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

- Revitalising Water User Associations
- Farmer's Exit Plan

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

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

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

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

The Challenges

Available freshwater resources is depleting

Water Supply Sector will get priority

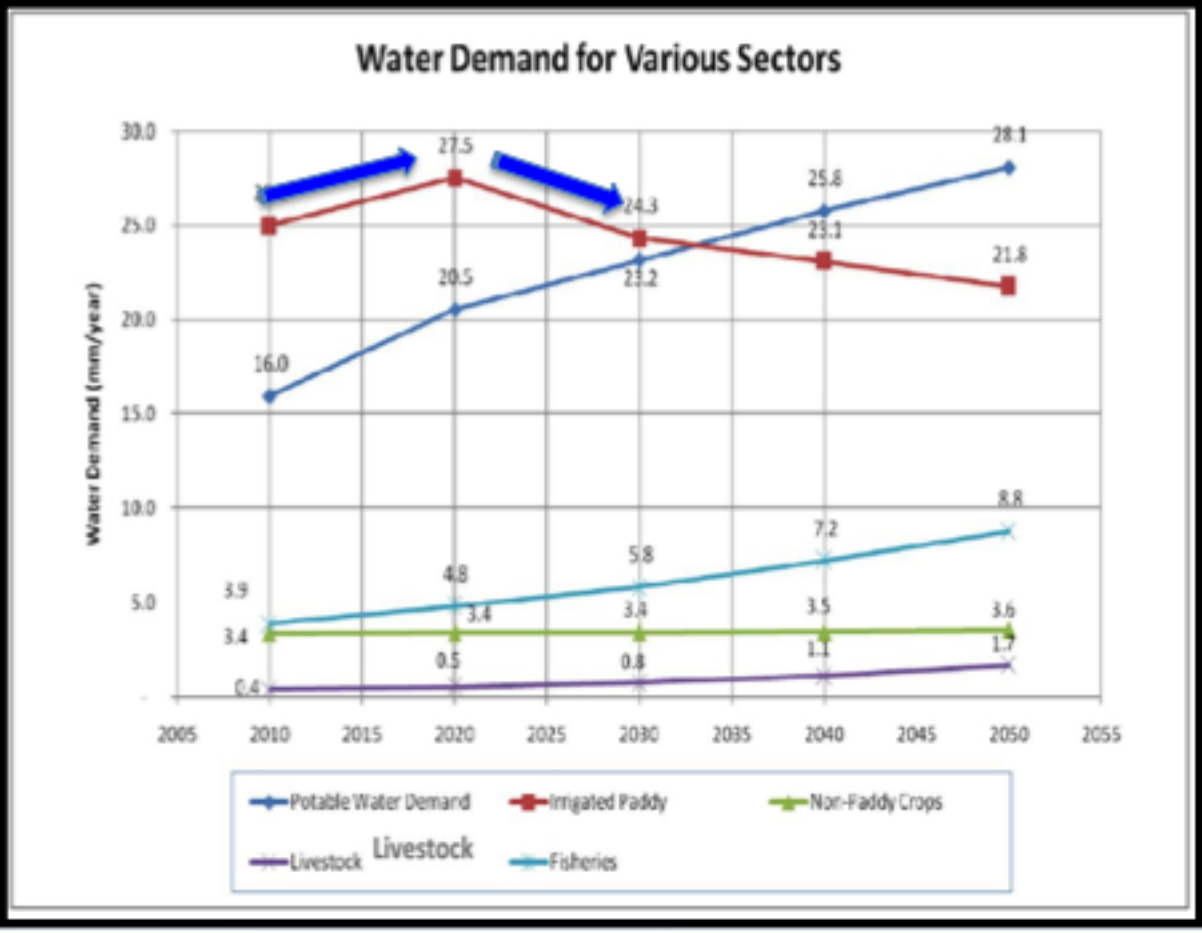
Total Water Demand against Total Water Availability for All Sectors

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)

The Challenges

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

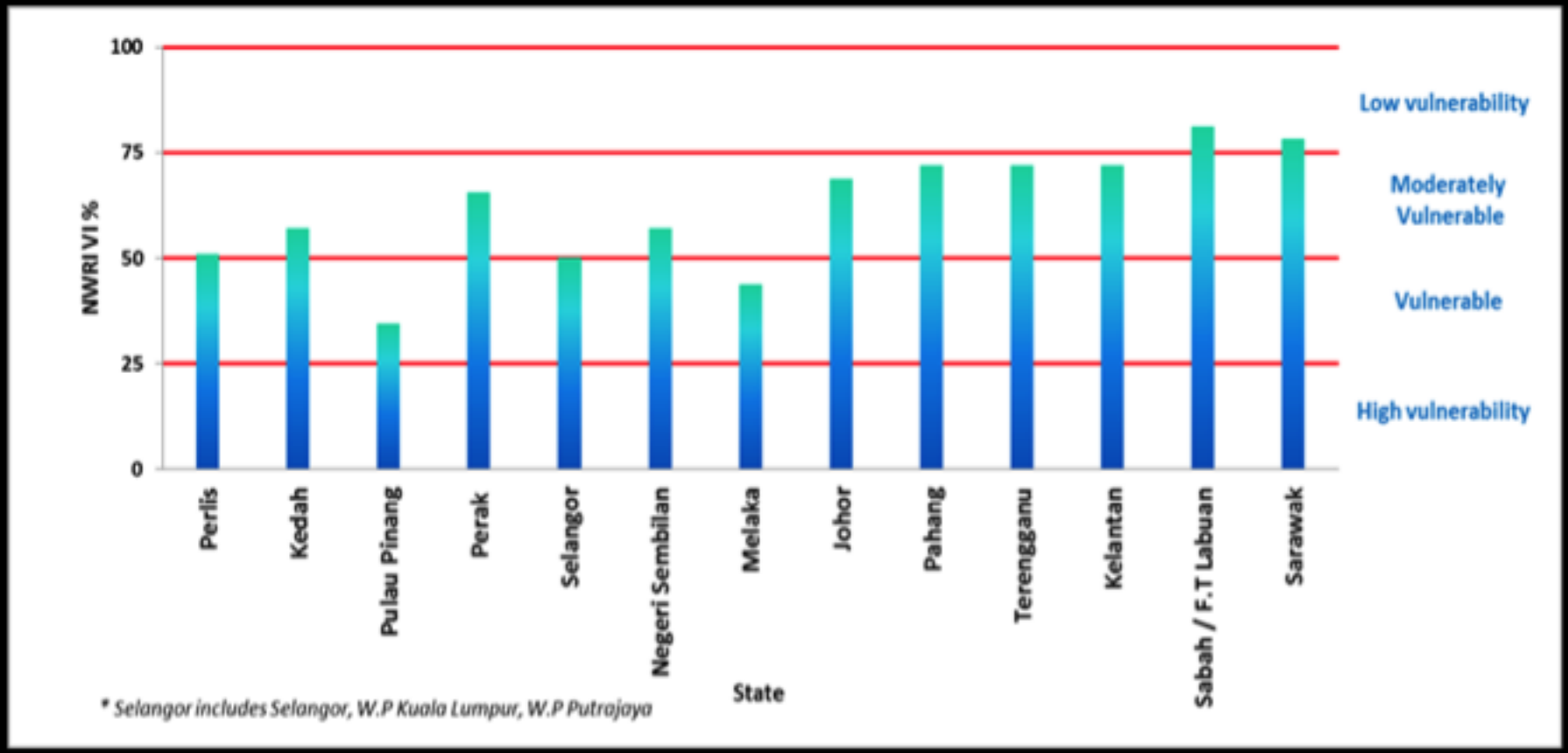


… an irrigation for paddy is under pressure to reduce demand (of freshwater)

The Challenges

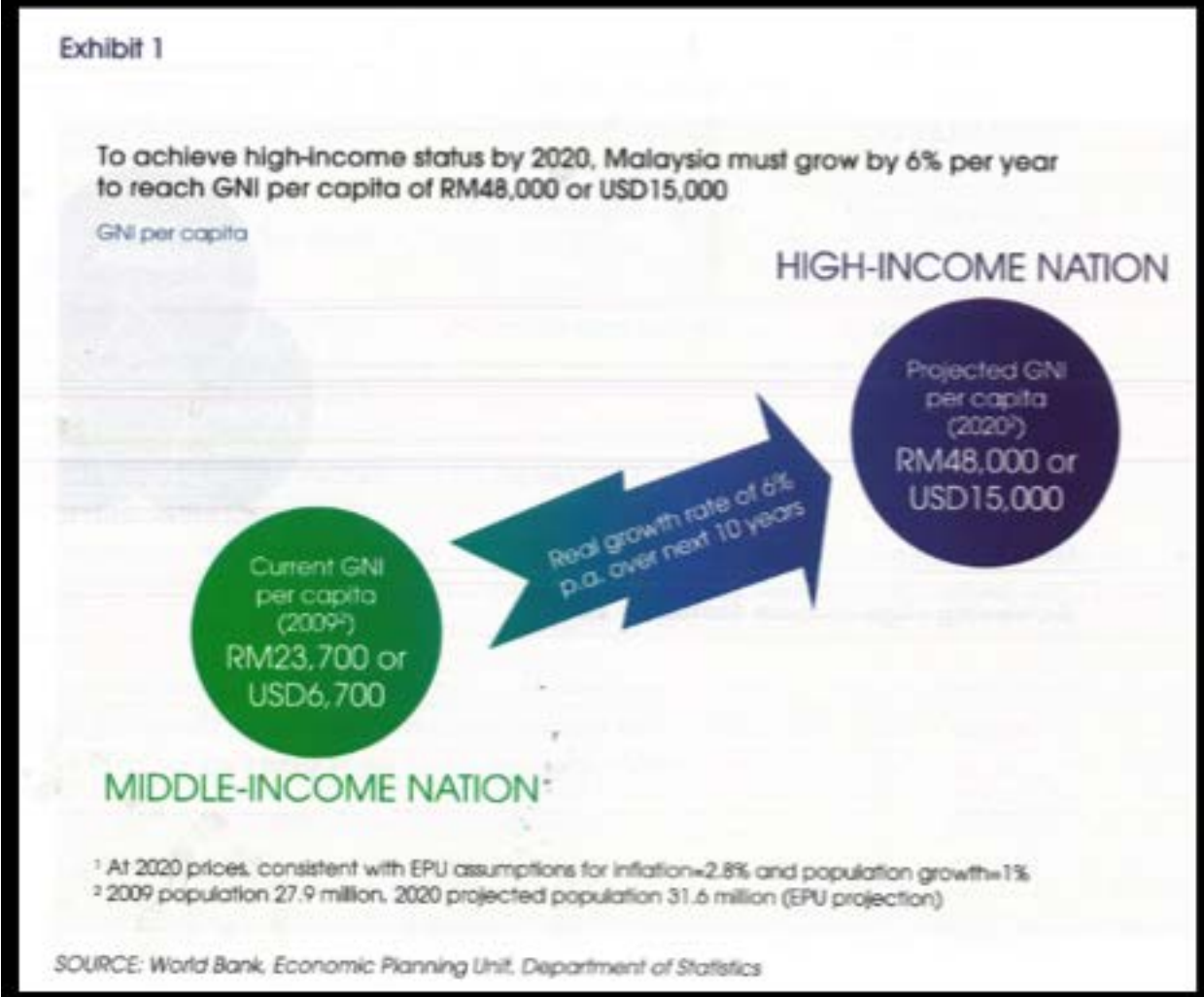
Systems designed for irrigation now have to be operated for multiple purposes and users; more complex
Need integration

The Challenges



Water quality deterioration is threatening sustainability

The Challenges



Income and high value job opportunities expected to increase

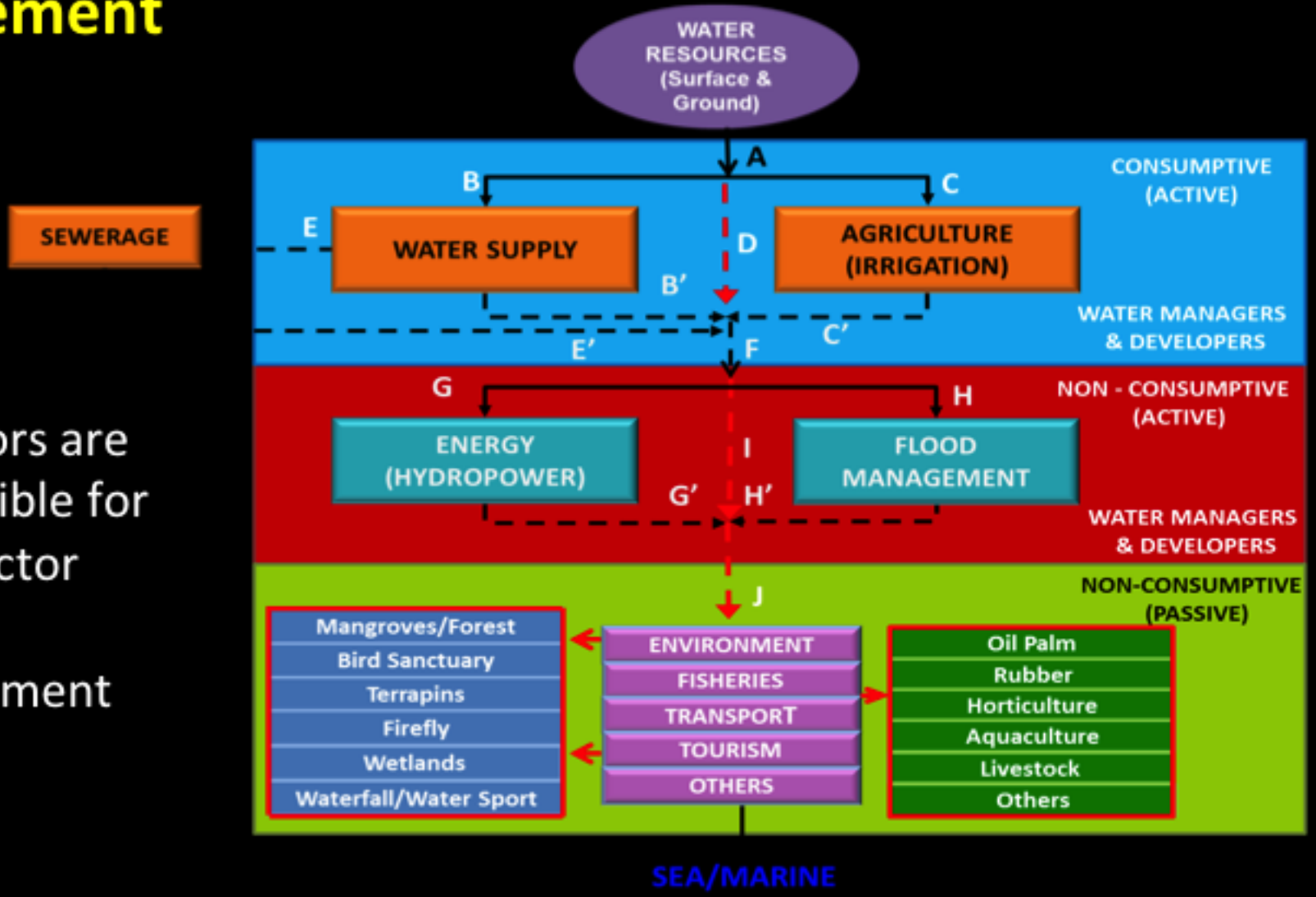
What can The Farmers hope?

How can we retain farmers to continue rice production?

What strategies to manage situations of food shortages?

There is a need for inter-sector Water Demand Management

All sectors are responsible for inter-sector water management



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