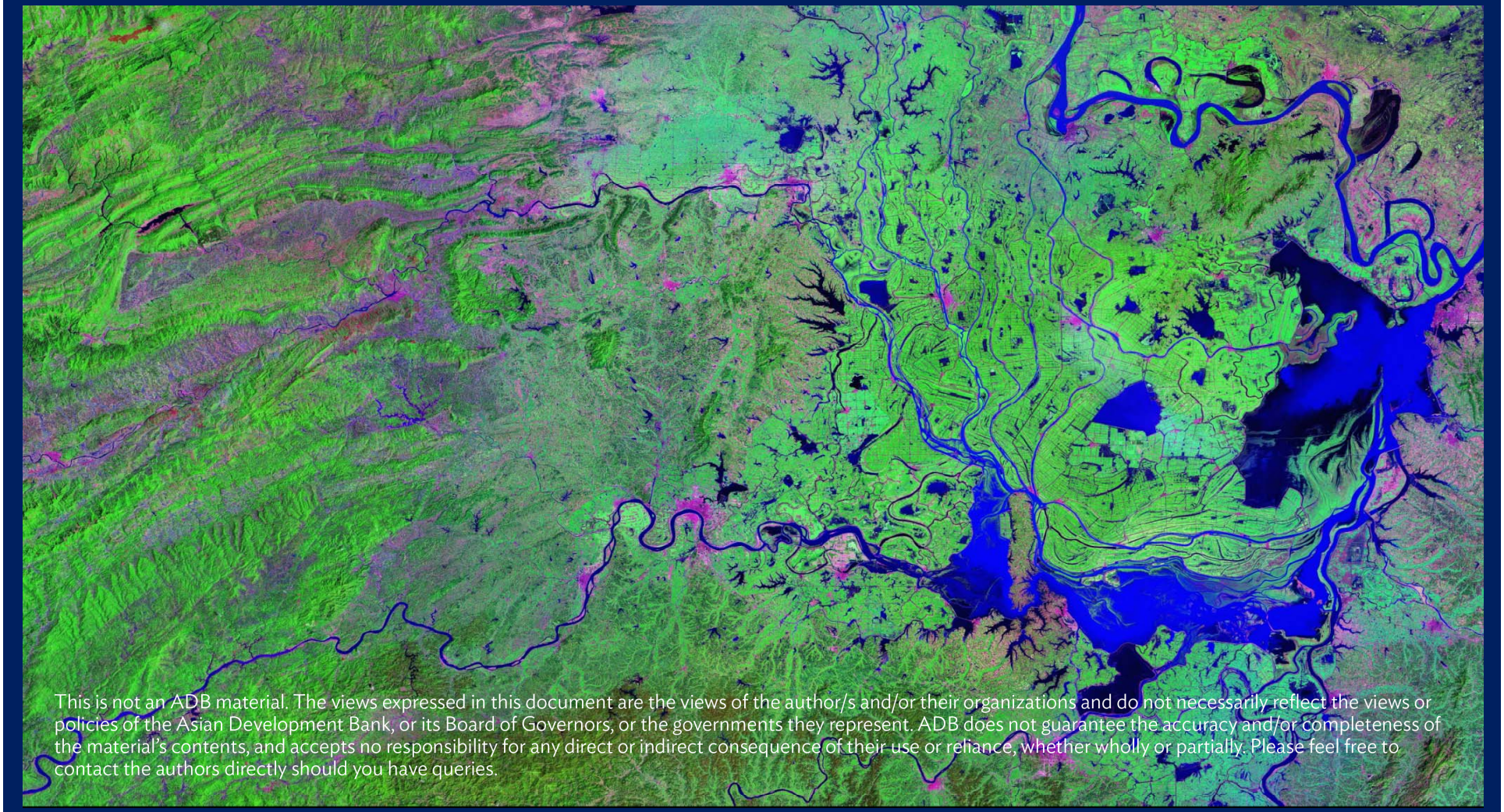
Moving Targets: Irrigation management modernization in East Asia and the Pacific (EAP)



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Overview

1. The Regional Study
2. How
3. Why
4. Some preliminary findings

Irrigation Management Modernization: A Regional Technical Assistance Study

- ***Objective:***
  To identify long term investment priorities for modernizing irrigation & drainage service delivery in the East Asia & Pacific region (EAP)

- ***Method****:*
  A comparative assessment of current irrigation & drainage service provision and a view to the future ('future-watch')

- ***Rationale****:*
  Modernization needs shared experience, best practices and lessons learnt but also needs appreciation of economic transitions

- ***Drivers***
  - Economic transformation & off-farm opportunities,
  - urbanization & transitions in irrigated smallholder agriculture,
  - increased pressure on land and water resources &
  - amplified climatic risk.

How

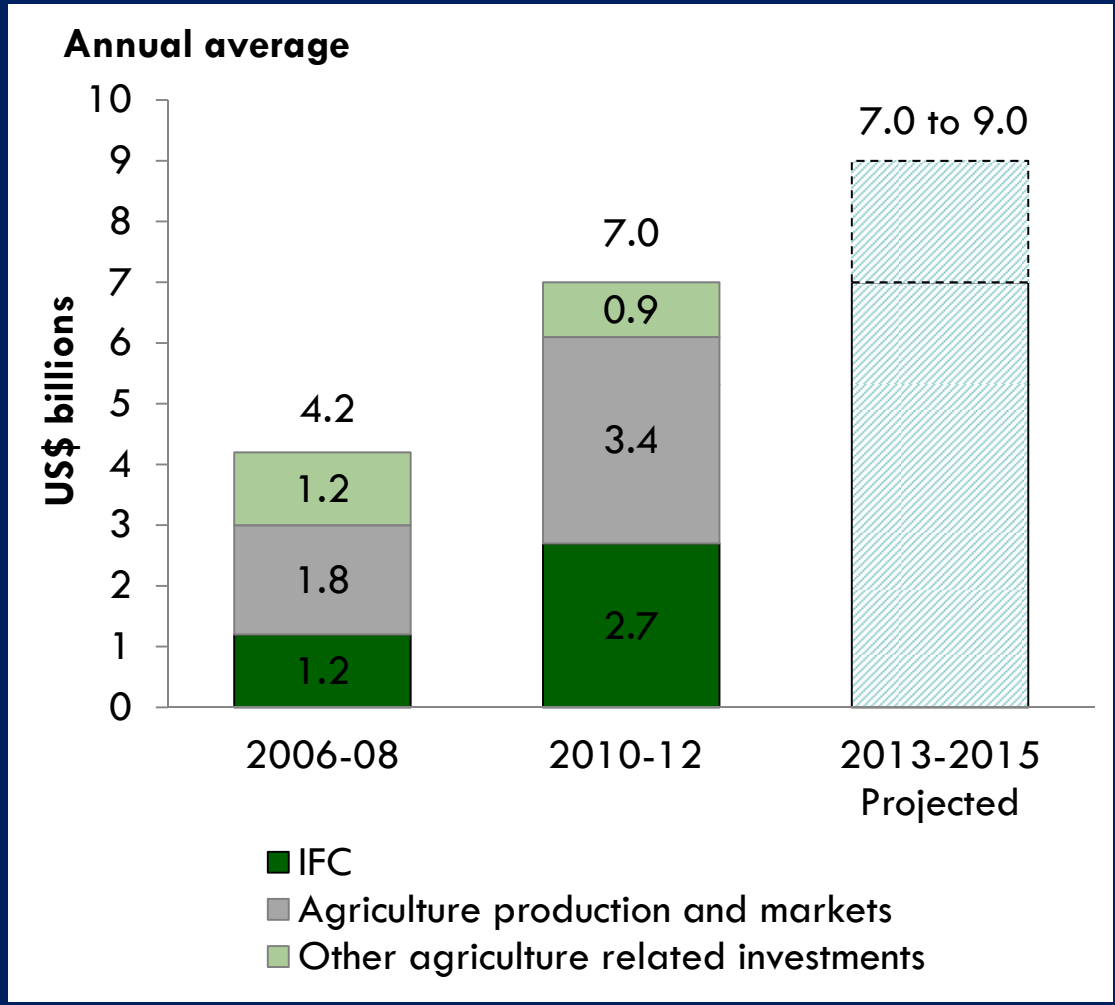
- National studies & lessons learned
- Simple analytical framework to allow comparison
- A regional **Synthesis Report**
- Participating Countries:
  - China, Indonesia, Vietnam (WB funded National Studies)
  - Australia, Japan, (evolution of modernization in OECD countries)
  - Thailand, Malaysia (FAO funded)

- Timetable

- Country assessments ongoing – presentation of drafts 12 March
- Synthesis and Consultations; March-May 2013
- Output: Draft Synthesis Report and guidelines June 2013

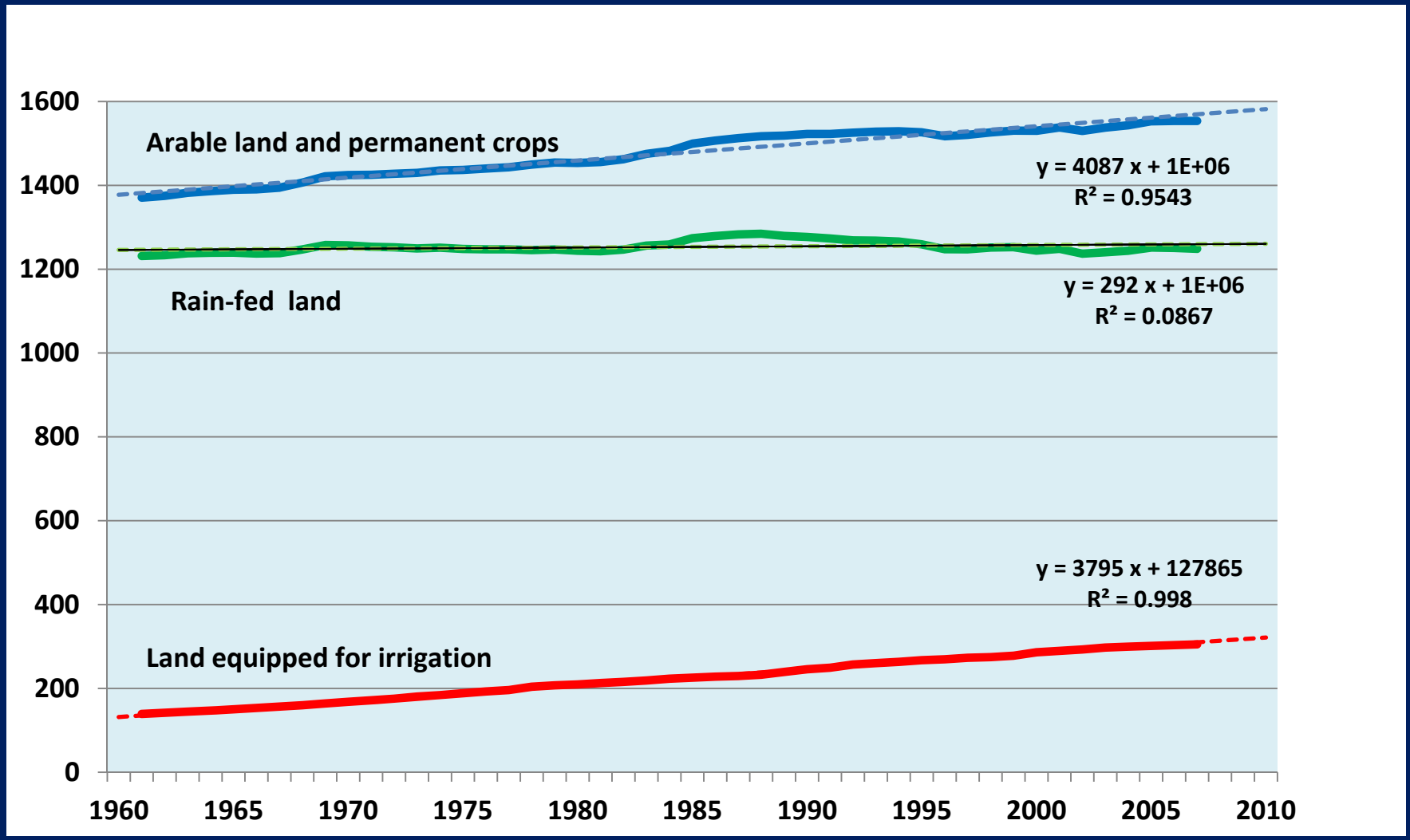
Why a focus on modernization?

- WBG I&D: 31% of IBRD & IDA agriculture lending – dominant but small
- Quality lending into existing asset management will count

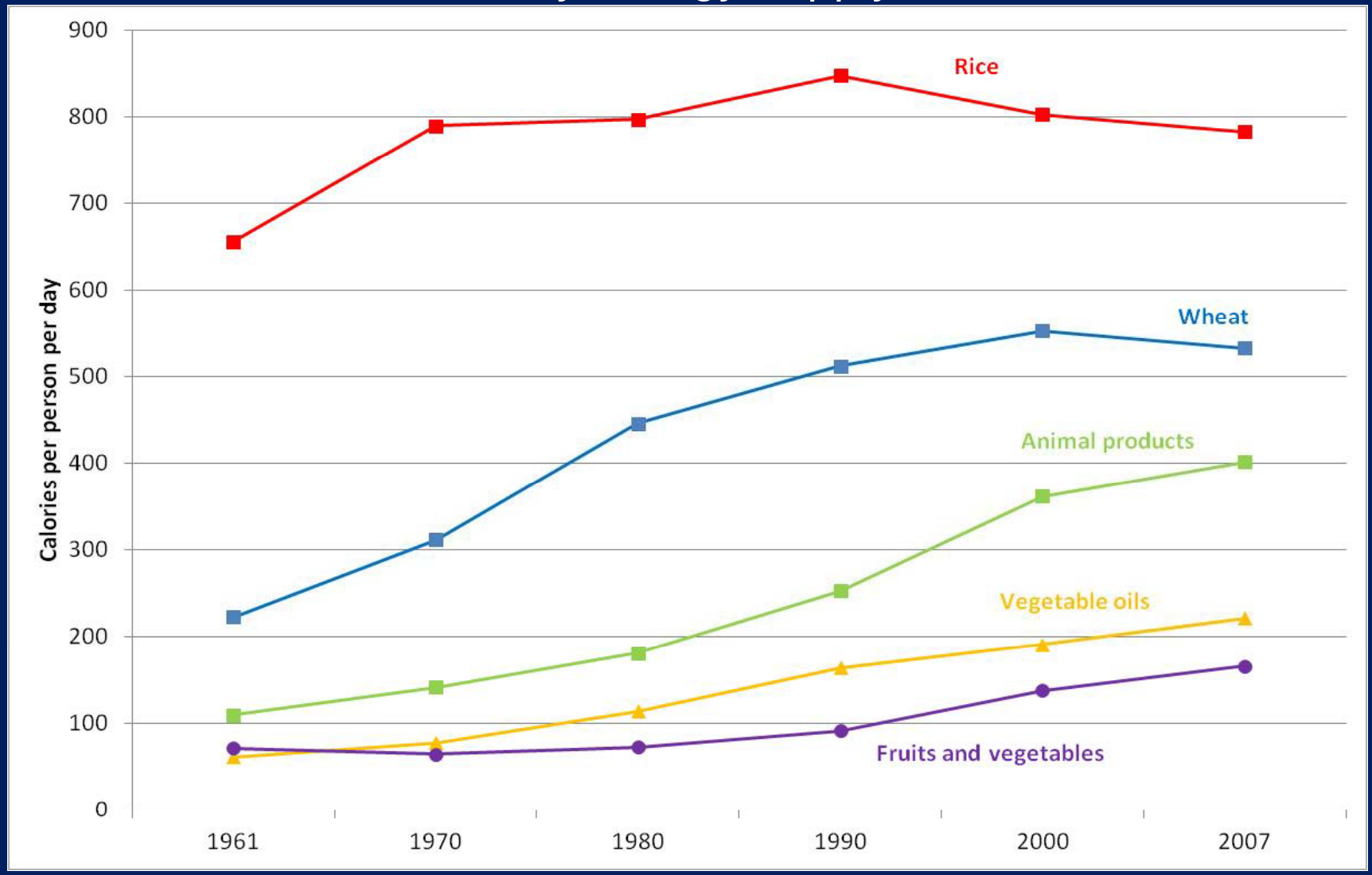


World agricultural land 1961 – 2007 (million ha)

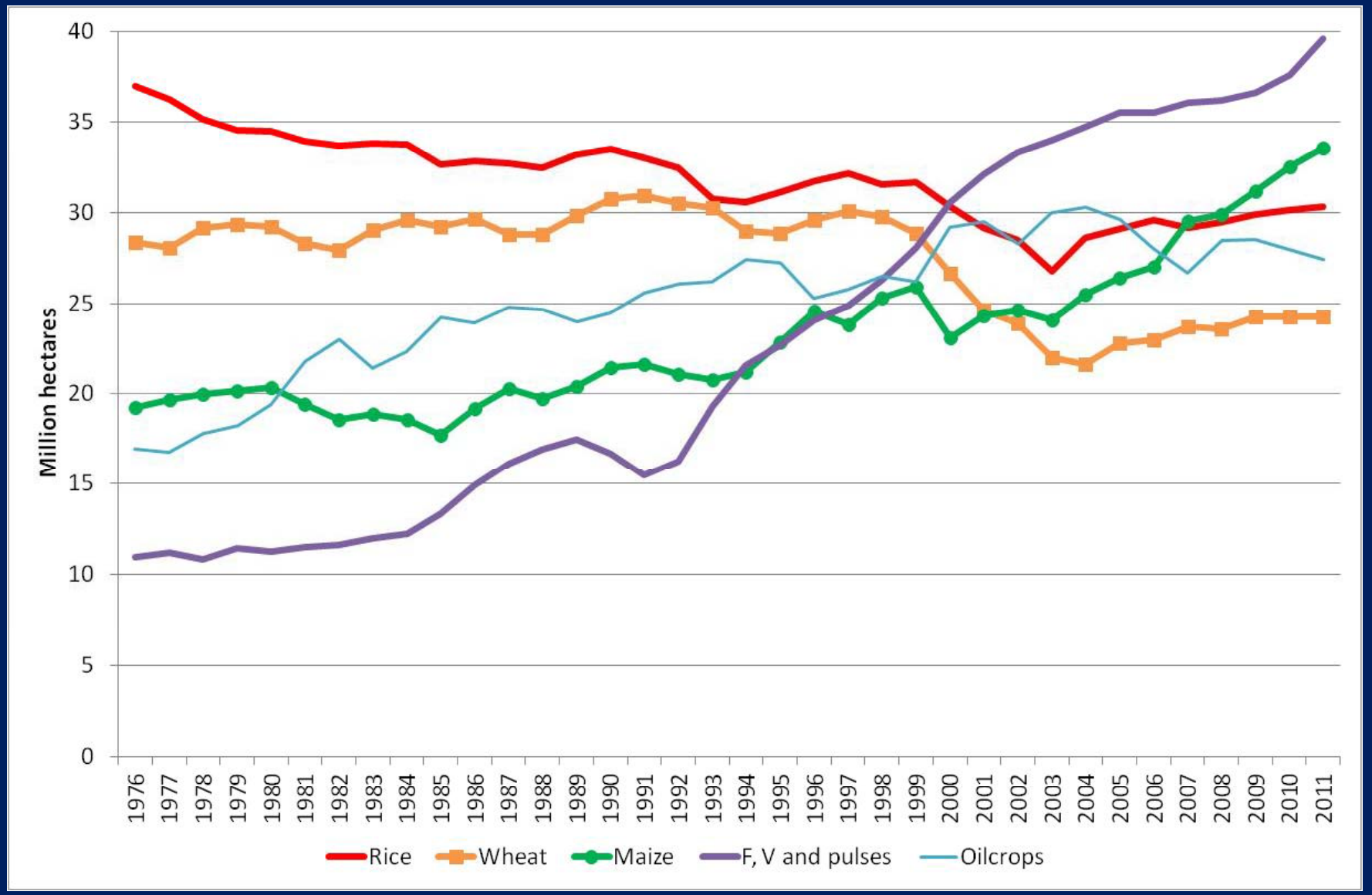
(2009 baseline: I&D accounts for 44% global production off 16% arable land)



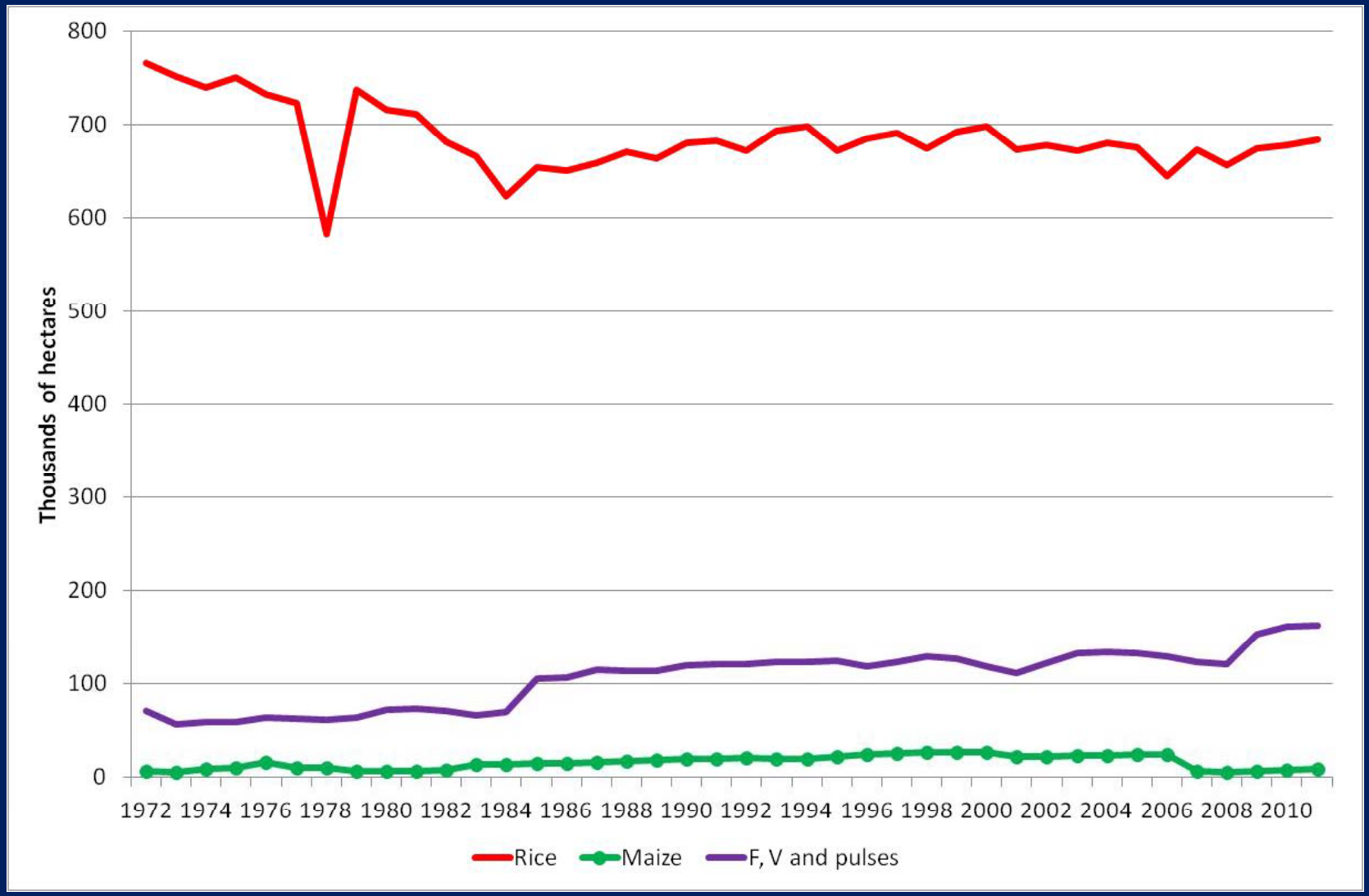
Diets are diversifying:
East Asia: Share of dietary energy supply 1960-2007



Cropping patterns also changing in some countries: China harvested areas 1976-2011



But not in others:
Malaysia harvested areas 1976 – 2011



The background to modernization in EAP

- Total arable land ~250 million ha. Equipped area~90 million ha.
- Deltas under pressure & groundwater will need to be factored in.
- Some limited room for further expansion, but where and how? In developed basins intensification will need higher water productivity
- Farm incomes falling – widening rural-urban income gap.
- Irrigation management lagging – modernization of institutions as a much an issue as modernization of irrigation schemes.
- High opportunity cost of rehabilitation and re-engineering to get desired levels of flexibility.
- Irrigation assets at risk. How resilient is the infrastructure... and how resilient the institutions?
- Basin planning/negotiation processes now more pluralistic than 'integrated' but general disconnect between water resource management and agriculture sector.

Preliminary Findings

- Past may be no guide to the future – but historical evolution instructive.
- By the time the style and level of service is organized, the client might have moved on (Malaysia)
- Irrigation systems much more ‘open’ than ever before but the sub-sector needs to make a better case for its allocation, use and quality of return flows (China and the ‘redlines’)

Short to medium term analysis

- Service oriented management will need more participation skills & information push (Thailand)
- Be selective – a modernization index (Indonesia)
- Professionalization a priority (Malaysia)
- I&D services can be linked to improved ET management (China)
- Revenue sources are changing (China)

Long term analysis – ‘future-watch’

The basic FAO AT2030/50 projections for EAP

- Production of irrigated food staples will continue to dominate but annual growth rates will slow ~0.5% by 2050.
- Equipped areas projected to expand only by 6 million ha. Yields will have to increase by 85% and cropping intensities by 15% to satisfy the supply-utilization accounts.

The uncertainties

- Calorie saturation by 2050? Will regional market connections continue to spread production risk?
- Hydrological and climate futures tricky – GCMs not happy with moisture.
- Baseline is patchy – where are the smallholder irrigators, what are their incomes and their exit strategies?

The ‘positives’

- Maintaining farm incomes will drive land consolidation
- Intensification and transition to precision agriculture inevitable – where labour substitution/mechanization is possible
- Capacity to operate modernized irrigation and drainage services will need training to start now
- At basin level, if not ‘integration’ then more effective institutional collaboration to spread risk. Farmer interests can be linked to basin planning and operation.
- At scheme level, costs of reviewing basic competencies and professionalism in delivering services are small (RAP/MASSCOTE)

Flexible hardware = flexible institutions?

Inflatable weir. Bang Pakong basin, Thailand

Thank you

A collaboration in EAP