

Water for Our Future

Post

7th
World
Water
Forum

Regional Process INR21AP

*Successfully Managing Asia's
Transitions to Achieve Food and
Nutrition Security for All and
Build Vibrant Rural Communities
in a Water-Secure and
Prosperous Asia-Pacific Region*

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Successfully Managing Transitions for Food Security



**Successfully Managing Asia's Transitions to Achieve
Food and Nutrition Security for All and Build
Vibrant Rural Communities in a Water-Secure
and Prosperous Asia-Pacific Region**



A White Paper on Water and Food Security in the Asia-Pacific Region



Food and Agriculture Organization
of the United Nations

14 April 2015
7th World Water Forum
Asia-Pacific Regional Process
Gyeongju, Republic of Korea

A White Paper

- Prepared based on a Regional Process
- Led by FAO
- Members from organisations and country representatives
- Malaysia represented by the Malaysian National Committee on Irrigation and Drainage (MANCID)
- Presented and discussed at WWF7

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**Two Case Studies from Malaysia
presented at WWF7 under Theme 2.1:
Water for Food; Session INR21AP:
Innovative Solutions**

- Revitalising Water User Associations
- Farmer's Exit Plan



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Key Messages from World Water Forum 7

The proposed **Key Action Areas**:

1. Implementing sound and innovative water **accounting and auditing**
2. Evolving **risk management strategies** for national food security policies
3. Adapting agricultural and rural water management to **promote a renewed focus on ensuring farmer and rural prosperity**... plotting new futures for irrigation and drainage under long-term vision



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World Water Forum 7

4. Supporting investments boosting ecosystem and water productivity, **maintaining water quality** across agriculture, fisheries, aquaculture, irrigation and drainage- **recognizing its multiple services**- and their supply chains and supporting rural transformations
5. Managing the changing dynamics of the **Water-Energy-Food Nexus**
6. **Capacity development**



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**Can ALL these be
implemented at National
and local levels
successfully and in time???**



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How can we face the challenges that irrigation face in economies in transit?

The Asia-Pacific Region achieved greater economic growth between 2000 and 2012 than any other region.

Between 2000 and 2012, the region's GDP increases was considerably higher than the global increase.

The average annual growth rate of real GDP over this period was 4.5 percent.

But...

As the regional economy has boomed, agriculture's share of GDP in the Asia-Pacific's developing and transition countries declined from 14.4 percent in 2000 to 10.6 percent in 2011



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The Challenges

Available freshwater resources is depleting

Water Supply Sector
will get priority

Total Water Demand against Total Water Availability for All Sectors

States	Land Area sq.km	Total Consumptive Water Demand (mm)					Effective rain (mm)	Excess/deficit (mm) - Unregulated Flows				
		2010	2020	2030	2040	2050		2010	2020	2030	2040	2050
Perlis	821	372.3	364.2	348.0	345.5	342.3	71	(302)	(294)	(277)	(275)	(272)
Kedah	9,500	307.6	313.2	299.1	302.4	302.8	113	(195)	(201)	(187)	(190)	(190)
Pulau Pinang	1,048	729.4	791.3	797.5	834.4	853.2	120	(609)	(671)	(677)	(714)	(733)
Perak	21,035	92.7	91.6	85.5	85.6	86.1	140	47	48	54	54	53
Selangor	8,396	266.6	296.6	306.0	328.7	348.0	114	(153)	(183)	(192)	(215)	(234)
Negeri Sembilan	6,686	51.0	54.1	53.6	54.7	56.0	74	23	19	20	19	18
Melaka	1,664	193.9	220.1	225.9	246.0	263.4	86	(108)	(135)	(140)	(161)	(178)
Johor	19,210	37.2	45.8	53.8	60.6	67.7	171	134	125	117	110	103
Pahang	36,137	20.1	26.2	24.8	25.2	26.5	165	145	139	140	140	138
Terengganu	13,035	67.8	74.8	74.4	76.7	78.7	254	186	179	179	177	175
Kelantan	15,099	108.1	107.2	105.0	106.0	106.2	176	67	68	70	70	69
Pen. Malaysia	132,631	96.5	103.1	102.2	105.9	109.2	159	62	56	57	53	50
Sabah	73,631	12.4	18.4	18.9	19.6	20.0	177	165	159	158	157	157
FT Labuan	91	197.7	264.3	285.0	304.0	318.0	323	125	58	37	19	4
Sarawak	124,450	8.4	17.3	17.0	17.5	18.0	221	212	203	203	203	202
East Malaysia	198,172	10.0	17.9	17.9	18.4	18.9	269	258	251	251	250	250
Total Malaysia	330,803	44.7	52.0	51.7	53.5	55.1	225.0	180.3	173.0	173.3	171.5	169.9

Source: RNWRS (2000-2050)
(JPS; 2012)



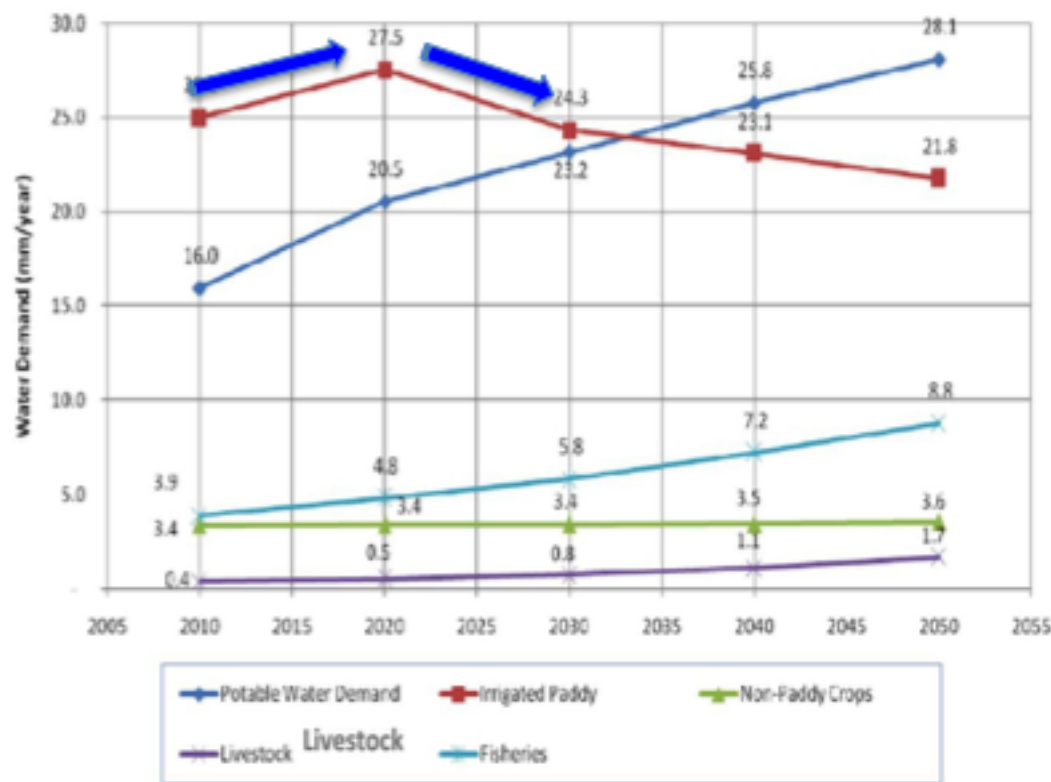
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The Challenges

Demand for Water from other sectors especially Domestic and Industry is increasing

Water Demand for Various Sectors



... an irrigation for paddy is under pressure to reduce demand (of freshwater)

The Challenges

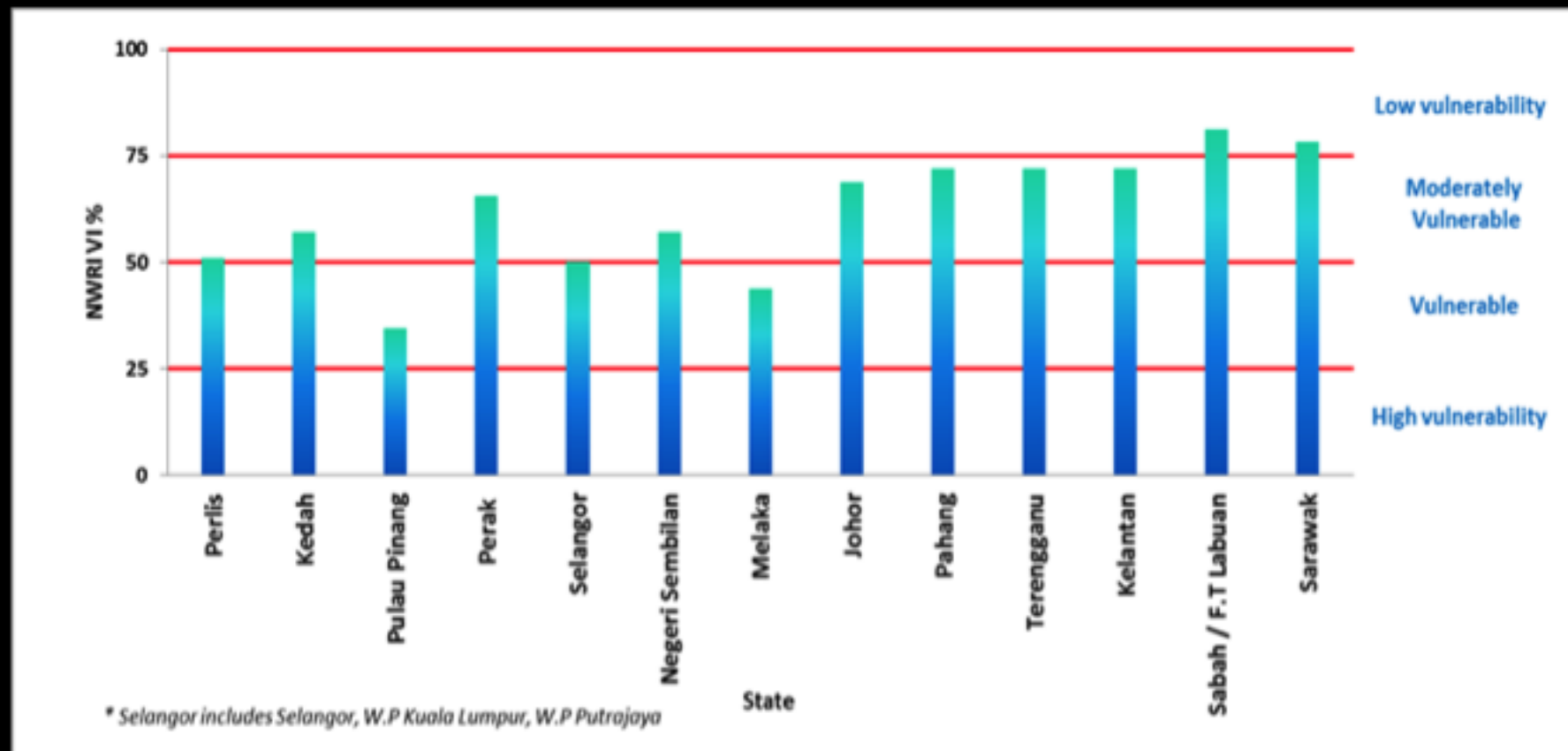
Systems designed
for irrigation now
have to be operated
for multiple
purposes and users;
more complex
Need integration



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The Challenges



Water quality deterioration is threatening sustainability

The Challenges

Exhibit 1

To achieve high-income status by 2020, Malaysia must grow by 6% per year to reach GNI per capita of RM48,000 or USD15,000

GNI per capita

HIGH-INCOME NATION

Projected GNI per capita (2020)
RM48,000 or
USD15,000

Real growth rate of 6%
p.a. over next 10 years

Current GNI per capita (2009)
RM23,700 or
USD6,700

MIDDLE-INCOME NATION

¹ At 2020 prices, consistent with EPU assumptions for inflation=2.8% and population growth=1%

² 2009 population 27.9 million, 2020 projected population 31.6 million (EPU projection)

SOURCE: World Bank, Economic Planning Unit, Department of Statistics

Income and high value job opportunities expected to increase

What can The Farmers hope?

How can we retain farmers to continue rice production?

What strategies to manage situations of food shortages?

SEWERAGE

WATER RESOURCES (Surface & Ground)

CONSUMPTIVE (ACTIVE)

WATER SUPPLY (B, E, B')

AGRICULTURE (IRRIGATION) (C, C')

WATER MANAGERS & DEVELOPERS

NON - CONSUMPTIVE (ACTIVE)

ENERGY (HYDROPOWER) (G, G')

FLOOD MANAGEMENT (H, H')

WATER MANAGERS & DEVELOPERS

NON-CONSUMPTIVE (PASSIVE)

ENVIRONMENT (Mangroves/Forest, Bird Sanctuary, Terrapins, Firefly, Wetlands, Waterfall/Water Sport)

FISHERIES

TRANSPORT

TOURISM

OTHERS

Oil Palm

Rubber

Horticulture

Aquaculture

Livestock

Others

SEA/MARINE



Suggestions

Programs and Projects

- Integrated data collection system (JPS, MOA, Water Supply, DOE, Sewerage, Groundwater, Meteorology...)
- Developing integrated accounting and auditing system
- Developing Water Quality Management Plans
- Inter-Sector, Federal-State water management harmonisation programs
- Public Participation Programs with linkages to the National Water Resources Council
- Linking water management to income increases e.g. Water User Groups to have opportunities for added income and generate high value job opportunities