> Timah Tasoh – 2 hectares Arau – 10 hectares <p>Land Ownership:</p> <ul style="list-style-type: none"> ○ Timah Tasoh Water Treatment Plant □ Arau Phase 1,2,3,4 WTP 	
Implementing Agencies	Role and Responsibilities of Implementing Body			
	Description	Name	Role & Responsibilities	
	Main Agencies	JKR Bahagian Air	Implementation	
	Other Agencies	Pengurusan Asset Air Berhad (PAAB)	Funding	
	Private Sector	n/a	n/a	
Programme Costing Assumptions	Description of the Programme Costing			
	Revenue Streams	n/a		
	Operating Expenditures Description	n/a		

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

	Capital Expenditures Description	200 million																																
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																													
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																													
	Production (MT/year)	-	-	-	-																													
	Estimated CAPEX (RM million)	200.0	-	-	-																													
	Estimated OPEX (RM million)	0.25	-	-	-																													
Investments / Funding Sources	Investments (RM million)																																	
		Public Sector	Private Sector																															
			Private Sector	Local (%)	Foreign (%)																													
	Development Expenditure / CAPEX	200.0	-	-	-																													
Operating Expenditure	0.25	-	-	-																														
Implementation Action Plan	Initiator	Actions			Year																													
	JKR	Feasibility Studies, Preliminary Engineering			2012																													
	JKR/PAAB	Construction			2013																													
	JKR/PAAB	Construction			2016																													
	JKR/PAAB	Operations			>2016																													
Implementation Timeline	Phase 1 (10MP)				Phase 2 (11MP)																													
	2012	2013			2014				2015				2016				2017				2018				2019				2020					
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	<div style="display: flex; flex-direction: column; gap: 5px;"> <div style="display: flex; align-items: center;"> Feasibility Study/Approval/Planning : Milestone- Project Launch</div> <div style="display: flex; align-items: center;"> Design/Land Acquisition : Milestone- Project Ground-breaking</div> <div style="display: flex; align-items: center;"> Infrastructure/Incubation : Milestone- Infra-to-site completion</div> <div style="display: flex; align-items: center;"> Construction/Project Development : Milestone- Project Completion</div> <div style="display: flex; align-items: center;"> Revenue Start</div> <div style="display: flex; align-items: center;"> Peak Production / Revenue/Investment</div> </div>																																	
	Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																													
		-	200	-	Number of Connected Premises																													
	Early Steps Necessary	Feasibility Studies, Preliminary Engineering																																
	Possible Barriers & Threats	Funding																																
	Other Related Projects	Reduce Non-Revenue Water in Perlis																																

Strategic Project Brief [ENVIRONMENT & UTILITIES]

Project Code	EU6	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Electricity Distribution System			
Project Description	<ul style="list-style-type: none"> Existing 33 kV transmission line from Chuping to Padang Besar to be upgraded to 132 kV Existing 132/33kV Main Intake Sub-Station at Chuping to be upgraded New 132/33/11kV Main Intake substation at Padang Besar to replace existing distribution sub-station 			
Issues	<ul style="list-style-type: none"> Additional Electrical Demand expected in Chuping and Padang Besar due to development of industrial areas 			
Rationale	<ul style="list-style-type: none"> Improve electrical distribution system by upgrading existing 33kV transmission lines and sub-stations. Construct Main Intake Sub-stations at Chuping and Padang Besar. 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> Existing 33 kV transmission line from Chuping to Padang Besar to be upgraded to 132 kV Existing 132/33kV Main Intake Sub-Station at Chuping to be upgraded New 132/33/11kV Main Intake substation at Padang Besar to replace existing distribution sub-station 			
Location Plan / Land Size			<p>Location: Chuping – Padang Besar</p> <p>Land Size: -</p> <p>132/33/11 kV Main Intake Substations (PMU)</p> <p>- 2 hectares (1 hectare in Chuping, 1 hectare in Padang Besar)</p> <p>-100 hectares for 132 kV transmission line way leave</p> <p> Proposed New Main Intake Station</p> <p> Proposed Upgrade of Existing 33kV to 132kV Transmission Line</p> <p> Proposed Upgrade of Existing Main intake Station</p>	
Project Benchmark	Existing TNB Transmission & Distribution Grid			
Implementing Agencies	Role and Responsibilities of Implementing Body			
	Description	Name		Role & Responsibilities
	Main Agencies	TNB		Implementation
	Other Agencies	Suruhanjaya Tenaga (ST)		Regulatory Body
Private Sector	n/a		n/a	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

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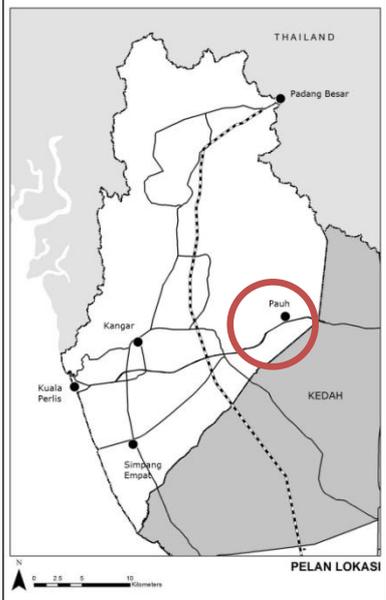
J. INFORMATION TECHNOLOGY

Strategic Project Brief [INFORMATION TECHNOLOGY]

Project Code	IT1	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Perlis MSC EduNet			
Project Description	<p>Establish a Campus Access Network in and around educational hubs and in Kangar Maya for further off campus access to online curriculum and syllabus.</p> <p>The proposed network should:</p> <ul style="list-style-type: none"> • Offer flexibility in the support of business traffic types • Provide scalability in terms of network connection speeds and bandwidth required for business applications • Ensure privacy of business-specific information traversing the network • Add minimal delay to business applications • Be available during business hours (essentially 24/7 for research) • Be future-positioned to embrace new technologies as they become pertinent to business • Be provided as a service which is governed by Service Level Agreements • Address flexibility of access (e.g. remote access and wireless connectivity) • Provide alternative backbone routes to major buildings and campuses • Provide a cost containment model <p>The network blueprint should comply with the network requirements of:</p> <ul style="list-style-type: none"> • Individual campuses, buildings, and sites within buildings that may have special requirements • The additional network services that the educational hub will offer (including wireless access) • Disaster recovery and redundancy • The Centre for High Performance Computing • The Data Centres • Storage and backup solutions • Applications • Network protocols • Business units (faculties and departments) • Student computing laboratories • Residences • Wireless access points <p>The to-be network is designed to incorporate the latest technologies; i.e.</p> <ul style="list-style-type: none"> • IP Telephony - The means to replace the existing legacy telephone network with a TCP/IP based solution. • Voice over IP (VOIP) - The means to convey traditional voice calls over a data network. • IPV6 - The preferred network addressing scheme. • Content Networking – A mechanism to improve the provision of material content to students and staff via the networked infrastructure. • IPTV - The means to have TV broadcasting done across the network and enhance the use of e-learning. <p>The proposed network design offers a number of advantages in the design:</p> <ul style="list-style-type: none"> • Ensures a strategically positioned network infrastructure. • Puts in place network infrastructure that is sufficiently reliable, flexible and cost-effective to meet current demands. • Provides a network platform and capacity for future growth. • Provides a network which supports the endeavours of ICT research community, facilitates innovative approaches to teaching and learning, and meets the communications, administrative 			

Strategic Development Plan For Perlis
Accelerating Economic the Transformation of Perlis

	<p>and support service requirements of the education pillar (Universities etc).</p> <ul style="list-style-type: none"> • Supports consistent service-level improvements in networking services across campus including off campus housing and residences in Kangar Maya. • Ensures a level of robustness required by the education user community. • Puts education hub in a position to provide the following services to its user community: <ul style="list-style-type: none"> - Increased speed to the desktop thus improving user productivity. - Enhancement in network performance through the creation of a 1Gbps backbone network. <p>This will mean that users from all over Perlis’s campuses will be able to gain faster access to centralized services such as campus email, online curriculum, study groups and blogs etc..</p> <ul style="list-style-type: none"> - Fewer users per switch mean that there will be no more bottlenecks in the network. - Enhanced reliability and availability through managed network components and degrees of redundancy. - Staff will be able to identify and resolve problems and eliminate costly downtimes on the network. - Convenience of wireless hot spots in strategic locations. - Investment protection with regards to future technologies. - Deploy VOIP or IP Telephony in the future for cost effective means of communication on and off campus
<p>Issues</p>	<p>Almost no high speed internet widely available throughout the state of Perlis</p>
<p>Rationale</p>	<ul style="list-style-type: none"> • According to TM, the extent of High Speed Broad Band (HSSB) in the State of Perlis is restricted to 60% coverage via fibre core access and backhaul via Metro E Services on demand, ADSL via Streamyx and WiFi via Streamyx backhaul access via 18 hot zones located throughout Perlis’s towns. • Despite the Malaysian Communication and Multimedia Commission (MCMC) granting 4 WiMax operator licenses for the deployment of WiMax Broadband Access services in Peninsular Malaysia, there is to date little to no coverage by any WiMax access network in the State of Perlis. • There is GSM coverage in most of the population epicentres. However, despite the accelerated growth in Mobile Internet via Mobile Standard Bearers such as 3.5 and 3G, HSPA and even throttled down to EDGE and GPRS in semi rural areas of low traffic for domestic mobile data access network coverage, LITTLE to NONE are available in the State of Perlis. This posed a challenge when testing basic Blackberry functions and that of the various Mobile Network Operators (MNOs) dongle based broadband access (USP based data access devices). • The overlapping cell coverage is testimony of extensive 2G (GSM) coverage in the state for which the same infrastructure can be used for collocation of 3G or enhanced Mobile Standard Bearers such as 4G Long Term Evolution (LTE) and WiMax provided there is sufficient incentive for the MNOs and Other Local Network Operators (OLNOs) to set up such infrastructure within the State. • This being the case, it is evidently clear that the progress to date both for ICT as per the Perlis State ICT Plan 2010-2012 and the progress of infrastructure deployment leveraging off High Speed Broad Band (HSBB) has been dismal at best in comparison to Perlis’s closest neighbours and the nation as a whole.

<p>Existing Demand & Current Supply</p>	<ul style="list-style-type: none"> • In order to create demand for the establishment of a High Speed Broadband (HSBB) network, Perlis needs to leverage on the strength of its user base for which the educational sector is a proven and logical choice in relation to demand, not only for infrastructure deployment, but services as well. • As of 2011, there are a total of 12 tertiary educational service providers/ institutions in the state of Perlis with the majority being public funded institutions (only 2 institutions are private institutions). Unlike private institutions that recruit their own students, public funded institutions receive students from the MOHE, in terms of student enrolments. There are only two institutions that are engaged in research and development (R&D) activities (UniMAP and AUCMS), and only 1 that has a degree programme in collaboration with a foreign university (AUCMS). • Existing and current supply in and around the universities and educational pillar is similar to the state-wide access which is poor to fair at best. Hence, the real opportunity to encourage broadband penetration and deployment should be focused on this pillar as a group for which within the education value chain alone exists a myriad of opportunities for broadband services and related ICT initiatives. 		
<p>Location Plan / Land Size</p>		<p>Location: Education Hub (Phase 1), State of Perlis (in Phases) Land Size: n/a Land Ownership: n/a</p>	
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>		
	<p>Description</p>	<p>Name</p>	<p>Role & Responsibilities</p>
	<p>Main Agencies</p>	<p>Universities and Colleges (UniMAP, UiTM etc), Perlis Comm, TM</p>	<p>n/a</p>
	<p>Other Agencies</p>	<p>MOHE</p>	<p>n/a</p>
	<p>Private Sector</p>	<p>Cisco</p>	<p>n/a</p>

Strategic Development Plan For Perlis
Accelerating Economic the Transformation of Perlis

Programme Costing Assumptions	Description of the Programme Costing																																
	Revenue Streams	<ul style="list-style-type: none"> Subscription Based Services Educational Content Applications and Services Advertising Revenue Share Models for Differentiated Services (Alternative Voice) 																															
	Operating Expenditures Description	<ul style="list-style-type: none"> Wages and salaries Operational Maintenance A&P 																															
	Capital Expenditures Description	<ul style="list-style-type: none"> Hardware (Switches, Routers, Racks, Servers, etc) Software (License Microsoft Licenses for Campus use) Network Cost Enablers (Bandwidth, Wireless Access Points, CPEs) Site Acquisition and Rentals Network Operating Center 																															
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																												
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																												
	Estimated CAPEX (RM million)	50.0	-	-	-																												
Estimated OPEX (RM million)	0.25	-	-	-																													
Investments / Funding Sources	Investments (RM million)																																
		Public Sector	Private Sector																														
			Private Sector	Local (%)	Foreign (%)																												
	Development Expenditure / CAPEX	50.0	-	-	-																												
Operating Expenditure	0.25	-	-	-																													
Implementation Action Plan	Initiator	Actions			Year																												
	Consultant (PAG)	Feasibility Study			2013																												
	UniMAP	Access and Right of Way to Campus			2013																												
	MOHE	Approvals			2013																												
	System Integrator	Infrastructure Deployment			2013																												
Implementation Timeline	Phase 1 (10M P)																Phase 2 (11M P)																
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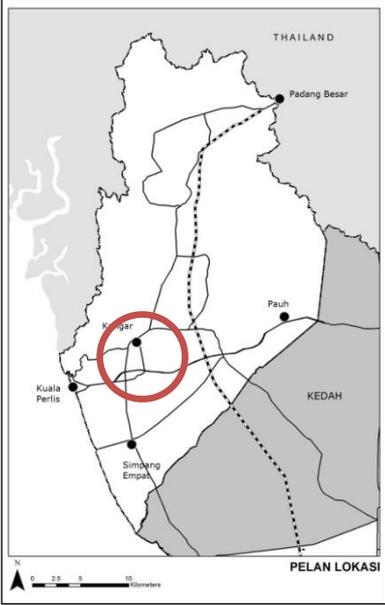
PROJECT BRIEF – INFORMATION TECHNOLOGY

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	80	50	250	n/a
Drivers & Enablers	<ul style="list-style-type: none"> • Incentives for system integrator to lead the project and to deploy infrastructure in Perlis- Subsidies for revenue earned in the State (if possible) • Participation and guarantees from educational sector (UniMAP, UiTM, all other educational facilities foreign and domestic) • Rent free land/government and campus buildings for use • Cheap Trunk and Aggregation from Incumbent (TM) • Integration into Town Planning for Urban Development and Economic Free Trade Zones 			
Early Steps Necessary	<p>The “As-Is” network: The current network environment to be analyzed and documented with respect to the number and speed of access ports, network distribution areas, cabling information, location and attributes of services accessed (servers, Internet, etc.), wireless access services and environmental conditions.</p> <p>Business Workshops: Discussions to be held with major education business units (Faculties and R&D departments) in order to identify specific business constraints, business requirements and future planned business activities. Business and ICT support requirements to be documented and confirmed as campus network design principles.</p> <p>Traffic Analysis: Traffic flows and traffic volumes to be analyzed for network concentration areas to provide baselines for expected traffic flow requirements.</p> <p>Network Design: Determination and establishment of the future campus network designed principles and layered network model, <i>i.e.</i> Core, Distribution and Access layers. Analysis of the most likely future technologies for possible implementation at education hub/campus (on and off campus) assesses the impact on the network design, equipment specification and additional requirements.</p> <p>The network design needs to sufficiently detail all aspects to port level on the access switches, including management and security components. The network design is then applied over the hub campus area with provision made for IP addressing structures, matching of specific building requirements to the network models and specification of network management requirements. Business specific requirements and data centre plans need to also be incorporated.</p> <p>Migration Plan: Finally, a phased migration plan to be developed by which the future network can be built alongside the existing network (if any) with integration between the two networks and a gradual conversion of users from the old to the new network.</p>			
Possible Barriers & Threats	Implementation Budget			
Preliminary Business Model	Revenue Share with preferred System Integrator for which an OPEX Model can be developed whereby the cost of investment for such a campus access network shall be deployed by the System Integrator company in exchange for a fixed monthly fee to be paid by the State Government, MOHE or from the participating campuses and students (bundled and deducted as part of the fees)			

Strategic Development Plan For Perlis
Accelerating Economic the Transformation of Perlis

Strategic Project Brief [INFORMATION TECHNOLOGY]

Project Code	IT2	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Perlis MSC Technology/ICT Development Programme			
Project Description	<p>An ICT-Hub can be seen as a sustainable physical centre with the necessary infrastructure to provide generic services like tele-centres, desktop publishing, business support, application development, training and information services to the community. Communities and locations with poor Internet availability are likely to be considered less favourable places for economic investments, thereby limiting enterprise development and job creation and restricting the growth of SMEs, currently seen as a key driver of economic growth.</p> <p>ICT-Hub provides a structure, which enables communities to manage their own development, by providing access to appropriate information, facilities, resources, training and services.</p> <p>The project proposed here is an emulation of the successful initiative of neighboring state Perak under KPerak for which the components of the project to be establish in and around the Perlis state capital of Kangar , the proposed areas for core and central development focus being:</p> <ul style="list-style-type: none"> • K Government: • K Economy • K Infrastructure • K Worker • Computer Security • Digital Forensic Courses • Animation • Digital Photography • Language Using ICT • K Society 			
Issues	Integrated Hub for Technology Development commensurate with qualification of MDEC compliance for MSC status and enabler for retention of youth and skills development, educational curriculum for new technology initiatives tying into student migration for specific technology courses (cross border migration from Satun and Songkhla) such as cloud computing etc.			
Rationale	<p>North South Corridor: This corridor, which stretches from Kangar in the north to Johor Bahru in the south (875km), is the most developed growth corridor in the Peninsular. It is also the most urbanised part of the country with most of the major towns and the capital cities located in this corridor.</p> <p>Focus Growth Sectors: Urban development, industrial development, knowledge-based sectors, services sector, agriculture:</p> <ul style="list-style-type: none"> • Core Industrial Belt. • Most of the knowledge-based clusters including Education Hubs. • Important food belt with four of the main granary areas. <p>Supported by a Regional Rail, North-South Expressway and three major ports (Penang, Port Klang and Tg.Pelepas) and major international airports (KLIA, Penang, Langkawi and Senai).</p> <p>Given the proximity to Thailand and the porous border, the creation of an integrated technology program in the form of Knowledge Hub in conjunction with the corridor economic zone development would create an incentive for migration of youth and student population, creation of incubator and specific labs, invigorate the educational sector and feed into strategic sectors for which the emphasis would be towards growing and sustainable trends such as cloud computing, applications development and data center development and management.</p>			

	<p>Availability of land in Kangar Maya for state of the art facilities and existing education sector clusters in Perlis as a means to create the ground zero for technology excellence development. This is commensurate with Kangar Maya Smart City initiative for which the Project Components include ICT Innovation / Incubator / Cyber Centre</p> <p>Tie up with MDEC and various agencies for their accelerated grant program for academy development and incubator labs for application development and guaranteed take up from Intel etc.</p>																	
<p>Existing Demand & Current Supply</p>	<p>No existing integrated division and/or branch of State Government or platform/ facility available in Perlis to create new growth in education and technology development with significant cross border demand from bordering Thailand towns and epicentres. Closer for aspiring Thailand technology developers to travel across to Perlis from the Southern corridors of Thailand than to Bangkok coupled with cost effective living and amenities.</p>																	
<p>Location Plan / Land Size</p>		<p>Location: Kangar Maya Smart City (Phase 1), Whole of Perlis (Phase 2)</p> <p>Land Size:</p> <p>Land Ownership:</p>																
<p>Project Benchmark</p>	<p>Kuala Perak</p>																	
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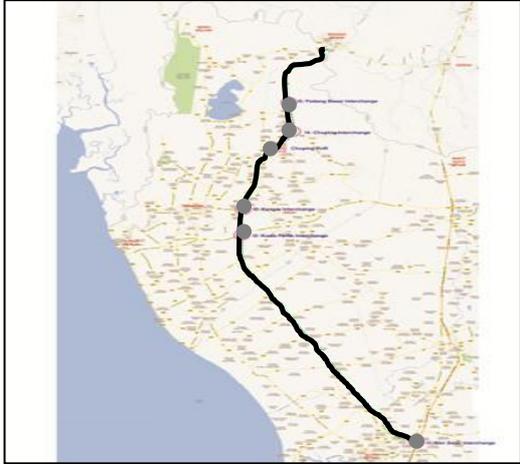
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																													
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																													
	Production (MT/year)	-	-	-	-																													
	Estimated CAPEX (RM million)	20.0	-	-	-																													
	Estimated OPEX (RM million)	0.25	-	-	-																													
Investments / Funding Sources	Investments (RM million)																																	
		Public Sector	Private Sector																															
			Private Sector	Local (%)	Foreign (%)																													
	Development Expenditure / CAPEX	14.0	6.0	100	0																													
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Implementation Timeline	Phase 1 (10M P)										Phase 2 (11M P)																							
	2012	2013			2014				2015				2016				2017				2018				2019				2020					
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	■ Feasibility Study/Approval/Planning : Milestone- Project Launch																																	
	■ Design/Land Acquisition : Milestone- Project Ground-breaking																																	
	■ Infrastructure/Incubation : Milestone- Infra-to-site completion																																	
	■ Construction/Project Development : Milestone- Project Completion																																	
	■ Revenue Start																																	
	■ Peak Production / Revenue/Investment																																	
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																														
	80	20	200	n/a																														
Drivers & Enablers	<p>There are several compelling factors for investors and ICT technopreneurs to conduct their business in MSC-Malaysia, which shall also apply in the proposed Perlis ICT Hub. Among them are:</p> <ul style="list-style-type: none"> • A comprehensive package for investors • Strong socio-economic fundamentals • Firm commitment from the Malaysian Government • Accelerated human resource training and development • Competitive costs of doing business • Ready access to the Asia-Pacific markets • Widespread usage of English • Superlative quality of life 																																	

PROJECT BRIEF – INFORMATION TECHNOLOGY

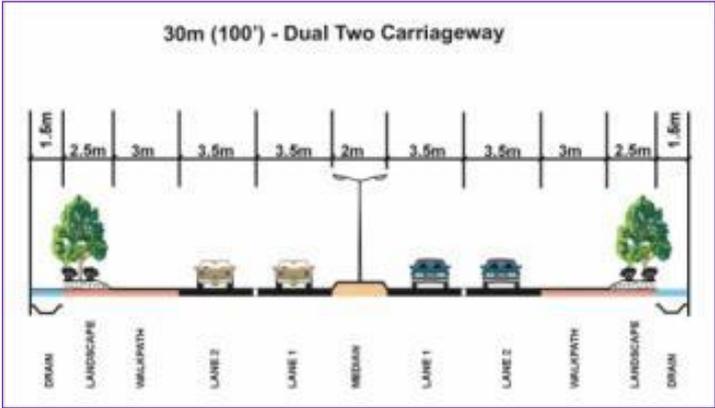
<p>Early Steps Necessary</p>	<ul style="list-style-type: none"> • Financial incentive that includes financial assistance in the form of co-investment funds by the State Government and venture capitals for value added services. • Technology incentive includes an online technology match to match make technopreneurs and technology updates. • Business assistance & marketing incentives is where the State will help to facilitate networking alliances with local SMLs, providing marketing support and through seminars and business matching. • Land Incentives will be where affordable land will be provided at attractive prices for investors especially for those in the promoted fields of creative multimedia, shared services outsourcing and education.
<p>Possible Barriers & Threats</p>	<p>Ownership, Skilled/Knowledge Resources and Funding</p>
<p>Preliminary Business Model</p>	<p>Perlis State provide free land for facilities and take equity participation and/or IP Rights (percentage) in key technology development in relation to products, applications and services with a clear exit strategy.</p> <p>Development of Skills Development Centres for which certified resources will be placed into the market.</p>
<p>Other Related Projects</p>	<p>PSDC (Small scale)</p>

K. HIGHWAY LINK

Strategic Project Brief [HIGHWAY LINK]

Project Code	HW1	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	New Expressway (Alor Setar – Kangar – Padang Besar)			
Project Description	<p>Revised North-South Expressway (NSE) will link Perlis (on expressway) to the other states of Malaysia. The proposed route is from Alor Setar (South Toll) to Padang Besar via Kangar. The length of the proposed route is approximately about 70 km.</p> <p>Along this proposed expressway stretch, interchanges and R&R areas will be proposed in order to give better accessibility options and accommodate expressway users.</p> <p>Proposed Highway Details:</p> <ul style="list-style-type: none"> • New Road (Length) = 60km • Road Upgrading (Length)= 10km • The highway is proposed to be a dual two carriageway road • Proposed no. of Interchange: 5 • Proposed no. of R&R: 1 			
Issues	No expressway connection from North-South Expressway (NSE) to Perlis.			
Rationale	Time taken from Alor Setar to Padang Besar via Federal Route 7 by car is 60 minutes, with the revised NSE Spine, the travel time by car will be reduced to 40 minutes.			
Existing Demand & Current Supply	<ul style="list-style-type: none"> • North-South Expressway (NSE) has been operating since 1994. The expressway links major cities and towns in western Peninsular Malaysia (Johor, Melaka, Negeri Sembilan, Kuala Lumpur, Selangor, Perak, Kedah and Pulau Pinang) except Perlis. • The East Coast Highway which links Kelantan, Terengganu and Pahang to the west coast of Peninsular Malaysia is also being planned, and some stretches are in operation. • Perlis unfortunately is left out of the National Expressway System. 			
Location Plan / Land Size			<p>Location: Kedah and Perlis State</p> <p>Proposed Length: 70km</p> <p>Land Ownership: Kedah and Perlis State</p> <ul style="list-style-type: none"> ● Interchange 	

Strategic Development Plan For Perlis 2012-2030
Accelerating the Economic Transformation of Perlis

<p>Depiction</p>	<ul style="list-style-type: none"> Proposed Cross Section: 															
<p>Project Benchmark</p>	 <p>The existing and proposed highway in Peninsular Malaysia</p>															
<p>Implementing Agencies</p>	<table border="1"> <thead> <tr> <th colspan="3">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th>Description</th> <th>Name</th> <th>Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td>Lembaga Lebuhraya Malaysia</td> <td>n/a</td> </tr> <tr> <td>Other Agencies</td> <td>Kementerian and Jabatan Kerja Raya</td> <td>n/a</td> </tr> <tr> <td>Private Sector</td> <td>PLUS Highway</td> <td>n/a</td> </tr> </tbody> </table>	Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	Lembaga Lebuhraya Malaysia	n/a	Other Agencies	Kementerian and Jabatan Kerja Raya	n/a	Private Sector	PLUS Highway	n/a
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Private Sector	PLUS Highway	n/a														

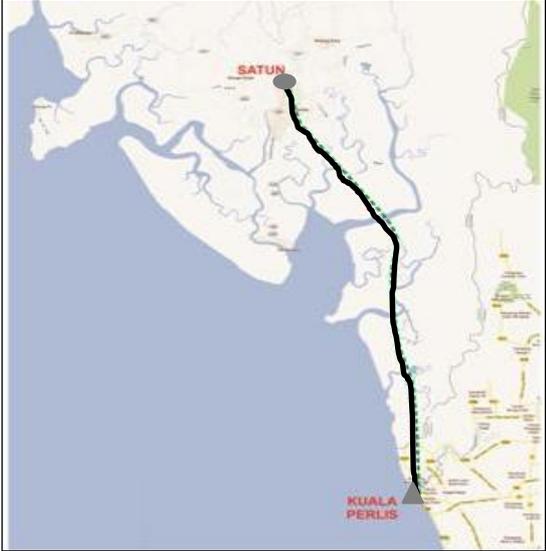
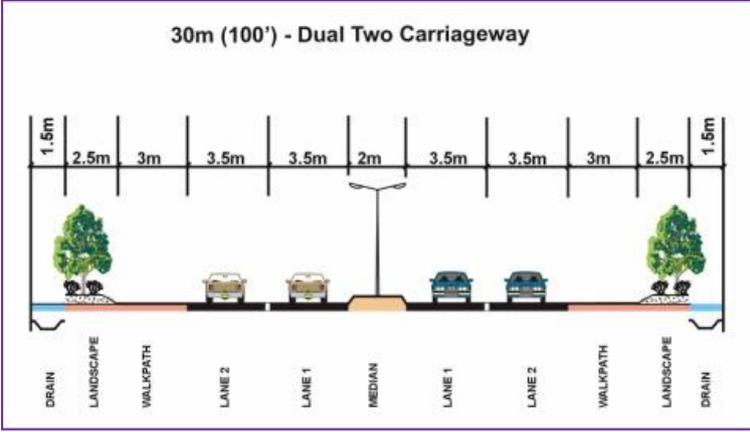
Strategic Development Plan For Perlis 2012-2030
Accelerating the Economic Transformation of Perlis

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	50	693	150	n/a
Drivers & Enablers	Traffic Volume: Increasing in future traffic volume due to future traffic growth and traffic generated by proposed new developments in Perlis			
Early Steps Necessary	Proposed highway alignment, accessibility and land availability			
Possible Barriers & Threats	Land acquisition			

Strategic Project Brief [HIGHWAY LINK]

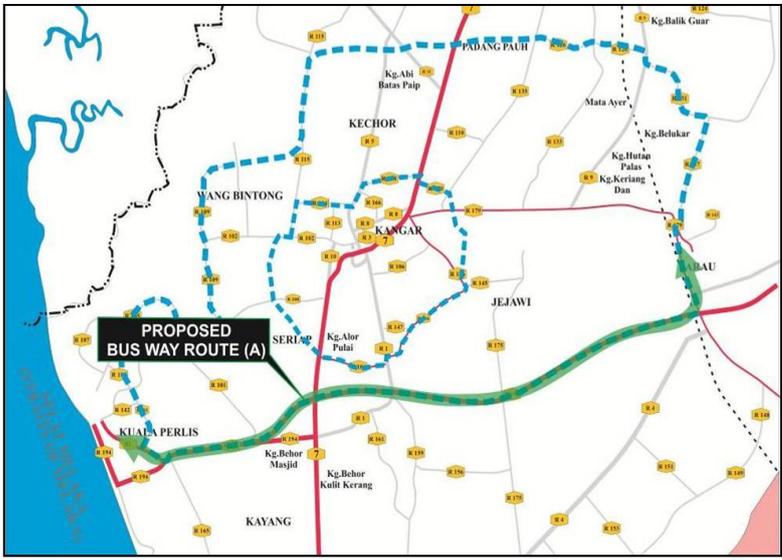
Project Code	HW2	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	New Highway (Kuala Perlis – Satun)			
Project Description	<p>This proposed coastal highway will link Kuala Perlis and Satun, with a road connection of 35km in length. This coastal expressway will be an additional direct road connection between Perlis and Southern Thailand (existing road connection: Kuala Perlis-Hat Yai and Wang Kelian-Satun). This road will enhance the connectivity between the two towns.</p> <p>Proposed Highway Details:</p> <ul style="list-style-type: none"> • New Road (Length) = 5km (in Perlis) and 25km (in Thailand) • The highway is proposed to be a dual two carriageway road • Proposed Cross Section: <div> <p style="text-align: center;">30m (100') - Dual Two Carriageway</p> <p style="text-align: center;">1.5m 2.5m 3m 3.5m 3.5m 2m 3.5m 3.5m 3m 2.5m 1.5m</p> <p style="text-align: center;">DRAIN LANDSCAPE WALKPATH LANE 2 LANE 1 MEDIAN LANE 1 LANE 2 WALKPATH LANDSCAPE DRAIN</p> </div> <p>Notes:</p> <p>Kg Wai – Bukit Putih New Road Proposal (RMK 10) (Marked as 7)</p> <p>The proposal of Kuala Perlis-Satun Highway is proposed to be part of the proposal of “Kg. Wai – Bukit Putih New Road” which has been proposed in RMK 10</p> <p>(Sources: by KKR, HPU)</p>			
Issues	No direct connection from Kuala Perlis to Satun.			
Rationale	Actual length between Kuala Perlis to Satun is 35 km (about 30 min of journey time). However, there is no direct road connection between Kuala Perlis and Satun. The existing connection from Kuala Perlis to Satun is via Wang Kelian, which is 100km in length.			
Existing Demand & Current Supply	<ul style="list-style-type: none"> • Population of Satun is about 288,000 people. • Currently, the shortest road to Satun via Perlis state is through Wang Kelian. The existing road to Wang Kelian however, is narrow and hilly. 			

Strategic Development Plan For Perlis 2012-2030
Accelerating the Economic Transformation of Perlis

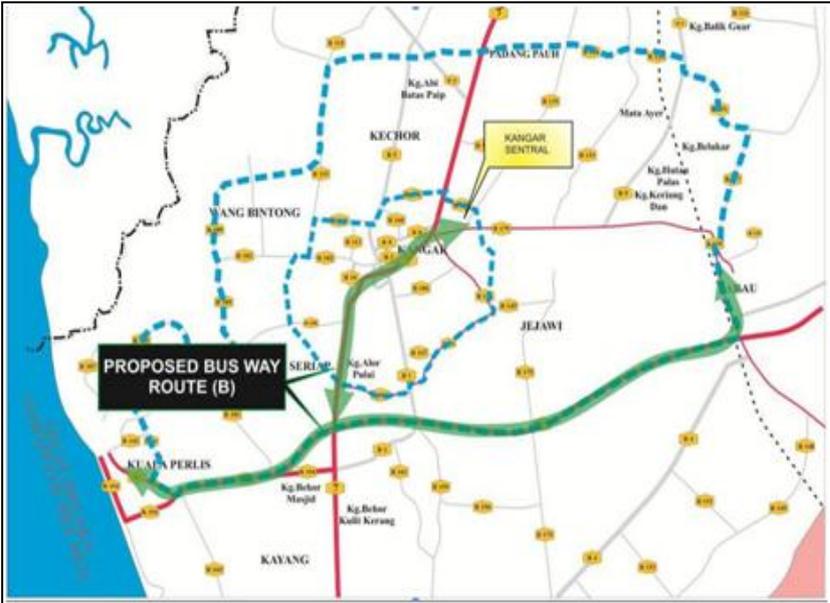
<p>Location Plan / Land Size</p>		<p>Location: Kuala Perlis (Perlis State) and Thailand</p> <p>Proposed Length: 35 km; 5km (in Perlis) and 30km (in Thailand)</p> <p>Land Ownership: Perlis State and Thailand</p> <p>● Satun ▲ Kuala Perlis</p>																							
<p>Depiction</p>	<ul style="list-style-type: none"> Proposed Cross Section: 																								
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L. URBAN TRANSPORT

Strategic Project Brief [URBAN TRANSPORT]

Project Code	UT1	New Project?	Existing?	Quick Win?
		Y	N	Y
Project Name	Bus Rapid Transit (Arau – Kuala Perlis – Kangar)			
Project Description	<p>The bus way provides a dedicated track for use by buses. Bus way are either separate roadways or are part of road way but segregated from it, normally by kerbs. One way bus ways are typically 6.0 metres wide to allow for overtaking disabled (broke-down) vehicles, and two way bus ways are typically 7.3 metres wide.</p> <p>The proposed bus way is 26-kilometre long (20km of Changlun Kuala Perlis Highway & 6km of R1 and R3 road) and has 3 main stations which are at KTM Arau, the proposed Kuala Perlis (Integrated Transport Terminal) ITT and the proposed Kangar Sentral. Apart of these main stations, several stops will also be introduced to facilitate the travel demand. The main stations should also be facilitated with Park and Ride facilities.</p> <p>The bus way will have two main routes; which are:</p> <ol style="list-style-type: none"> 1) <i>Route A: Direct route from KTM Arau to Kuala Perlis ITT</i> 2) <i>Route B: KTM Arau – Kangar Sentral – Kuala Perlis Route</i> 			
Issues	Absence of public transport linkages in Perlis			
Rationale	The Perlis state lacks efficient public transport links. It is proposed that a “Bus Way” be introduced. “Bus Way”, is a new transport mode, coupling the flexibility and the cost of a bus with the reliability and image of a tramway.			
Existing Demand & Current Supply	The proposed bus way will cover the Arau – Kuala Perlis – Kangar corridor. Kuala Perlis is the main access point to Langkawi (Langkawi attracts more than 300 000 tourist/month (peak period) while Arau KTM station is the closest station for people using the train to go to Langkawi as well as Kangar Town. Currently, there lacks an efficient and reliable service along the corridor. People will tend to use taxis as the mode of transport to travel between Kuala Perlis and KTM Arau Station.			
Location Plan / Land Size	<p>Location: Changlun-Kuala Perlis Highway and State Route 1 and 3 (R1 and R3)</p> <p>Proposed Length: 26-kilometre (20km of Changlun Kuala Perlis Highway & 6km of R1 and R3 road)</p> <p>Land Ownership: Perlis State</p> 			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

																
<p>Depiction</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p><i>Bus way in Jakarta, Indonesia</i></p> </div> <div style="text-align: center;">  <p><i>Bus way in Nantes, France</i></p> </div> </div>															
<p>Project Benchmark</p>	<p>Trans Jakarta was built to provide a fast, comfortable, and affordable mass transportation system. The buses were given lanes restricted to other traffic and separated by concrete blocks on the streets that became part of the bus way routes</p>															
<p>Implementing Agencies</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: center;">Role and Responsibilities of Implementing Body</th> </tr> <tr> <th style="width: 30%;">Description</th> <th style="width: 40%;">Name</th> <th style="width: 30%;">Role & Responsibilities</th> </tr> </thead> <tbody> <tr> <td>Main Agencies</td> <td>Perlis State Government</td> <td>n/a</td> </tr> <tr> <td>Other Agencies</td> <td>Majlis Perbandaran Kangar</td> <td>n/a</td> </tr> <tr> <td>Private Sector</td> <td>Any Private Bus Operator (eg. Metro Bus)</td> <td>n/a</td> </tr> </tbody> </table>	Role and Responsibilities of Implementing Body			Description	Name	Role & Responsibilities	Main Agencies	Perlis State Government	n/a	Other Agencies	Majlis Perbandaran Kangar	n/a	Private Sector	Any Private Bus Operator (eg. Metro Bus)	n/a
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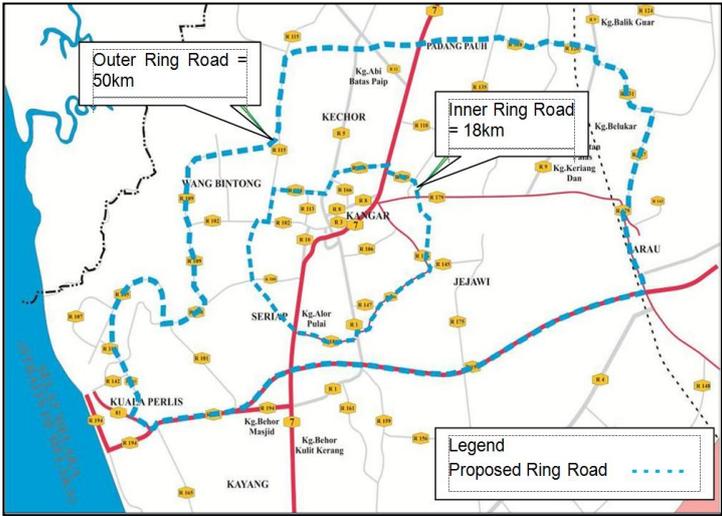
PROJECT BRIEF – URBAN TRANSPORT

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																												
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																												
	Production (MT/year)	-	-	-	-																												
	Estimated CAPEX (RM million)	18.0	-	-	-																												
	Estimated OPEX (RM million)	0.25	-	-	-																												
Investments / Funding Sources	Investments (RM million)																																
		Public Sector	Private Sector																														
			Private Sector	Local (%)	Foreign (%)																												
	Development Expenditure / CAPEX	18.0	-	-	-																												
	Operating Expenditure	0.25	-	-	-																												
Implementation Action Plan	Initiator	Actions			Year																												
	Consultant	Feasibility Study and Technical Study (including design)			2012																												
	Majlis Perbandaran Kangar	Design, Supervisions and Approval			2014																												
	Majlis Perbandaran Kangar	Construction & Implementation			2014																												
	Majlis Perbandaran Kangar	Maintenance Works			-																												
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	2012	2013				2014				2015				2016				2017				2018				2019				2020			
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	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)		Jobs Created	Other KPIs																												
	5	18		50	n/a																												

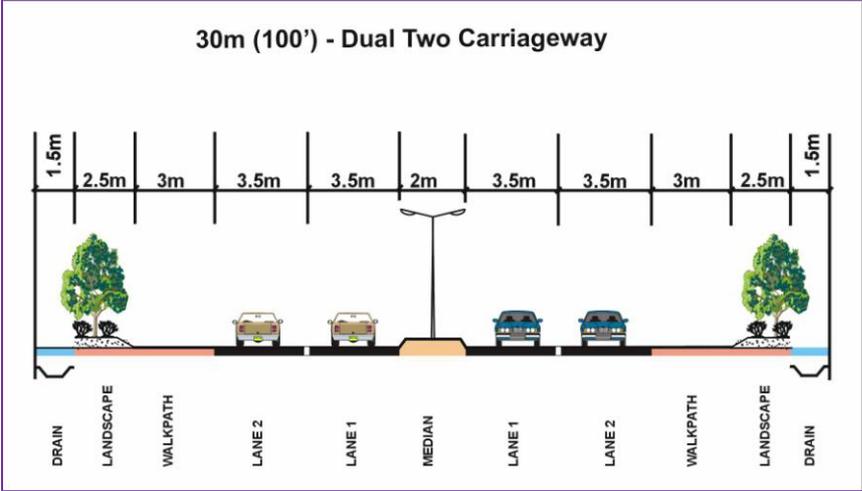
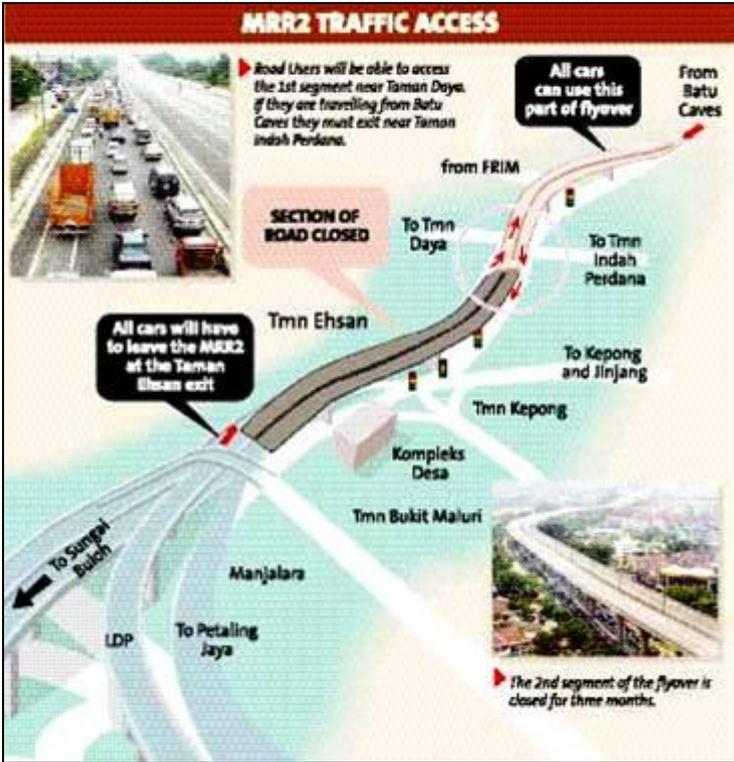
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Drivers & Enablers	Increasing traffic Volume & ridership
Early Steps Necessary	<ul style="list-style-type: none">- Bus availability- Defining the bus route (current and future linkages)
Possible Barriers & Threats	Land acquisition and bus operators

Strategic Project Brief [URBAN TRANSPORT]

Project Code	UT2	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Ring Road for Kangar			
Project Description	<p>The proposed ring road is only feasible for future traffic. However, to cater to the future traffic volume two ring roads, an 'Outer Ring Road' of about 50km and an 'Inner Ring Road' of about 18km are being proposed.</p> <ul style="list-style-type: none"> Outer Ring Road links Kuala Perlis – Pauh – Arau <ul style="list-style-type: none"> This is a new traffic proposal to be implement in future (20 years time) as the current capacity is still stable. Length: 50km The outer ring road will be a dual two carriageway road Inner Ring Road links important Area in Kangar District <ul style="list-style-type: none"> This proposal is as per proposed in Draft RTMPK (2009 -2020): Length: 18km 			
Issues	Currently, Perlis does not have a ring road			
Rationale	<ul style="list-style-type: none"> The future traffic demand which includes the traffic growth of the locality and the new traffic generated from the proposed new developments in Perlis, will impact existing roads. This ring road can overcome traffic congestion problem (in Kangar City Centre) in the future. The improved accessibility will facilitate a faster and more efficient access. With the existence of a ring road that links Kangar city centre and other districts, travel time can be reduced. 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> The existing traffic demand is still manageable (maximum of 1500 vehicles/direction/hour) The current road capacity is still stable. 			
Location Plan / Land Size				<p>Proposed Length: Outer Ring Road = 50km Inner Ring Road = 18km</p> <p>Land Ownership: Perlis State</p>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

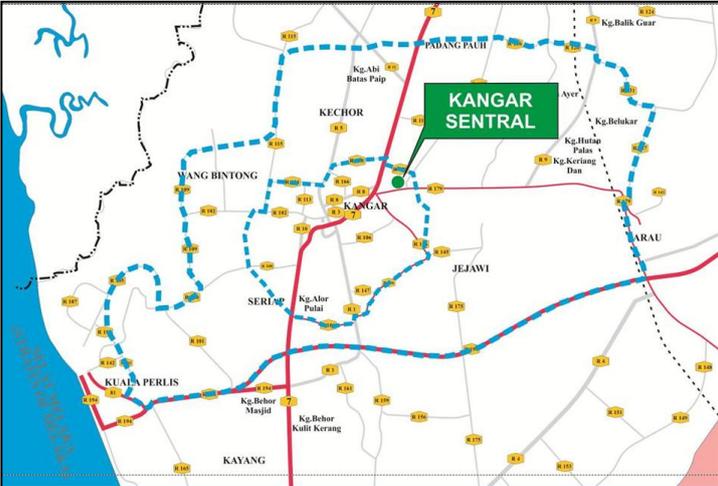
<p>Depiction</p>	<p>Proposed Cross Section</p>  <p>Middle Ring Road II (KL)</p> 															
<p>Project Benchmark</p>	<p>Kuala Lumpur Middle Ring Road 2 or MRR2 (also known as Kuala Lumpur Middle Ring Road 2 Scheme), is a ring road connecting neighborhoods near the boundary of Federal Territory of Kuala Lumpur and Selangor. MRR2 caters for approximately 160,000 vehicles/day and is a critical the traffic dispersal scheme of Klang Valley. To implement the ring roads for Kangar, a detailed study is needed to locate the best places for interchanges and flyovers.</p>															
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Programme Costing Assumptions	Description of the Programme Costing																																			
	Revenue Streams	n/a																																		
	Operating Expenditures Description	<ul style="list-style-type: none"> Maintenance of road 																																		
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																															
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																															
	Estimated CAPEX (RM million)	10.0	375.0	-	-																															
Estimated OPEX (RM million)	0.25	-	-	-																																
Investments / Funding Sources	Investments (RM million)																																			
		Public Sector	Private Sector																																	
			Private Sector	Local (%)	Foreign (%)																															
	Development Expenditure / CAPEX	385.0	-	-	-																															
Operating Expenditure	0.25	-	-	-																																
Implementation Action Plan	Initiator		Actions		Year																															
	Consultant		Feasibility Study and Technical Study (including design)		2017																															
	Majlis Perbandaran Kangar		Design, Supervisions and Approval		2017																															
	Majlis Perbandaran Kangar		Construction & Implementation		2020																															
	Majlis Perbandaran Kangar		Maintenance Works		-																															
Implementation Timeline	Phase 1 (10M P)												Phase 2 (11M P)																							
	2012				2013				2014				2015				2016				2017				2018				2019				2020			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
[Red]		[Orange]		[Yellow]		[Green]		[Grey]		[Black]																										
Feasibility Study/Approval/Planning : Milestone- Project Launch		Design/Land Acquisition : Milestone- Project Ground-breaking		Infrastructure/Incubation : Milestone- Infra-to-site completion		Construction/Project Development : Milestone- Project Completion		Revenue Start		Peak Production/ Revenue/Investment																										

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	10	385	50	n/a
Drivers & Enablers	Increasing future traffic volume			
Early Steps Necessary	Defining the ring road alignments			
Possible Barriers & Threats	Land acquisition			

Strategic Project Brief [URBAN TRANSPORT]

Project Code	UT3	New Project?	Existing?	Quick Win?
		Y	N	N
Project Name	Integrated Transport Terminal (Kangar Sentral)			
Project Description	<p>Kangar Sentral is planned as a transportation hub, which incorporates the bus services and proposed High Speed Rail services. Kangar Sentral would act as a major dispersal hub for Kangar City Center. It will not only be a major hub for Kangar City Centre, but also help disperse people to different places. The proposed high speed rail system can work as a main line to form an extensive, nationwide distribution network using Kangar Sentral.</p> <p>Currently, there is a Express Bus Terminal located at Jalan Bukit Lagi. However, based on the 'Draf Rancangan Tempatan Majlis Perbandaran Kangar, 2009-2020', the proposed Integrated Transport Terminal will be located at Jalan Kuala Perlis – Changlun (FR7) which is quite far from Kangar City Centre. But it could be developed as a second public transport terminal for Kangar to complement the development of Kangar Maya. A good Integrated Transport Terminal, should be near Kangar City Center.</p> <p>In addition there are two more bus terminal (public transport terminal) proposed in the 'Draf Rancangan Tempatan Majlis Perbandaran Kangar, 2009-2020' which are:</p> <ul style="list-style-type: none"> a) Terminal at Kuala Perlis- for stage buses and taxis (located next to the existing express bus terminal) b) Transport Terminal at Padang Besar- Integrated bus and taxi station <p>A pedestrian network and pedestrian facilities is also essential for a transport hub.</p>			
Issues	Absence of an integrated public transport terminal in Perlis.			
Rationale	<p>Kangar is the state capital of Perlis, and needs better public transport facilities. Future traffic demand will impact the existing oad network. Therefore, a good public transport system with an integrated transport terminal should be designed to cater for this.</p>			
Existing Demand & Current Supply	<p>Currently, there is no integrated public transport terminal in Perlis. However, in Rancangan Tempatan Majlis Perbandaran Kangar (2009-2020), three new Bus Terminal have been proposed which are located at Padang Besar, Kuala Perlis and Kangar Maya. However, these bus terminals will only serve buses and taxis.</p>			
Location Plan / Land Size				<p>Proposed Area: 2ha Land Ownership: Perlis State</p>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Depiction</p>	<p><i>KL Sentral</i></p> 				
<p>Project Benchmark</p>	<p>KL Sentral</p>				
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>				
	<p>Description</p>	<p>Name</p>	<p>Role & Responsibilities</p>		
	<p>Main Agencies</p>	<p>Majlis Perbandaran Kangar</p>	<p>n/a</p>		
	<p>Other Agencies</p>	<p>n/a</p>	<p>n/a</p>		
<p>Private Sector</p>	<p>n/a</p>	<p>n/a</p>			
<p>Programme Costing Assumptions</p>	<p>Description of the Programme Costing</p>				
	<p>Revenue Streams</p>	<p>n/a</p>			
	<p>Operating Expenditures Description</p>	<p>n/a</p>			
	<p>Capital Expenditures Description</p>	<p>Land acquisition (if needed)</p>			
<p>Estimated Budget</p>	<p>Implementation Phase</p>	<p>Phase 1</p>	<p>Phase 2</p>	<p>Phase 3</p>	<p>Phase 4</p>
		<p>2012 – 2015</p>	<p>2015 – 2020</p>	<p>2021 – 2025</p>	<p>2026 - 2030</p>
	<p>Estimated CAPEX (RM million)</p>	<p>-</p>	<p>-</p>	<p>51.0</p>	<p>-</p>
	<p>Estimated OPEX (RM million)</p>	<p>-</p>	<p>0.25</p>	<p>-</p>	<p>-</p>
<p>Investments / Funding Sources</p>	<p>Investments (RM million)</p>				
		<p>Public Sector</p>	<p>Private Sector</p>		
			<p>Private Sector</p>	<p>Local (%)</p>	<p>Foreign (%)</p>
	<p>Development Expenditure / CAPEX</p>	<p>51.0</p>	<p>-</p>	<p>-</p>	<p>-</p>
<p>Operating Expenditure</p>	<p>0.25</p>	<p>-</p>	<p>-</p>	<p>-</p>	

Implementation Action Plan	Initiator	Actions		Year																																																																																											
	Consultant	Feasibility Study and Technical Study (including design)		2017																																																																																											
	Majlis Perbandaran Kangar	Design, Supervisions and Approval		2018																																																																																											
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Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																																																																																											
	10	51	50	n/a																																																																																											
Early Steps Necessary	To conduct a detail feasibility study																																																																																														
Possible Barriers & Threats	Land acquisition																																																																																														

Strategic Project Brief [URBAN TRANSPORT]

Project Code	UT4	New Project?	Existing?	Quick Win?
		N	Y	Y
Project Name	Upgrading Kaki Bukit-Wang Kelian Road			
Project Description	<p>Wang Kelian has been proposed to be the new border town for Perlis. Upgrading the R15 (Wang Kelian to Satun Road) will enhance the connectivity between Perlis and Thailand.</p> <p>Proposed Road Upgrading Details:</p> <ul style="list-style-type: none"> Length: 12 km The road is proposed to be a dual carriageway road Proposed Cross Section: <div style="text-align: center;"> <p>30m (100') - Dual Two Carriageway</p> <p>Labels from left to right: DRAIN (1.5m), LANDSCAPE (2.5m), WALKPATH (3m), LANE 2 (3.5m), LANE 1 (3.5m), MEDIAN (2m), LANE 1 (3.5m), LANE 2 (3.5m), WALKPATH (3m), LANDSCAPE (2.5m), DRAIN (1.5m).</p> </div> <p><i>Note: This proposal is as per proposed in RMK 10 (KKR, HPU and JKR, Perlis State)</i></p>			
Issues	n/a			
Rationale	Wang Kelian has been proposed as the new border town for Perlis. However, the existing main road of Wang Kelian (R15) is narrow and hilly. It is only a single carriageway road, and is not well maintained.			
Existing Demand & Current Supply	Wang Kelian is a main route to Wang Prachan and Satun, Thailand via Wang Prachan Road.			
Location Plan / Land Size			<p>Proposed Length: 12km</p> <p>Land Ownership: Perlis State</p>	
Depiction	n/a			

Implementing Agencies	Role and Responsibilities of Implementing Body																																			
	Description	Name		Role & Responsibilities																																
	Main Agencies	KKR/ JKR		n/a																																
	Other Agencies	n/a		n/a																																
	Private Sector	n/a		n/a																																
Programme Costing Assumptions	Description of the Programme Costing																																			
	Revenue Streams	n/a																																		
	Operating Expenditures Description	Maintenance of road																																		
	Capital Expenditures Description	Land acquisition (if needed)																																		
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4																															
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030																															
	Estimated CAPEX (RM million)	123.0	-	-	-																															
	Estimated OPEX (RM million)	0.25	-	-	-																															
Investments / Funding Sources	Investments (RM million)																																			
		Public Sector	Private Sector																																	
			Private Sector	Local (%)	Foreign (%)																															
	Development Expenditure / CAPEX	123.0	-	-	-																															
Operating Expenditure	0.25	-	-	-																																
Implementation Action Plan	Initiator	Actions			Year																															
	Consultant, KKR and JKR	Feasibility Study and Technical Study (including design)			2012																															
	KKR and JKR	Design, Supervisions and Approval			2013																															
	KKR and JKR	Construction & Implementation			2014																															
	KKR and JKR	Maintenance Works			-																															
Implementation Timeline	Phase 1 (10 M P)																Phase 2 (11M P)																			
	2012				2013				2014				2015				2016				2017				2018				2019				2020			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
	<div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: red; margin-right: 5px;"></div> Feasibility Study/Approval/Planning : Milestone- Project Launch </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 15px; height: 15px; background-color: orange; margin-right: 5px;"></div> Design/Land Acquisition : Milestone- Project Ground-breaking </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 15px; height: 15px; background-color: yellow; margin-right: 5px;"></div> Infrastructure/Incubation : Milestone- Infra-to-site completion </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 15px; height: 15px; background-color: lightgreen; margin-right: 5px;"></div> Construction/Project Development : Milestone- Project Completion </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 15px; height: 15px; background-color: lightgrey; margin-right: 5px;"></div> Revenue Start </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="width: 15px; height: 15px; background-color: black; margin-right: 5px;"></div> Peak Production / Revenue/Investment </div>																																			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs
	10	123	25	n/a
Drivers & Enablers	<ul style="list-style-type: none"> • New Wang Kelian Border Town • Traffic Volume 			
Possible Barriers & Threats	Land acquisition			

M. URBAN DEVELOPMENT

Strategic Project Brief [URBAN DEVELOPMENT]

Project Code	UD1	New Project?	Existing?	Potential?																		
		Y	N	N																		
Project Name	Kangar Maya Smart City																					
Project Description	<p>Kangar Maya Smart City has been conceived as the heart of the urban nodes in Perlis state that are linked by a broad array of electronic, wireless and optically networking technologies, particularly for the use of Internet. Not only it is interconnected locally and globally by high-speed broadband communication infrastructure to enhance its competitive edge, it supports the creation and growing of a knowledge-based economy such as online shopping, e-commerce, electronic banking and content development.</p> <p>In this respect, the main components of the development are:</p> <table border="1"> <thead> <tr> <th>Land Use Zoning</th> <th>Area (Ha)</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Residential</td> <td>68</td> <td>24.8</td> </tr> <tr> <td>Commercial / Mix Use</td> <td>150</td> <td>54.8</td> </tr> <tr> <td>Park / Open Space</td> <td>17</td> <td>6.2</td> </tr> <tr> <td>Infrastructure / Others</td> <td>39</td> <td>14.2</td> </tr> <tr> <td>Total</td> <td>274</td> <td>100</td> </tr> </tbody> </table> <p>More specifically, the projects identified include ICT Innovation/ Incubator/ Cyber Centre, Integrated Commercial Complex/ Lifestyle Malls, Business Park, Smart Infrastructure Facilities (ICT), Inner and Outer Ring Roads, and Integrated Transportation Terminal.</p>				Land Use Zoning	Area (Ha)	%	Residential	68	24.8	Commercial / Mix Use	150	54.8	Park / Open Space	17	6.2	Infrastructure / Others	39	14.2	Total	274	100
Land Use Zoning	Area (Ha)	%																				
Residential	68	24.8																				
Commercial / Mix Use	150	54.8																				
Park / Open Space	17	6.2																				
Infrastructure / Others	39	14.2																				
Total	274	100																				
Issues	<ul style="list-style-type: none"> • Land availability for private sector development on Malay Reserve area • Identify new emerging high-impact innovative enterprises (Flagships) with growth potential • Provision of cutting-edge ICT infrastructure and attractive incentives 																					
Rationale	<ul style="list-style-type: none"> • Perlis state's aspiration in creating "Kangar Maya" that is identified in the Perlis State Structure Plan • Zoned as future commercial and institutional uses (Mini MSC Perlis) in the Draft MPK Local Plan • Move up to high-valued service sector (K-economy) in line with the nation's Economic Transformation Plan • Synergistic link with the nearby Pauh Putra Edu-City and R&D Cluster 																					
Existing Demand & Current Supply	<ul style="list-style-type: none"> • Huge demand for ICT devices, services and content from the numerous institutes of higher learning and its students but no Digital Lifestyle Mall and quality IT Office Centre available in Perlis • Provide Information Technology Outsourcing and Services in Perlis's lower cost economy to customers outside Perlis particularly principal E&E industries in Penang, i.e. done remotely in Perlis and delivered digitally online e.g. website creating, analysis and marketing services • Offer relatively small-sized and cheap office space in incubators, innovation centres and SOHO suites to young enterprising graduates from Edu-City for setting up start-ups 																					

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>	
<p>Depiction</p>	
<p>Project Benchmark</p>	<p>Cyberjaya - The Country's Intelligent City <i>Launched in 1999 with a total land area of 7,000 acres, the Cyberjaya Flagship Zone (CFZ) is a self-contained intelligent city with world-class IT infrastructure, low-density urban enterprise, as well as state-of-the-art commercial, residential, enterprise and institutional developments. Today, Cyberjaya is home to many multinational companies such as Shell, EDS, Ericsson, BMW, HSBC, DHL and many more. It is also the chosen location for the nation's top smart schools and institutions such as Limkokwing University College of Creative Technology (LUCCT), Multimedia University (MMU) and Cyberjaya University College of Medical Sciences (CUCMS).</i></p>  <p>Putrajaya <i>Putrajaya sits on a magnificent 4,931 hectares of land is strategically located within the Multimedia Super Corridor (MSC), approximately 25km south of Kuala Lumpur and 20km north of the Kuala Lumpur International Airport (KLIA). Being served by a network of highways and Express Rail Link (ERL) from KL Sentral Station to KLIA via the Putrajaya Central located in Precint 7. Being located within the Multimedia Super Corridor, and in line with the Government's e-Government initiative, Putrajaya is also developed as an intelligent city. Multimedia technologies will be in place to facilitate communication and interaction between Government offices, between the Government and the business community, as well as between the Government and local population and general public.</i></p> 

Implementing Agencies	Role and Responsibilities of Implementing Body		
	Description	Name	Role & Responsibilities
Main Agencies	Main Agencies	Joint-Venture Company (UPEN – Strategic Partner as Master Developer)	<ul style="list-style-type: none"> • Provide capital & technological know-how • Plan, design and apply for in-principle approvals including planning concepts, building plans, engineering plans, EIA etc. • Construct primary infrastructure and strategic core projects • Farm-out land parcels to sub-developers • Manage and monitor overall development • Sales and marketing
		UPEN	<ul style="list-style-type: none"> • Prepare and implement the PSDP • Promote projects identified • Source strategic partners • Facilitate approvals & incentives • Assist in constructing primary infrastructure • Monitor progress
		MPK	<ul style="list-style-type: none"> • Grant approval of layout and building plans • Provision of public amenities
		Land Office	<ul style="list-style-type: none"> • Negotiate and acquire the private-owned land • Explore land swap or joint-venture on Malay Reserve
		State technical departments including, JKR, JPS, JAS, PKENP etc.	<ul style="list-style-type: none"> • Provide advice and technical support • Appoint consultant/ contractor, where necessary
		Federal Ministries including MITI, MOSTI, MIDA, MCMC etc.	<ul style="list-style-type: none"> • Provide advice and technical support • Appoint consultant/ contractor, where necessary
		Infrastructure Concessionaire	<ul style="list-style-type: none"> • Sign concession agreement and secure plans approval • Build Ring Road and infrastructure facilities
		Sub-Developer/ Contractor	<ul style="list-style-type: none"> • Sign agreement with JV Co. • Prepare & secure detailed layout & building plans approval at project level from authorities • Construction of building and infrastructure
		Utility Service Provider particularly Telco and Internet	<ul style="list-style-type: none"> • Provide mainline utility/ infrastructure and services
		Other Agencies	Other Agencies
Land Office	<ul style="list-style-type: none"> • Negotiate and acquire the private-owned land • Explore land swap or joint-venture on Malay Reserve 		
State technical departments including, JKR, JPS, JAS, PKENP etc.	<ul style="list-style-type: none"> • Provide advice and technical support • Appoint consultant/ contractor, where necessary 		
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Programme Costing Assumptions	Description of the Programme Costing				
	Revenue Streams	<ul style="list-style-type: none"> Sale of Commercial Property Sale of Residential Property 			
	Operating Expenditures Description	<ul style="list-style-type: none"> Operation of Integrated Transport Terminal (ITT) 			
	Capital Expenditures Description	<ul style="list-style-type: none"> Land Acquisition Infrastructure & Utilities Construction of Integrated Transport Terminal (ITT) Construction of Commercial & Residential Properties 			
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	9.0	740.8	716.8	17.8
	Estimated OPEX (RM million)	3	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	15.0	1,469.3	100	0
	Operating Expenditure	3	-	0	0
Implementation Action Plan	Initiator	Actions			Year
	UPEN	Land Office to acquire the private-owned land / negotiate land swap or joint-venture on Malay Reserve land			2013
	UPEN	Prepare and implement the PSDP			2013
	UPEN	Source for a strategic partner & form JV company as Master Developer			2014
	Joint-Venture Company (Master Developer)	Source for and sign up sub-developers / infrastructure concessionaires for separate land parcels			2015
	Joint-Venture Company	Construct primary infrastructure for whole township			2016
	Sub-developers / infrastructure concessionaire	Prepare and submit LCP, planning layout plans, building plans, engineering plans, EIA, ESCP etc. at project level to competent authorities, including MPK, for approval			2016
	Sub-developers / infrastructure concessionaire	Appoint contractors to construct buildings and on-site infrastructure			
	Sub-developers	Manage, sales and marketing			
	Infrastructure concessionaire	Build, operate and transfer infrastructure facilities			

	Property owner/ Entrepreneur	Manage and operate building and associated facilities within property lot	2018																																																											
	MPK	Provide and maintain public amenities	2018																																																											
	Utility service providers	Provide and maintain infrastructure facilities and services	2020																																																											
Implementation Timeline	<table border="1"> <tr> <th colspan="6">Phase 1 (10 M P)</th> <th colspan="6">Phase 2 (11 M P)</th> </tr> <tr> <td>2012</td><td>2013</td><td>2014</td><td>2015</td><td>2016</td><td>2017</td> <td>2018</td><td>2019</td><td>2020</td><td></td><td></td><td></td> </tr> <tr> <td>Q4</td><td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td><td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td><td>Q1</td><td>Q2</td><td>Q3</td><td>Q4</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>												Phase 1 (10 M P)						Phase 2 (11 M P)						2012	2013	2014	2015	2016	2017	2018	2019	2020				Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4													
	Phase 1 (10 M P)						Phase 2 (11 M P)																																																							
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Impact & Specific KPIs	GDP (RM million)	Total Investment (RM million)	Jobs Created	Other KPIs																																																										
	250	1487	838	n/a																																																										
Drivers & Enablers	<p>Drivers</p> <ul style="list-style-type: none"> E-Commerce ICT Services Retailing ICT Goods & Gadgets <p>Enablers</p> <ul style="list-style-type: none"> State-of-the-art ICT infrastructure MSC designated status Cyber Centres 																																																													
Early Steps Necessary	<ul style="list-style-type: none"> Acquire private-owned land/ negotiate land swap or establish joint-ventures on Malay Reserve land Prepare and implement the PSDP Source for a strategic partner & form JV company as master developer 																																																													
Possible Barriers & Threats	<ul style="list-style-type: none"> Wrong business partner. Need for long-term ICT-business partner Lack of local knowledge and ICT workers Difficult to attract niche ICT investors/ operators to Perlis due to unproven track record and small local market demand 																																																													
Preliminary Business Model	<ul style="list-style-type: none"> Private-Public Partnership 																																																													
Other Related Projects	<ul style="list-style-type: none"> Pauh Putra Edu-City Padang Besar Agro Bio-tech Park Pauh Putra Technology Park 																																																													

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Project Brief [URBAN DEVELOPMENT]

Project Code	UD2	New Project?	Existing?	Potential?
		N	Y	N
Project Name	Padang Besar Border Town			
Project Description	<p>Padang Besar Town Centre serves and supports cross-border function, in terms of trade, industry, tourism and logistics. More specifically, it offers higher order of goods and services, such as fashion goods and specialist services to its surrounding population. Due to its locational advantage as a border town, it has the potential to tap its large Muslim market in south Thailand. The Perlis State Structure Plan has positioned Padang Besar as a major Settlement Centre. In addition, a RKK has been prepared to create a vibrant, exciting and thriving town centre.</p> <p>To realise the full potential of Padang Besar Border Town, there is an urgent to strengthen and rejuvenate it. As such, the following development projects have been proposed for the Padang Besar area, namely:-</p> <ul style="list-style-type: none"> • Wholesale & Retail Zone in Padang Besar Border Town, including Border Wholesale Centre, International Business Hub, shopping street & mall, ICT facilities, Integrated Transport Terminal & railway station etc. • Free Zone including Inland Container Depot (ICD) located next to Padang Besar Border Town. <p>In particular, several catalyst projects, such as Border Wholesale Centre, International Business Hub, Integrated Transport Terminal and shopping street and shopping malls, will inject a new lease of life to the existing town centre.</p>			
Issues	<ul style="list-style-type: none"> • Slow economic growth and low level of urban development arising from low quality variety of goods and services available locally. 			
Rationale	<ul style="list-style-type: none"> • Create a more pleasant, convenient and safe shopping environment in Padang Besar Border Town to attract greater number of tourists, especially Muslims from south Thailand. • Reduce local income and economic leakages due to local people purchasing goods and services across the border. • Strengthen and create an economically thriving and vibrant town centre in Padang Besar area to live, work, play, shop, visit, and to do business/ invest. • Facilitate greater cross-border trade, logistics and tourism. 			
Existing Demand & Current Supply	<ul style="list-style-type: none"> • Large potential market demand for a variety of niche products at lower prices in Padang Besar from south Thailand residents and tourists. • Need to create/ upgrade to a safe, pleasant and attractive shopping street and iconic shopping malls. • Need to allocate more commercial land and floor space to meet the anticipated retail, wholesale, financial, professional and business future needs of the people and economy (additional 20ha). • Need to upgrade enabling infrastructure and integrated transportation terminals. • Need to provide more hotel accommodation and restaurants to cater to of future tourists, visitors and businessmen. 			

<p>Location Plan / Land Size</p>	<p>Legend</p> <table border="1"> <tr> <td>Residential</td> <td>10ha</td> </tr> <tr> <td>Commercial</td> <td>27ha</td> </tr> <tr> <td>Institution / Utilities</td> <td>28ha</td> </tr> <tr> <td>Transport Terminal</td> <td>23ha</td> </tr> <tr> <td>Park / Open Space</td> <td>14ha</td> </tr> <tr> <td>TOTAL</td> <td>102ha</td> </tr> </table>	Residential	10ha	Commercial	27ha	Institution / Utilities	28ha	Transport Terminal	23ha	Park / Open Space	14ha	TOTAL	102ha
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TOTAL	102ha												
<p>Depiction</p>													
<p>Project Benchmark</p>	<p>Kenanga Wholesale City in Kuala Lumpur</p> <p><i>The new Kenanga Wholesale City is the latest and trendiest wholesale development in Kuala Lumpur. The development which has a total gross built-up area of approximately 1.8 million sq ft, comprises of an 8-storey retail & wholesale podium with a multi-storey car park and a courtyard arcade.</i></p> <p>Jonker Street in Melaka</p> <p><i>Jonker Street – the centre street of Chinatown – was once renowned for its antique shops. However over the years it has turned to clothing and crafts outlets as well as restaurants. The best part of Jonker Street is the night market on Fridays and Saturdays that sells everything from tasty treats to cheap keepsakes.</i></p>												

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	<p>Shangxiajiu Pedestrian Street Shopping Circle</p>  <p><i>Shangxiajiu is the first commercial pedestrian street in Guangzhou. Walking into this street, you will see the featured Qi Lou, an old building style of Lingnan Culture that exists in Guangzhou and its neighbouring areas, on both sides of the road. In Shangxiajiu, you will see countless interesting products and cheap clothes, and have a chance to try Guangzhou local food and snacks. Zhuangyuan Fang Shopping Street is a must-see near Shangxiajiu, being very crowded in the weekend. Shangxiajiu is close to Renmin North Road, where has a very popular shopping center - Yuefu Shopping Mall for young people.</i></p>		
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>		
	<p>Description</p>	<p>Name</p>	<p>Role & Responsibilities</p>
	<p>Main Agencies</p>	<p>PKENP</p>	<ul style="list-style-type: none"> Commercial development of state-owned land in Padang Besar Town Centre
	<p>Other Agencies</p>	<p>UPEN</p>	<ul style="list-style-type: none"> Promote projects identified Facilitate approvals & incentives Source strategic partners Assist in constructing primary infrastructure Monitor progress
		<p>MPK</p>	<ul style="list-style-type: none"> Shopping street and mall Landscaping Public facilities Petty trader business space
<p>State technical departments including, JKR, JPS, JAS, etc.</p>		<ul style="list-style-type: none"> Provide advice and technical support Appoint consultant/ contractor, where necessary 	
<p>Private Sector</p>	<p>Developers / Private-public partnership</p>	<ul style="list-style-type: none"> Commercial development of private-owned land in Padang Besar Town Centre 	
<p>Programme Costing Assumptions</p>	<p>Description of the Programme Costing</p>		
	<p>Revenue Streams</p>	<p>Sale of Commercial Property Sale of Residential Property</p>	
	<p>Operating Expenditures Description</p>	<p>n/a</p>	
	<p>Capital Expenditures Description</p>	<p>Commercial Development Residential Development Land Acquisition</p>	

PROJECT BRIEF – URBAN DEVELOPMENT

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Production (MT/year)	-	-	-	-
	Estimated CAPEX (RM million)	-	54.3	40.6	-
	Estimated OPEX (RM million)	-	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	13.7	81.2	100	0
	Operating Expenditure	-	-	-	-
Implementation Action Plan	Initiator	Actions			Year
	UPEN	Land Acquisition			2015
	UPEN	Lobby Federal Government to grant Special Economic Zone status, incentives, financial assistance & infrastructure support			2015
	UPEN	Lobby PEMANDU to incorporate priority projects identified as Entry Point Projects			2015
	Infrastructure concessionaire	Build, operate and transfer infrastructure facilities			2016
	UPEN	Source for and sign up developers / infrastructure concessionaires for separate land parcels			2016
Implementation Action Plan	Individual Owner / Developer / Joint-Venture Company	Prepare and submit LCP, planning layout plans, building plans, engineering plans, EIA, ESCP etc. at project level to competent authorities, including MPK, for approval			2917
	Individual Owner / Developer / Joint-Venture Company	Construction of residential, commercial and shopping street			2018
	Individual Owner / Developer / Joint-Venture Company	Manage, sales and marketing			2018
	MPK	Provide and maintain public amenities			2019
	Utility service providers	Provide and maintain infrastructure facilities and services			2019

Strategic Project Brief [URBAN DEVELOPMENT]

Project Code	UD3	New Project?	Existing?	Potential?																					
		Y	N	N																					
Project Name	Chuping New Township																								
Project Description	<p>Padang Besar serves critical cross-border functions in terms of trade, industry, tourism and logistics. It has the location advantage to capitalize fully on the plentiful raw material supplies as well as to tap on the large Muslim market in south Thailand through bilateral economic collaboration and strategic alliances. The Perlis State Structure Plan has positioned Padang Besar to act as a Major Settlement Centre.</p> <p>To accelerate the economic growth of Padang Besar, it is proposed that a relatively balanced and self-contained Chuping Township with a high quality liveable environment be developed on the existing FELDA's sugar plantation land. Towards the end, the main drivers will be the establishment of a high value-added Agri-Biotechnology Park and Halal Food Park incentivized by the proposed Special Economic Zone status.</p> <p>The components of the township development are :</p> <table border="1"> <thead> <tr> <th>Land Use Zoning</th> <th>Area (Ha)</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Residential</td> <td>408</td> <td>42.9</td> </tr> <tr> <td>Commercial</td> <td>224</td> <td>23.5</td> </tr> <tr> <td>Institutional</td> <td>75</td> <td>7.9</td> </tr> <tr> <td>Transport Terminal</td> <td>12</td> <td>1.3</td> </tr> <tr> <td>Park & Golf Course</td> <td>232</td> <td>24.4</td> </tr> <tr> <td>Total</td> <td>951</td> <td>100.0</td> </tr> </tbody> </table> <p>The project includes the improvement and transformation of the existing FELDA village, Rimba Mas, through better accessibility to public amenities, greater education opportunities and rolling out affirmative policies to ensure no one is left out from mainstream development in Padang Besar.</p>				Land Use Zoning	Area (Ha)	%	Residential	408	42.9	Commercial	224	23.5	Institutional	75	7.9	Transport Terminal	12	1.3	Park & Golf Course	232	24.4	Total	951	100.0
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Transport Terminal	12	1.3																							
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Total	951	100.0																							
Issues	<ul style="list-style-type: none"> • Transfer of Federal Government-owned land to the Perlis State Government • Alignment of the committed Arau-Chuping-Padang Besar Highway which deviates from the proposed Chuping New Township Plan 																								
Rationale	<ul style="list-style-type: none"> • Maximise cross-border economic and infrastructure collaboration between Perlis state and south Thailand for mutual benefits and economic growth • Tap full potential spin-offs from proposed new extension of existing North-South Expressway and proposed High-speed railway • Exploit global competitiveness of Padang Besar as a Special Economic Zone • Inject new emerging growth sectors and enterprises including the establishment of a high value-added Agri-Biotechnology Park and Halal Food Park 																								
Existing Demand & Current Supply	<ul style="list-style-type: none"> • Large consumer market, particularly among the Muslim population in south Thailand • Raw material supplies/ intermediate products from south Thailand for manufacturing into final finish products • Transit nexus especially loaded containers from south Thailand, for oversea export via Penang Port 																								

Strategic Development Plan For Perlis
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<p>Project Benchmark</p>	<p>Setia Eco Park, Shah Alam</p> <p>At Setia Eco Park, the idea of luxurious living within Nature’s warm embrace is not just wishful thinking. Spread across 791 acres of prime freehold land in Shah Alam, which is located only 20 minutes drive to Kuala Lumpur City Centre, Setia Eco Park is renowned for its scenic landscape tapestry that pays tribute to the beauty of Mother Nature. Some 25% of land area has been allocated for the creation of waterways, lakes, creeks, landscape themed parks, and forest park in this private estate just for the enjoyment of its residents. Specially coined names aptly describe the landscaping features such as Symphony of Wind, Rainbow Creek, Paddy Terrace, Eco Gateway and the Theatre of Dreams. Besides, Setia Eco Park has 56-acres of forest park and waterways, lakes and creeks. It is a Gated and Guarded Community.</p> <div style="display: flex; justify-content: flex-end; align-items: center;">   </div>																							
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Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Implementing Agencies	Private Sector	PLUS Concessionaire	<ul style="list-style-type: none"> Build, operate and transfer new link of North-South Expressway to Padang Besar via Chuping 			
		Sub-Developer/ Contractor	<ul style="list-style-type: none"> Sign agreement with JV Co. Prepare & secure detailed plans, including layout & building, approval at project level from competent authorities Construction of building and on-site infrastructure 			
		IPTS or IPT	<ul style="list-style-type: none"> Secure approval of Min. of Higher Education Secure detailed plan approval from competent authorities, including MPK Sign land lease and construct Manage and operate 			
		Utility Service Provider such as IWK	<ul style="list-style-type: none"> Provide mainline utility infrastructure and services 			
Programme Costing Assumptions	Description of the Programme Costing					
	Revenue Streams	Sale of Commercial Property Sale of Residential Property Sale of Land for Private Learning Institute				
	Operating Expenditures Description	Operation of Golf Course Operation of Integrated Transport Terminal (ITT)				
	Capital Expenditures Description	Construction of Infrastructure & Utilities Construction of Residential Property Construction of Commercial Property Construction of Integrated Transport Terminal (ITT) Construction of Golf Course				
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4	
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030	
	Production (MT/year)	-	-	-	-	
	Estimated CAPEX (RM million)	129.5	4,139.9	3,794.7	94.0	
	Estimated OPEX (RM million)	5.0	-	-	-	
Investments / Funding Sources	Investments (RM million)					
		Public Sector	Private Sector			
			Private Sector	Local (%)	Foreign (%)	
	Development Expenditure / CAPEX	215.75	7,942.2	100	0	
Operating Expenditure	5.0	-	-	-		

PROJECT BRIEF – URBAN DEVELOPMENT

Implementation Action Plan	Initiator	Actions	Year																																																																																																																																											
	UPEN	Land Office to negotiate and secure the FELDA sugarcane plantation land from the Federal Government	2013																																																																																																																																											
	UPEN	Prepare and implement the overall Master Plan	2013																																																																																																																																											
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	Joint-Venture Company	Construct primary infrastructure for whole township	2015																																																																																																																																											
	IPTs or IPT	Apply and seek approval from the Ministry of Higher Learning for establishing higher institute of learning	2014																																																																																																																																											
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Implementation Action Plan	Sub-developers / infrastructure concessionaire	Appoint contractors to construct buildings and on-site infrastructure	2018																																																																																																																																											
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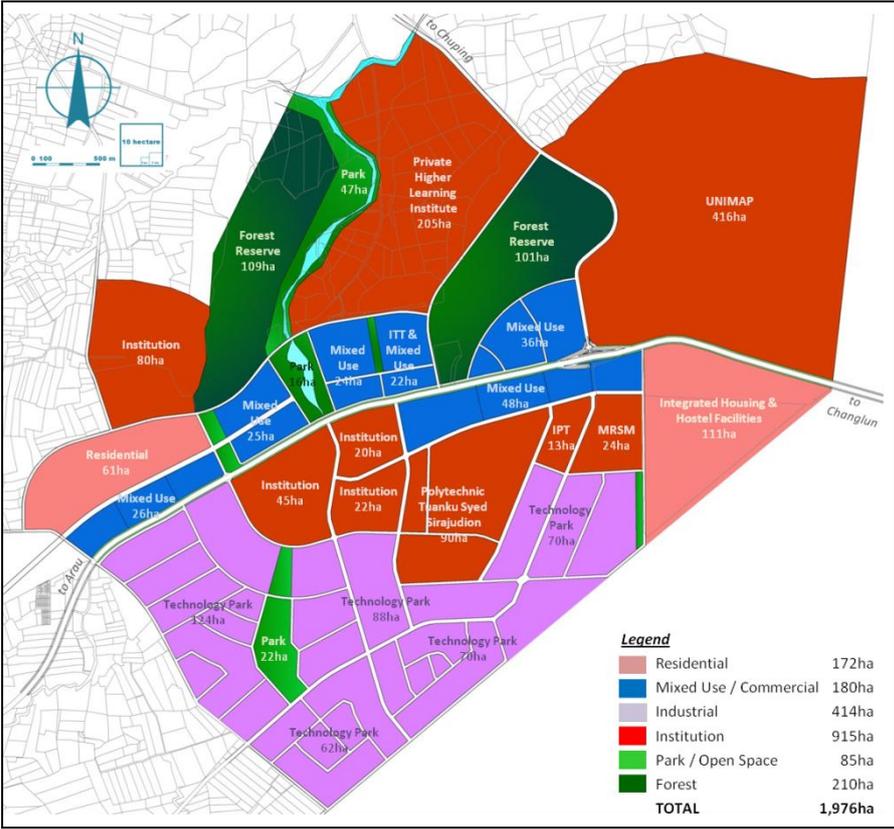
Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Drivers & Enablers</p>	<p>Drivers:</p> <ul style="list-style-type: none"> • Halal Park • Agri-Biotechnology Park <p>Enablers</p> <ul style="list-style-type: none"> • Designation of Special Economic Zone • Agro-tech University • New link of North-South Expressway
<p>Early Steps Necessary</p>	<ul style="list-style-type: none"> • Negotiate and secure the FELDA sugarcane plantation land from the Federal Government • Source strategic partner • Negotiate with JKR to realign the proposed Arau-Chuping-Padang Besar Highway
<p>Possible Barriers & Threats</p>	<ul style="list-style-type: none"> • Competition of similar facilities in and / or imposition of trade barriers from south Thailand • Opposition of new link of North-South Expressway from Alor Setar to Padang Besar by the Kedah state government
<p>Preliminary Business Model</p>	<p>Public-Private Partnership</p>
<p>Other Related Projects</p>	<ul style="list-style-type: none"> • Border Commercial Centre including the development of a common Border Wholesale Centre and Shopping Street and Mall • Inland Port Depot with supporting facilities such as containment depot, free trade zone, warehouses etc. • Proposed Arau-Chuping-Padang Besar Highway • Proposed new link of North-South Expressway • Electrified double-tracking railway line and Integrated Transportation Terminal

Strategic Project Brief [URBAN DEVELOPMENT]

Project Code	UD4	New Project?	Existing?	Potential?																							
		Y	N	N																							
Project Name	Pauh Putra Edu-City																										
Project Description	On this basis, the components of Pauh Putra Edu-City development consist of:																										
	<table border="1"> <thead> <tr> <th>Land Use Zoning</th> <th>Area (Ha)</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>Residential</td> <td>172</td> <td>8.7</td> </tr> <tr> <td>Commercial / Mixed Use</td> <td>180</td> <td>9.1</td> </tr> <tr> <td>Industrial</td> <td>414</td> <td>21.0</td> </tr> <tr> <td>Institution</td> <td>915</td> <td>46.3</td> </tr> <tr> <td>Park / Open Space</td> <td>85</td> <td>4.3</td> </tr> <tr> <td>Forest</td> <td>210</td> <td>10.6</td> </tr> <tr> <td>Total</td> <td>1,976</td> <td>100.0</td> </tr> </tbody> </table> <p>In particular, the Pauh Putra Edu-City's high-impact projects include Pauh Putra New University Township (Pauh Putera) a new trendy lifestyle town centre with a vibrant shopping street and a large landscaped public square, common facilities such as sophisticated library with specialized books and supercomputer facilities, High Technology Park including Incubators & R&D centre, and a Private University Campus.</p>				Land Use Zoning	Area (Ha)	%	Residential	172	8.7	Commercial / Mixed Use	180	9.1	Industrial	414	21.0	Institution	915	46.3	Park / Open Space	85	4.3	Forest	210	10.6	Total	1,976
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Forest	210	10.6																									
Total	1,976	100.0																									
Issues	<ul style="list-style-type: none"> Land unavailability for non-Malay private sector development on Malay Reserve land Absence of high-speed broadband Internet infrastructure 																										
Rationale	<ul style="list-style-type: none"> Identified as <i>Bandar Hub Pendidikan Utama</i> in the Draft MPK Local Plan Set up an integrated university town in the higher education cluster Promote industry-academia collaboration and partnership Leverage on the knowledge and skilled workers due to Perlis's limited land, population and financial resources 																										
Existing Demand & Current Supply	<ul style="list-style-type: none"> Existing two universities (i.e. UniMAP & UiTM Perlis) and several technical and vocational skill training centres Lack of knowledge and skilled workers in Perlis to meet the needs of major foreign investors. Consequently, Perlis had only managed to secure RM 167 million, or 0.4% of total regional manufacturing investments from 2006 to 2010. 																										

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Location Plan / Land Size</p>	 <table border="1"> <thead> <tr> <th colspan="2">Legend</th> </tr> </thead> <tbody> <tr> <td>Residential</td> <td>172ha</td> </tr> <tr> <td>Mixed Use / Commercial</td> <td>180ha</td> </tr> <tr> <td>Industrial</td> <td>414ha</td> </tr> <tr> <td>Institution</td> <td>915ha</td> </tr> <tr> <td>Park / Open Space</td> <td>85ha</td> </tr> <tr> <td>Forest</td> <td>210ha</td> </tr> <tr> <td>TOTAL</td> <td>1,976ha</td> </tr> </tbody> </table>	Legend		Residential	172ha	Mixed Use / Commercial	180ha	Industrial	414ha	Institution	915ha	Park / Open Space	85ha	Forest	210ha	TOTAL	1,976ha
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TOTAL	1,976ha																
<p>Project Description</p>	<p>Perlis is envisioned as a “Knowledge State” (Negeri Ilmu). To achieve this end, the State Structure Plan has identified Bandar Baru Pauh Putra as the seat of higher learning. Presently, an incipient higher education and skills training cluster has emerged, including UniMAP and UiTM Perlis, with great potential to grow larger and to enhance its quality due to the increasing provision of leading-edge edu-structure and the benefits of agglomeration economies. To meet the future human resource needs of the Perlis’s high-income economy by 2030, it is imperative to focus on producing high-technology workers and entrepreneurs by fostering academia-industry collaboration.</p>																
<p>Depiction</p>																	
<p>Project Benchmark</p>	<p>Edu-City in Iskandar Malaysia</p> <p><i>EduCity at Nusajaya is positioned to be a regional education hub and a destination for quality world-class education within a 6-hour flight radius of major Asian cities. The 600 acres education enclave is envisioned as “A Community of Best Practices in Academia” and is adopting the best-of-breed approach in bringing world-class education to Malaysia. It is aligned with the Ninth Malaysia Plan objective to promote Malaysia as a centre of educational excellence. It is conceptualized to be an academic hub comprising the whole ecology of education; encompassing pre-school, primary, lower secondary, upper secondary, pre-university and tertiary education, with a view towards bringing world-class education to Malaysia.</i></p> 																

	<p>Qatar Education City</p>  <p><i>Located on the outskirts of Doha, Education City covers 14 square kilometres and comprises elite universities, several academic and training programs and Qatar Science and Technology Park which boasts more than 21 world class companies involved in scientific research and development.</i></p> <p><i>Education City's multi-institutional campus has branch campuses for United States universities that include Virginia Commonwealth University (VCUQ), Weill Cornell Medical College (WCMC-Q), Texas A&M University (TAMUQ), Carnegie Mellon University (CMU-Q), Georgetown University (SFS-Qatar and Northwestern University (NU-Q). Besides, Qatar Education Centre have a variety of schools with various curricular, including the Qatar Academy as well as Research and Science Centre.</i></p>		
<p>Implementing Agencies</p>	<p>Role and Responsibilities of Implementing Body</p>		
	<p>Description</p>	<p>Name</p>	<p>Role & Responsibilities</p>
	<p>Main Agencies</p>	<p>Joint-Venture Company (UPEN – Strategic Partner as Master Developer)</p>	<ul style="list-style-type: none"> • Provide capital & technological know-how • Plan, design and apply for in-principle approvals including planning concepts, building plans, engineering plans, EIA etc. • Construct primary infrastructure and strategic projects • Farm out land parcels to sub-developers and infrastructure concessionaire • Farm out land parcels to sub-developers and infrastructure concessionaire • Manage and monitor overall development • Sales and marketing
	<p>Other Agencies</p>	<p>UPEN</p>	<ul style="list-style-type: none"> • Prepare and implement the overall Master Plan • Promote projects identified • Source strategic partners • Facilitate approvals & incentives • Assist in constructing primary infrastructure • Monitor progress
		<p>MPK</p>	<ul style="list-style-type: none"> • Grant approval of layout and building plans • Provision of public amenities
<p>Land Office</p>		<ul style="list-style-type: none"> • Negotiate and acquire the private-owned land • Explore land swap or joint-venture on Malay Reserve 	
	<p>Ministry of Higher Education</p>	<ul style="list-style-type: none"> • Grant approval for establishing higher institute of learning 	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

		Federal Ministries including MITI, MOSTI, MIDA	<ul style="list-style-type: none"> • Provide advice and technical support • Appoint consultant/ contractor, where necessary
		State technical departments including, JKR, JPS, JAS, PKENP etc.	<ul style="list-style-type: none"> • Provide advice and technical support • Appoint consultant/ contractor, where necessary
	Private Sector	IPTS or IPT	<ul style="list-style-type: none"> • Secure approval of Min. of Higher Education • Secure detailed plans approval from competent authorities including MPK • Sign land lease and construct • Manage and operate
		Tenant Industrialist/ Entrepreneurs	<ul style="list-style-type: none"> • Secure detailed plans approval from competent authorities including MPK • Sign land lease and construct • Manage and operate
		Infrastructure Concessionaire	<ul style="list-style-type: none"> • Sign concession agreement and secure plans approval • Build, operate and transfer Ring Road & infrastructure facilities
		Sub-Developer/ Contractor	<ul style="list-style-type: none"> • Sign agreement with JV Co. • Prepare & secure detailed layout & building plans approval at project level from competent authorities • Construction of building and on-site infrastructure
		Utility Service Provider such as IWK	<ul style="list-style-type: none"> • Provide mainline utility infrastructure and services
Programme Costing Assumptions	Description of the Programme Costing		
	Revenue Streams	Sale of Commercial Property Sale of Residential Property	
	Operating Expenditures Description	Operation of Integrated Transport Terminal (ITT)	
	Capital Expenditures Description	Land Acquisition Construction of Infrastructure, Utilities & Landscape Provision of ICT Facilities Construction of Commercial Property Construction of Residential Property	

PROJECT BRIEF – URBAN DEVELOPMENT

Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4
		2012 - 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Estimated CAPEX (RM million)	12.6	2,483.4	2,449.8	-
Estimated OPEX (RM million)	4.0	-	-	-	
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Development Expenditure / CAPEX	21.0	4,924.9	100	0
Operating Expenditure	4.0	-	0	0	
Implementation Action Plan	Initiator	Actions			Year
	UPEN	Land Office to acquire the private-owned land / negotiate land swap or joint-venture on Malay Reserve land			2014
	UPEN	Prepare and implement the overall Master Plan			2014
	UPEN	Source for a strategic partner & form JV company as Master Developer			2015
	Joint-Venture Company (Master Developer)	Source for and sign up sub-developers / infrastructure concessionaires for separate land parcels			2015
	Joint-Venture Company	Construct primary infrastructure for whole township			2016
	IPTs or IPT	Apply and seek approval from the Ministry of Higher Learning for establishing higher institute of learning			2015
	Sub-developers / infrastructure concessionaire	Prepare and submit LCP, planning layout plans, building plans, engineering plans, EIA, ESCP etc. at project level to competent authorities, including MPK, for approval			2015
	Sub-developers / infrastructure concessionaire	Appoint contractors to construct buildings and on-site infrastructure			2017
	Sub-developers	Manage, sales and marketing			2019
	Infrastructure concessionaire	Build, operate and transfer infrastructure facilities			2017
	IPT or Entrepreneur	Manage and operate building and associated facilities within property lot			2019
	MPK	Provide and maintain public amenities			2020
Utility service providers	Provide and maintain infrastructure facilities and services			2020	

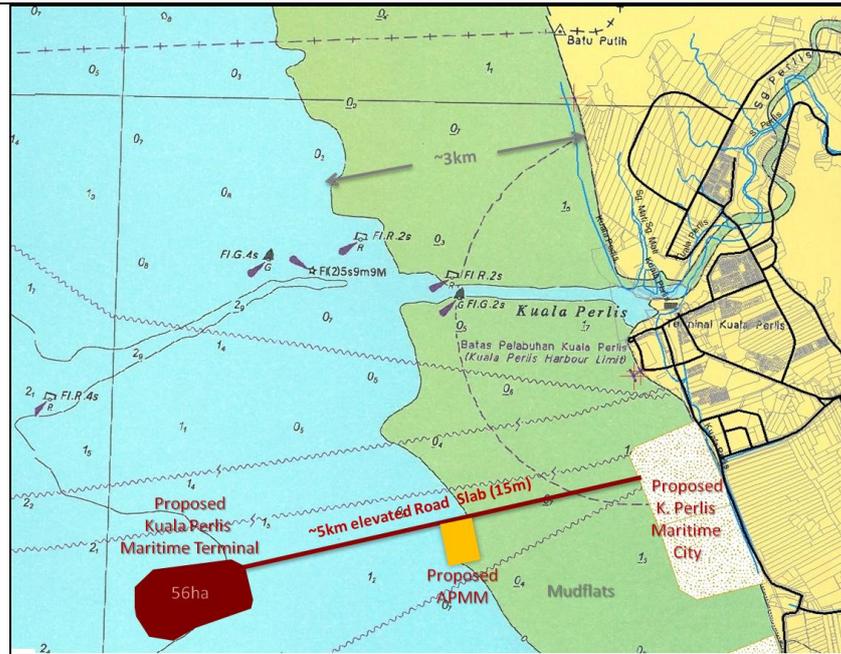
Strategic Development Plan For Perlis
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Implementation Timeline	Phase 1 (10MP)																Phase 2 (11MP)																							
	2012				2013				2014				2015				2016				2017				2018				2019				2020							
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
Impact & Specific KPIs	GDP (RM million)				Total Investment (RM million)				Jobs Created				Other KPIs																											
	400				4950				769				n/a																											
Drivers & Enablers	<p>Drivers</p> <ul style="list-style-type: none"> Produce employable local skilled and knowledge workers/ talents Earn revenue from overseas and other states' students, undergraduates & post-graduates (edu-tourism) High-technology industries and SMEs <p>Enablers</p> <ul style="list-style-type: none"> Industries for training/ apprenticeship and subsequent job opportunities Incubator & Innovation Centre for start-ups State-of-the-art ICT info structure Cyber Centres and intelligent office buildings Good accessibility to airport 																																							
Early Steps Necessary	<ul style="list-style-type: none"> Acquire the private-owned land/ negotiate land swap or joint-venture on Malay Reserve land Prepare and implement the overall Master Plan Source for a strategic partner & form JV company as Master Developer 																																							
Possible Barriers & Threats	<ul style="list-style-type: none"> Difficulty in attracting renowned world-class international university to set up far away from large urban market Too many but small-sized (<20,000 students) universities restrict their capabilities, particularly financial resources, to attract high calibre staff and to provide first-class infrastructure such as library and research facilities Perceived fear that the international university could jeopardise the viability and growth of the local universities 																																							
Preliminary Business Model	<ul style="list-style-type: none"> Private-Public Partnership 																																							
Other Related Projects	<ul style="list-style-type: none"> Kangar Maya Halal Park & Agri- Biotechnology Park in Chuping New Township Pauh Putra Technology Park Proposed bus-way along Arau-Kangar-Kuala Perlis Highway 																																							

Strategic Project Brief [URBAN DEVELOPMENT]

Project Code	UD5	New Project?	Existing?	Potential?
		Y	N	N
Project Name	Kuala Perlis Maritime Terminal			
Project Description	<p>Kuala Perlis is a strategic fish landing port not only for the local fishermen but also for foreign fishermen from southern Thailand and other neighbouring countries. LKIM operates a major fishing jetty in Kuala Perlis which is used to its full capacity. It has proposed to carry out an expansion to its present jetty to meet the future demand for more and better fish landing space and associated facilities. However, the current fish landing jetty protrudes into the mouth of Kuala Perlis, thus obstructing the smooth flow of water outwards into the open sea. This has led to river sedimentation which requires expensive river dredging to remove river deposits on the river month. It is estimated that dredging costs amounts to RM40 million every 5 years, with costs expected to escalate further due to inflation.</p> <p>In addition, Kuala Perlis serves as an important transit gateway by sea to and from the popular tourist island of Langkawi. This is due mainly to the shortest distance by sea between the mainland and Langkawi as well as being the most convenient point to Langkawi for foreign tourists coming by land / sea from southern Thailand. To cater for this travel needs, it has a relatively large ferry terminal linked to Langkawi and resort towns in southern Thailand. However, ferry and fishing boat docking are unreliable as they are adversely affected by the tides.</p> <p>With increasing affluence and lifestyle living as well as growing numbers of tourist arrivals, there is a great demand for seafront houses, hotel accommodations and seafood restaurants. In this respect, a private sector proposal to build a Maritime City with mixed development on reclaimed coastal land was submitted for approval. However, it encountered problems as the development proposal traversed across the Tenaga’s high tension electricity submarine cable between the mainland and Langkawi.</p> <p>The Maritime City project has been shifted further southward about 2km from Kuala Perlis and will now include a 2 phase of 100ha land reclamation project at the foreshore. There are also proposals by the APMM (Maritime Enforcement Agency) to reclaim another site for the development of their marine base. Under the circumstances it may be best to integrate all 3 projects i.e the Maritime City , APMM center and the Maritime Terminal to share the cost of the 5km pier that will link all the three projects i.e Maritime City , the APMM center and the Maritime Terminal.</p>			

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

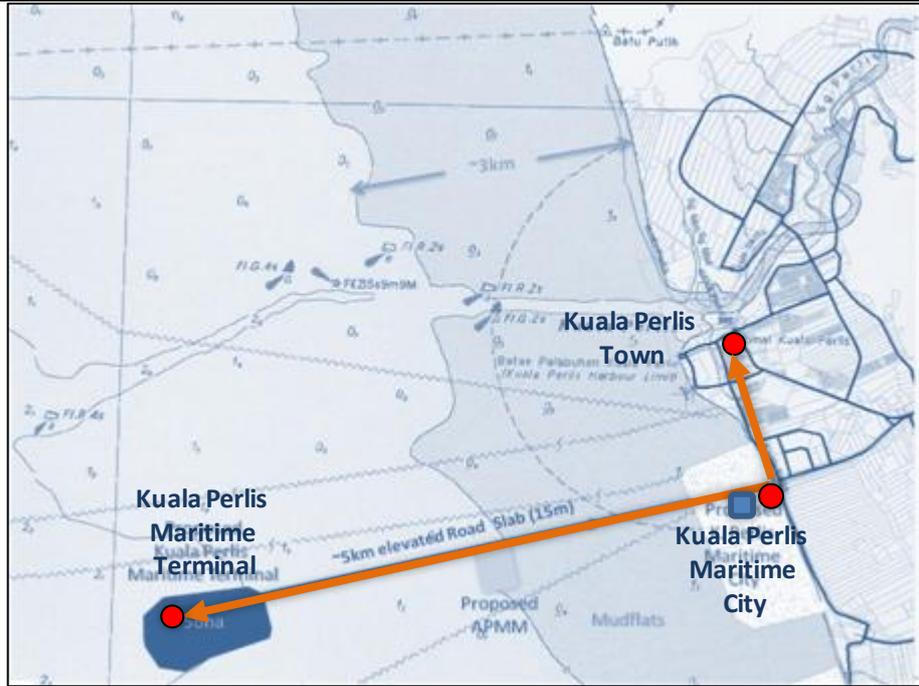


The components of Kuala Perlis Maritime Terminal Development are as follows:

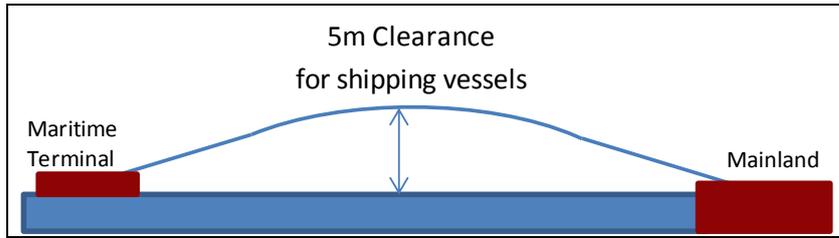
- Passenger Ferry Terminal
- Fish Landing Terminal / Fishing Port
- General Cargo/ Bulk Terminal
- Barging Facilities
- Elevated Road Bridge
- Shuttle service (bus) plying the jetty and the mainland
- Land Reclamation of about 56ha
- Al fresco dining / seafood restaurants
- Angling / Recreational Fishing centre
- Holiday Homes
- Motels / Hotels
- Marinas
- Light house
- Family Fun Park

Public Transport – Issues for Consideration

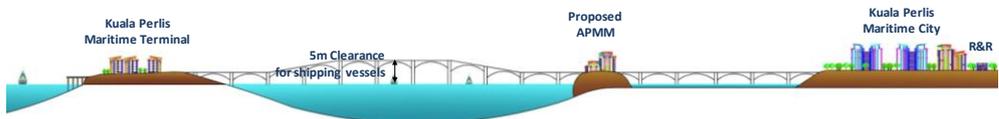
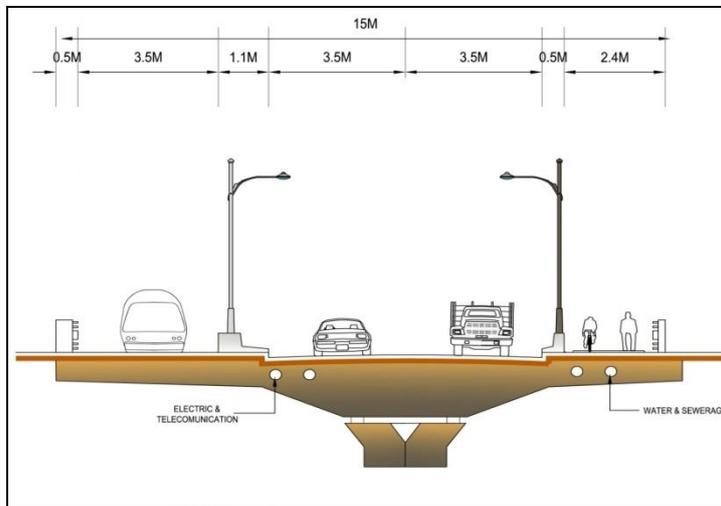
- Requires efficient connection between Kuala Perlis town dan ferry terminal with intermediate stops
- Minimise impact of on-street congestion
- Requires integration of services so that the (Public Transport) PT schedule coincides with ferry departure/ arrival time
- Integrated ticketing offering value for money – PT and ferry ticket at a single price
- System will cater for growth in passenger demand and technological change



- Tram / Monorail Station
- R&R site



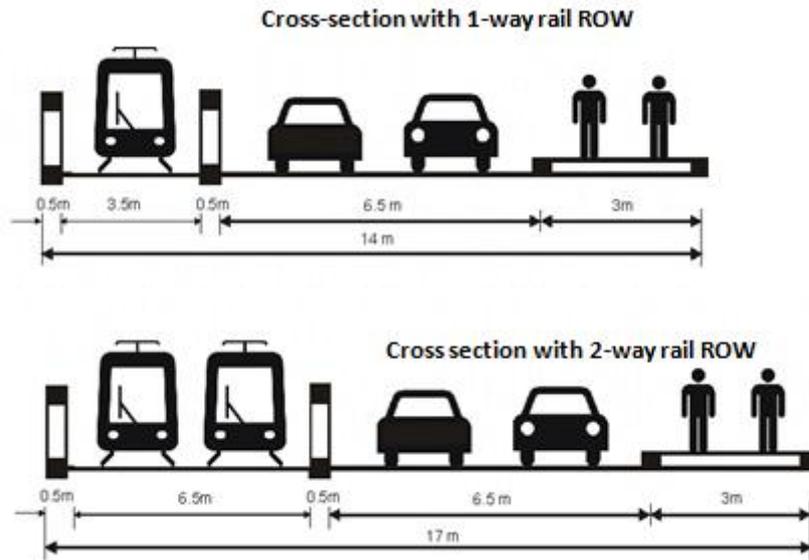
Proposed Bridge Cross section



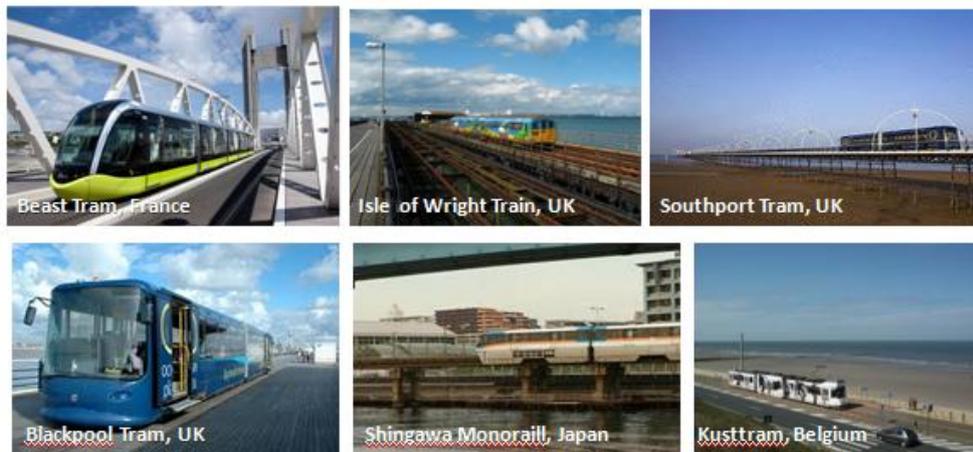
- The bridge's width 15m will have 2 lanes, and a bicycle/pedestrian walkway one side and tram way on the other
- The Tramway will connect the K. Perlis Maritime Terminal , the Maritime City & the Transport Terminal in Kuala Perlis.

Other Options Bridge Cross-Section

The width of the bridge is based on a 6.5m wide 2-lane single carriageway, 3m 2-way pedestrian footpath and tram/monorail with passing sections

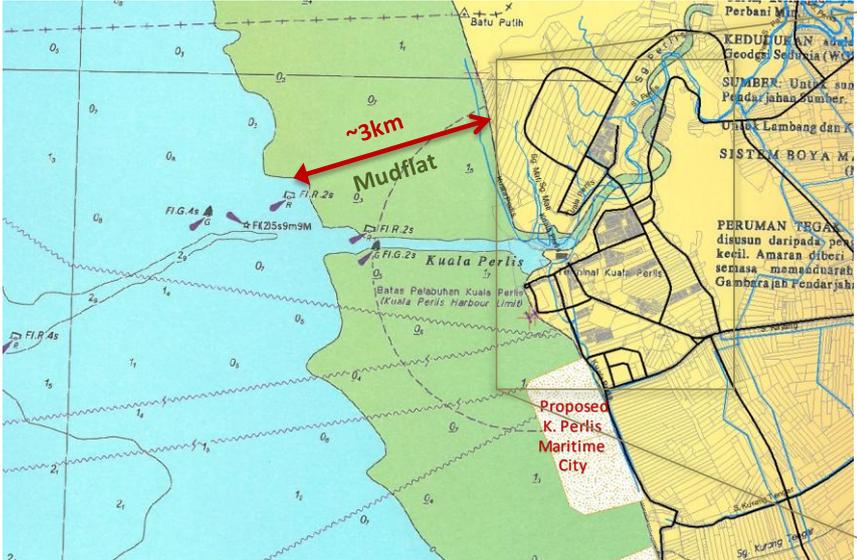


Example of Public Transport Systems Serving Ferry Terminal / Jetty



Tram System Comparison

Data for 1km of Network Alignment	Low floor Bus	BRT	Tram	Monorail
Total cost including rolling stock (RM 'mil)	RM 0.5	RM 2.5	RM 4	RM 8
Maximum passengers/vehicle/hr/ direction	2,000	4,000	6,000	6,000
Right of way	On-street	Dedicated/ on-street	dedicated	dedicated
Travel time between Kuala Perlis Bus Terminal to ferry terminal (with 3 min stop at Kuala Perlis Maritime City)	30 mins (varies with traffic conditions)	20 mins (dedicated Right of Way)	18 mins	15 mins

<p>Issues</p>	 <ul style="list-style-type: none"> • Frequent dredging of the approach channel and the mouth of river • Need to relocate the LKIM fish landing and ferry passenger terminal • Ferry and fishing boat docking affected by the tides • Extensive mudflats and sensitive ecosystem along the coast • Demand for free market land • Cost for dredging at the river mouth of Sg. Perlis  <p>Number of Passengers from Main Jetty in Mainland to Langkawi</p> <table border="1"> <thead> <tr> <th>Year</th> <th>K. Perlis</th> <th>K. Kedah</th> <th>P. Pinang</th> </tr> </thead> <tbody> <tr> <td>2007</td> <td>1,735</td> <td>1,442</td> <td>103</td> </tr> <tr> <td>2008</td> <td>1,695</td> <td>1,383</td> <td>113</td> </tr> <tr> <td>2009</td> <td>1,692</td> <td>1,338</td> <td>124</td> </tr> <tr> <td>2010</td> <td>1,800</td> <td>1,340</td> <td>165</td> </tr> <tr> <td>2011</td> <td>2,071</td> <td>1,406</td> <td>342</td> </tr> </tbody> </table>	Year	K. Perlis	K. Kedah	P. Pinang	2007	1,735	1,442	103	2008	1,695	1,383	113	2009	1,692	1,338	124	2010	1,800	1,340	165	2011	2,071	1,406	342
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2011	2,071	1,406	342																						
<p>Rationale</p>	<ul style="list-style-type: none"> • A pier construction causes minimal disruption to the ocean hydraulics • Minimize disruption to the extensive mudflats and sensitive ecosystem along the coast • There is a need for a permanent solution to low draft and anchorage problems faced by fishing boats / ferries using the existing jetty • The reclaimed island will provide free market land for the development of tourist related facilities and property development 																								

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis



Existing Demand & Current Supply

- Demand for free market land for seafront location
- High number of ferry passengers at Kuala Perlis Ferry Terminal
- Demand for proper fish landing facilities to cater for larger fishing vessels

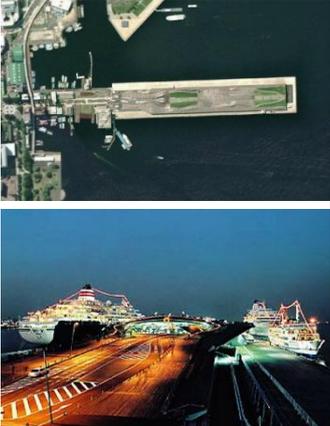
Months	No. of Ferry Passengers	No. of Boat Vessel
Jan	116,489	648
Feb	153,612	592
Mar	163,028	434
Apr	129,021	440
May	164,975	412
Jun	205,026	340
Jul	165,750	332
Aug	78,763	332
Sept	153,292	306
Oct	183,355	558
Nov	206,725	604
Dec	335,400	530
TOTAL	2,055,436	5,528

Location Plan / Land Size



<p>Depiction</p>	 <p>Development of reclaimed islands to optimise the cost of building the pier (Miami, Florida)</p>
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<p>Project Benchmark</p>	<p>Lumut Maritime Terminal (LMT)</p> <p><i>The LUMUT PORT Project began in 1993 as a privatisation project by the State Government of Perak, the first of its kind in Malaysia (a Greenfield port and private sector development that received no governmental funding or grants). Lumut Port comprises two distinct yet complementary terminal developments, Lumut Maritime Terminal (LMT) and Lekir Bulk Terminal (LBT). Both terminal are operated by Lumut Maritime Terminal Sdn Bhd.</i></p> 
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	<p>Yokohama maritime terminal</p> <p><i>The International Passenger Terminal in Yokohama is the largest marine terminal in Japan. This is the gateway to Yokohama port for visitors from around the world, and is used as the marine terminal for international luxury cruise ships The creator of this work composed by Alejandro Zaera Polo and Farshid Moussavi. The terminal is located in the Japanese city of Yokohama, near the city park of Yamashita. Is located at the boundary between land and sea, on the edge of the bay, eliminating the boundary between them. The first approaches to the project showed the terminal as an extension of the neighbouring city park Yamashita. Then the goal became more ambitious: to become an interface between the ocean and open the denser conglomerate formed by the cities of Tokyo and Yokohama combined, which helps to connect with platforms. This is an urban proposal and a fundamental part of the city's urban space. The function of the square / terminal is to set up a field intensity of urban expansion through multiple paths and directions.</i></p> 
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Implementing Agencies	Role and Responsibilities of Implementing Body		
	Description	Name	Role & Responsibilities
	Main Agencies	UPEN	<ul style="list-style-type: none"> Promote, coordinate and oversee the project initiative
	Other Agencies	Marine Department, Marine Enforcement Agency, Immigration, Custom, MPK,	<ul style="list-style-type: none"> Process and grant plan approvals Monitors and ensure enforcement compliance

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

		Land Office, JPBD DOE, DID, LKIM, JKR, SEDC, and service providers	<ul style="list-style-type: none"> • Facilitate development • Provide utility and public facilities and services 			
	Private Sector	Master Developer	<ul style="list-style-type: none"> • Prepare and obtain the necessary approvals for the whole reclaimed land in terms of layout plan, LCP, engineering drawings, EIA, ESCP, EMP etc • Fund, purchase & reclaim the land • Build and supervise the main infrastructure and facilities • Market and sell the land • Manage and maintain the project 			
		Sub-developers	<ul style="list-style-type: none"> • Purchase the sub-parcel land • Prepare and obtain the necessary approvals for the project on the sub-parcel land in terms of layout plan, LCP, building plans, engineering drawings, EIA, ESCP, EMP etc • Fund, build and supervise the buildings construction and infrastructure works • Manage, operate and maintain 			
	Revenue Streams		<ul style="list-style-type: none"> • Ferry Services • Fish Landing Services • Sale of Commercial Property • Sale of Residential Property 			
	Operating Expenditures Description		<ul style="list-style-type: none"> • Ferry Operation • Operation of Fishing Jetty 			
Capital Expenditures Description		<ul style="list-style-type: none"> • Land Reclamation • Construction of Pier and Infrastructure • Construction of Residential & Commercial Components 				
Estimated Budget	Implementation Phase	Phase 1	Phase 2	Phase 3	Phase 4	
		2012 – 2015	2016 – 2020	2021 – 2025	2026 - 2030	
	Production (MT/year)					
	Estimated CAPEX (RM million)	127.5	333.75	203.3	203.3	
	Estimated OPEX (RM million)	3.0	-	-	-	
Investments / Funding Sources	Investments (RM million)					
		Public Sector	Private Sector			
			Private Sector	Local (%)	Foreign (%)	
	Development Expenditure / CAPEX	14	853.77	100	0	
	Operating	3.0	-	-	-	

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Possible Barriers & Threats	<ul style="list-style-type: none"> • The status of the reclaimed land should be free market land and not Malay Reserve land
Preliminary Business Model	Private-Public Partnership
Other Related Projects	<ul style="list-style-type: none"> • Fisheries Transshipment Hub • Recreational Fishing Centre • Kuala Perlis Tourism Complex • Perlis River Promenade • Bus Rapid Transit (Kuala Perlis – Kangar – Arau – Pauh Putra) • Boat Building & Repair Base

N. IMPLEMENTATION PROGRAMME & POLICIES

Strategic Programme Brief [IMPLEMENTATION PROGRAMME & POLICIES]

Project Code	PRG1
Project Name	Perlis Malay Reserve Land Trust initiative
Project Description	<p><i>Solution within the Law</i></p> <ul style="list-style-type: none"> • The Perlis Malay Reservation Enactment (Section 4) allows for the degazettement of Malay Reserve Land by the State Council. The Federal Constitution (Article 89), however, requires replacement of land similar in size and character as the MRL that would be degazetted. This is to ensure that the total area under MRL in the State remains the same. • Various State governments have used this route to replace MRL in areas that are critical to development, so that the public or private sectors can have access to these areas. For instance, MRL land in Langkawi that was degazetted has been replaced with land in Pendang. It is all the more important to do it now, as it would be more onerous and expensive once the land is built up. <p><i>Potential areas in Perlis where replacement may be required</i></p> <ul style="list-style-type: none"> • The Perlis Strategic Development Plan (PSDP) has identified a number of key urban focal areas around Kangar and Kuala Perlis that are encumbered with the restrictive provisions of MRL, which adversely affect the urban expansion of these towns. Ideally, all town land within the Urban Growth Limits identified in the Local Plan should be excluded from Malay Reserve status. Some of the projects identified in the PSDP include the Kangar Maya Urban Development Project (274 ha) and the Kuala Perlis Maritime Terminal Project (56 ha) • There are also proposals for land reclamation in the offshore areas of Kuala Perlis for the development of a Maritime City and the Maritime Terminal. It is imperative that all reclaimed lands are not encumbered by the MRL restrictions if the project is to be viable. • The State PTG is currently preparing a policy paper to this effect to obtain an early decision on the matter from the State Government. The Plan supports such an initiative, as it would have a beneficial impact on the strategic lands in the proposed development site and focal node.
Issues	Available land for industrial development
Rationale	<ul style="list-style-type: none"> • The Perlis Reservations Enactment 1353 is the legislation that provides for the restrictions of dealings on Malay Reserve Land or MRL. Under this Enactment, MRL cannot be charged or leased to anyone who is not Malay or Siamese as defined in the Enactment. Such land cannot also be alienated, sold, leased or disposed to non-Malay or non-Siamese persons. However, certain institutions are allowed to have dealings on MRL, and these are listed in Schedules C (cooperatives) and D (financial and commercial institutions) of the Enactment. All dealings contrary to the provisions in the Enactment shall be null and void. As such, these restrictions effectively create a special land market for MRL, where non-Malay and non-Siamese are excluded. • Currently, a substantial part of the western half of Perlis is under Malay Reserve Land status. The approximate MRL boundary in Perlis, which amounts to 36,500 ha or 45% of the total State area. Land around Kangar, Kuala Perlis, Beseri, Simpang Empat and Kuala Sanglang is under MRL status. Urban nodes in Arau, Pauh and Padang Besar / Chuping Valley to the east of the State are outside the MRL areas. • The MRL status adversely affects the market value and the marketability of such lands. There were several instances of land developed by the SEDC in Kuala Perlis that were difficult to sell while there was another instance of a Hypermarket (Tesco) that had wanted to open a facility in Kangar, but was hampered by these restrictions. • Such a situation can also jeopardise the implementation of the Perlis Strategic Development Plan, especially urban development projects located on MRL land. Urban development nodes are particularly susceptible to restrictions imposed by the MRL and it may be expedient that such lands are released from these restrictions.

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Depiction</p>					
<p>Project Benchmark</p>	<p>NA</p>				
<p>Programme Costing Assumptions</p>	<p style="text-align: center;">Description of the Programme Costing</p>				
	<p>Capital Expenditure</p>	<p>Study & Planning</p>			
	<p>Operating Expenditures Description</p>	<p>Salaries Operational budget</p>			
<p>Estimated Budget</p>	<p>Implementation Phase</p>	<p>Phase 1 2012 – 2015</p>	<p>Phase 2 2016 – 2020</p>	<p>Phase 3 2021 – 2025</p>	<p>Phase 4 2026 – 2030</p>
	<p>Estimated CAPEX (RM million)</p>	<p>0.25</p>	<p>0.25</p>	<p>-</p>	<p>-</p>
	<p>Estimated OPEX (RM million)</p>	<p>0.5</p>	<p>-</p>	<p>-</p>	<p>-</p>
<p>Investments / Funding Sources</p>	<p style="text-align: center;">Investments (RM million)</p>				
		<p>Public Sector</p>	<p style="text-align: center;">Private Sector</p>		
				<p>Private Sector</p>	<p>Local (%)</p>
	<p>Development Expenditure / CAPEX</p>	<p>0.5</p>	<p>-</p>	<p>-</p>	<p>-</p>
	<p>Operating Expenditure</p>	<p>0.5</p>	<p>-</p>	<p>-</p>	<p>-</p>
<p>Implementation Action Plan</p>	<p>Initiator</p> <p>State Council</p>	<p>Actions</p> <p>Degazettement of law</p>			<p>Year</p> <p>2013</p>

Strategic Programme Brief [IMPLEMENTATION PROGRAMMES & POLICIES]

Project Code	PRG2
Project Name	Perlis-Songkhla / Satun Business & Trade Association
Project Description	<ul style="list-style-type: none"> • It is proposed that a State Level Joint Business and Trade Association be created as a State Level Initiative for the governments of Perlis and Thailand to strengthen regional co-operation. • A new Joint Business Council, the Perlis – Songkhla/ Satun Business and Trade Association will be created with a specific focus to increase trade and investments between the two regions, while encouraging active private sector participation. • Membership to the Association is open to individuals and companies who participate in industry-specific committees. • The board members provide policy, direction and supervision. They meet at least once a year to discuss fast-track action plans, implementation and operations • Detailed joint feasibility, deliberation and framework for cooperation are carried out jointly by the association • Possibility of creating a Government-to-Government (G2G) joint investment fund for improvement, upgrading and/ or construction projects between the region
Issues	<ul style="list-style-type: none"> • Enhancing cross border trade linkages between two neighboring and developing regions • Increasing private sector investments via facilitation by the public sector • Potential to promote more exciting tourism components such as natural and cultural heritage, instead of just cross-border tourism • Establishing more structured institutional coordination and project facilitation mechanisms to promote trade and tourism activities in the area
Rationale	<ul style="list-style-type: none"> • To provide focus to increase trade and investments between the Perlis and Songkhla/ Satun, while encouraging active private sector participation • Adopting the current IMT-GT approach for subregional cooperation, where IMT-GT was founded as an initiative by the governments of Indonesia, Malaysia, and Thailand to accelerate economic transformation • Tapping into a larger regional market pool to complete the supply chain including sourcing of raw materials, processing, packaging, logistics and end markets • Provide a formal institutional arrangement to strengthen and improve physical and transport connectivity • Increasing the welfare of the people by creating employment, educational, social and cultural opportunities • Involve local communities in the planning and execution of tourism programmes, respecting their cultural as well as economic needs

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

<p>Depiction</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2" style="background-color: #e6f2e6; text-align: center;"> Framework for IMT-GT </td> <td style="background-color: #e6f2e6; text-align: center;"> Cross Border Investment Facilitation </td> </tr> <tr> <td style="background-color: #e6f2e6; text-align: center; vertical-align: top;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Chief Minister & Governor's Forum </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Senior Officials Meeting </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Working Groups </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 5px;"> Joint Business Councils </div> </td> <td style="background-color: #e6f2e6; text-align: center; vertical-align: top;"> State Level Initiative <ul style="list-style-type: none"> Policies and Programmes Roadmap for implementation Agreements and MoUs Operations and budgeting Studies and evaluation Capacity building and support Coordinate and monitor implementation </td> <td style="background-color: #e6f2e6; text-align: center; vertical-align: top;"> State Level Joint Business and Trade Association <ul style="list-style-type: none"> Government to strengthen institutional framework - develop SMEs that create jobs & local technology Private finance initiative solutions to high impact projects Restructuring commercial and financial legislation - supporting regulatory and legal reforms to increase and broaden the flow of capital into the state Promote industrial standards - to maintain the implementation of consistent quality </td> </tr> <tr> <td colspan="2" style="background-color: #e6f2e6; text-align: center; vertical-align: top;"> Private Sector Initiative <ul style="list-style-type: none"> Mobilising private sector Coordinate issues of mutual concern Recommendations to solve institutional challenges Promotion for foreign investment </td> <td style="background-color: #e6f2e6; text-align: center; vertical-align: top;"> Perlis-Songkhla /Satun Business & Trade Association <ul style="list-style-type: none"> Specific Industry Committees created - Tourism Committee, Industrial Committee, Trade Committee, Agriculture Committee Project partnerships – funding & investments Linked to industry academia – human capital, knowledge transfer, research & training </td> </tr> </table>			Framework for IMT-GT		Cross Border Investment Facilitation	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Chief Minister & Governor's Forum </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Senior Officials Meeting </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Working Groups </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 5px;"> Joint Business Councils </div>	State Level Initiative <ul style="list-style-type: none"> Policies and Programmes Roadmap for implementation Agreements and MoUs Operations and budgeting Studies and evaluation Capacity building and support Coordinate and monitor implementation 	State Level Joint Business and Trade Association <ul style="list-style-type: none"> Government to strengthen institutional framework - develop SMEs that create jobs & local technology Private finance initiative solutions to high impact projects Restructuring commercial and financial legislation - supporting regulatory and legal reforms to increase and broaden the flow of capital into the state Promote industrial standards - to maintain the implementation of consistent quality 	Private Sector Initiative <ul style="list-style-type: none"> Mobilising private sector Coordinate issues of mutual concern Recommendations to solve institutional challenges Promotion for foreign investment 		Perlis-Songkhla /Satun Business & Trade Association <ul style="list-style-type: none"> Specific Industry Committees created - Tourism Committee, Industrial Committee, Trade Committee, Agriculture Committee Project partnerships – funding & investments Linked to industry academia – human capital, knowledge transfer, research & training 						
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PROJECT BRIEF – IMPLEMENTATION PROGRAMME & POLICIES

		<ul style="list-style-type: none"> Joint marketing and promotional budgets Joint Feasibility studies 			
	Capital Expenditure Description	<ul style="list-style-type: none"> Launching of programme 			
Estimated Budget	Implementation Phase	<ul style="list-style-type: none"> Launching of programme 	Phase 2	Phase 3	Phase 4
		2012 – 2015	2016 – 2020	2021 – 2025	2026 – 2030
	Estimated OPEX (RM million)	0.2	1.17	1.17	1.17
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
			Private Sector	Local (%)	Foreign (%)
	Operating Expenditure	3.7	-	50%	50%
Implementation Action Plan	Initiator	Actions			Year
	Agency from PSDP / Local Authorities of Songkla/ Satun	<ul style="list-style-type: none"> Sending of information and brief about the co-operation Initiation of discussion with Heads of State Signing of collaboration Memorandum of Understanding (MoU) 			2012
		<ul style="list-style-type: none"> Hiring of Secretariat members Setting up of the Association 			2013
		Annual meetings			Yearly

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

Strategic Programme Brief [IMPLEMENTATION PROGRAMMES & POLICIES]

Project Code	PRG3
Project Name	Squatter Relocation Programme
Project Description	<p>It is proposed that the State government ask the 1Malaysia Housing Programme Corporation (PR1MA) to build public housing in Perlis. This would cater not only to the squatters but also to those who need housing and quality living. The issue is not merely to create housing but to create a comfortable living environment in which the poor and needy can live.</p> <p>The 1Malaysia Housing Corporation (1MH-Corporation) would need to ensure the following:</p> <ul style="list-style-type: none"> • Design and construction of quality housing within a certain budget; • Calling of contracts and supervising the building of public sector housing; • Managing and maintaining the public housing in order to ensure they deliver quality housing services to their constituents. <p>In this regard, the housing programme should start with the 2,000 housing units but build them over a 5-year period or 400 units per year. It is assumed that the 1MH-Corporation can access financing at low levels (i.e. 4% p.a.). The low interest loans over a 10 or 15-year period are the sovereign loans available to the Finance Ministry.</p> <p>Instead of using the housing prices set by PR1MA, the PSDP proposes to use RM35, 000 as the price limit as set by the Perlis State Secretariat.</p> <p>An estimate of about RM70 million would be required. The period of borrowing would be for 10-15 years to enable the 1MH-Corporation to build and sell the units, and then to repay the loan. The 1MH-Corporation would have an operating budget of RM100, 000 annually (with 10% inflation) to pay for office, staff and its administration.</p> <p>Given this level of financing, the 1MH-Corporation would be able to offer housing to resettlers in various forms, viz.</p> <ul style="list-style-type: none"> • to purchase the property outright, • to purchase under a mortgage scheme, or • to just rent and stay. <p>These various options would require the potential occupants (or tenants), to pay the following rates:</p> <ul style="list-style-type: none"> • Hire-purchase RM550/month over 10 years • Hire-purchase RM350/month over 15 years • Purchase RM35,000 <p>Under these repayment rates, assuming there is no default, the housing programme for Perlis can successfully be achieved, and the housing problem can be resolved through dedicated but subsidised financing from the Federal government (Treasury) and land provided by the State. It is important to note that this housing programme is completely self-financed but requires substantial government involvement, including managing mortgage payments and sustaining the programme over the mortgage period.</p> <p>In terms of land requirements, a total of 130 acres of land would be needed to resettle the squatters. Another 12 acres is needed to cater to the other demand of 168 units of housing (non-squatter). A total of 142 acres of land is needed to cater to the housing programme under this Plan.</p>
Issues	<ul style="list-style-type: none"> • Squatters problem in Perlis

PROJECT BRIEF – IMPLEMENTATION PROGRAMME & POLICIES

Rationale	<ul style="list-style-type: none"> • UPEN Perlis has indicated that there is a squatter problem in Perlis that must be resolved as part of the social equity objectives of the State. A survey had been carried out recently, and the number of squatter units was estimated to be 1,832. The distribution of the squatters by their location is shown on Table 5.5. The housing programme should be expanded beyond squatters, as there is a demand for low cost houses. In this regard, there is a current Federal policy known as PR1MA or Perumahan Rakyat 1 Malaysia, which is to construct affordable housing for the people. • PR1MA has a concept of 1Malaysia Housing Programme Corporation plans and coordinates the building of affordable housing units across the nation on land provided by State governments. • These units would then be distributed to those who are eligible for such housing. The eligibility criteria are available on the web¹. Among the criteria, the most notable is the applicants' monthly household income should not exceed RM7,000. • The initial rollout of the PR1MA programme is in Klang Valley and Seremban. The programme envisages 42,000 housing units in 20 strategic locations. The cost of these homes is estimated to be between RM150,000 and RM300,000. Buyers must stay for a minimum of 10 years before the housing units can be resold. • A key issue is the price of low-cost housing. A price of RM25,000 per unit was set many years ago. With inflation, the average price of a low cost housing unit has risen. 				
Programme Costing Assumptions	Description of the Programme Costing				
	Operating Expenditures Description	<ul style="list-style-type: none"> • Salaries • Maintenance 			
	Capital Expenditure Description	<ul style="list-style-type: none"> • Building of housing for squatter 			
Estimated Budget	Implementation Phase	Phase 1 2012 – 2015	Phase 2 2016 – 2020	Phase 3 2021 – 2025	Phase 4 2026 – 2030
	Estimated CAPEX (RM million)	87.5	-	-	-
	Estimated OPEX (RM million)	0.5	-	-	-
Investments / Funding Sources	Investments (RM million)				
		Public Sector	Private Sector		
				Private Sector	Local (%)
	Development Expenditure / CAPEX	87.5	-	-	-
	Operating Expenditure	0.5	-	-	-

¹ see <http://pr1ma.net/eligibility/>

Strategic Development Plan For Perlis
Accelerating the Economic Transformation of Perlis

