Towards Enhancing Regional Rice Supply Chains and Trading Networks Integration: A Worm's Eye View

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2015 APAP Roundtable – Agricultural Investment and Competitiveness facing the Era of ASEAN Economic Community and ASEAN+3

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OUTLINE:

1. Introduction – Purpose; Underlying theme

2. Backdrop – Building on salient points from 2014 APAP Roundtable and Forum and related studies. New Dimensions, dynamics and recommendations floated.

3. Private sector's perspective and initiatives – compelling reasons beyond Food Security considerations – Evolving Rice Supply Chains and Trading Networks in Continental Asia, ASEAN, AEC, GMS, ASEAN+3 – New Realities: connectivity, economic corridors and border trade – China's 'One Belt and One Road' – So, how can Archipelagic/Island member countries (Indonesia, Malaysia, Philippines) also engage and benefit and not miss out?

4. The Way Forward

5. Key Take Home Messages

INTRODUCTION:

- ***Purpose*: Two fold. (i) Build on key salient points from 2014 APAP Roundtable and Forum and related studies on enhancing regional supply chains development to provide a view 'from the trenches', with a private sector slant, and (ii) Given the objective and orientation of this Roundtable, stimulate discussion at this meeting and beyond**

- **Underlying theme: policy makers, researchers, and stakeholders should understand 'why do companies do what they do' (Business for Development and Inclusive Business) as well as understand that there are more compelling reasons besides merely food security considerations for archipelagic net rice importing countries (Indonesia, Philippines, Malaysia) to be involved in emerging regional rice supply chains and trading networks – given the tremendous potential benefits from increasing connectivity and transforming trade patterns and markets that emerging economic corridors bring.**

Key Messages:

- **Idea of OREC misplaced – rice is NEITHER oil nor wine. More pragmatic to develop regional supply chains and trading networks developed and driven by strategic players from exporting and importing countries – then let supply chains compete against each other. Need to seek out synergisms and win-win arrangements.**

- **Dynamics of Global and regional rice markets and trade – shifting - policy changes in India, China and Thailand – China hike in imports resulted from raising price subsidy over last few years (expected to import > 4 million MT in 2014/15, largest importer of rice in future) – coupled with ASEAN and GMS connectivity and China's ambitious 'One Belt and One Road' initiative and establishment of Asian Infrastructure Investment Bank (AIIB) – enhancing regional rice supply chains and trading networks holds more compelling benefits, far beyond food security considerations.**

- **Under the radar, increasing incidence of cross-border investments in continental ASEAN and increasingly regional rice and agri-food supply chains and trading networks are forming and signs of integration and convergence. So far, Indonesia, Malaysia and Philippines are lagging - missing out on emerging opportunities.**

Key Messages (Cont'd):

- **Private sector can be the solution and lubricant in enhancing regional rice supply chains and trading networks. BERNAS' experience from 1996-2004 provides glimpse of possibilities - 'enlightened private sector' – increasing incidence of 'Business for Development' and 'Inclusive Business'. Like Adam Smith's invisible hand, will increase net social benefit as well lead to more sustainable and inclusive growth in individual countries and the region as a whole.**

- **Future options, prospects and considerations:**

  - **B2B Initiated and driven , G2G facilitated (Governments can take credit for success - but need to ensure sustainability and B not overtaken by greed) – evolving dynamics favour Rice Diplomacy?**
  - **What should Indonesia. Malaysia and Philippines view and respond to this window of opportunity?**
  - **Who can provide regional policy guidance and oversight? In this schema of things - there an obvious role for APAP Forum**

BACK DROP: SALIENT POINTS DISTILLED FROM 2014 APAP ROUNDTABLE, APAP FORUM AND RECENT STUDIES:

1. At beginning of ADBI study in 2012, all CLMV targeted to export more rice in future – but by end of study, on-going policy debate at national level is how much rice to produce and export? – in view of extensive nature, water requirement and low comparative profitability of rice. So recognize increasing importance of Supply Chain development and management (vertical diversification) and crop/enterprise choice or mix (horizontal diversification) – rice-based farming system

2. Except for Viet Nam (exports around 30-40% of total rice production), CLM export < 10% of production (much much less that what they consume domestically). Cautionary note: disproportionate emphasis on rice exports supply chain – domestic spatial and temporal arbitrage supply chains equally important especially for food security, employment generation, poverty reduction, and inclusive growth

SALIENT POINTS: (Cont'd)

4. Dynamics of Global and regional rice markets – shifting trade and market segments – policy changes in India, China and Thailand – China hike in imports result from raising price subsidy over last few years (likely major importer in future) – coupled with ASEAN and GMS connectivity increasing importance of Border Trade and cross-border investments. Also new markets with preferential treatment - EU (EBA)

5. Productivity enhancement - along entire supply chain – beyond efficiency and cost of production, but also cost of milling/processing (electricity, capacity utilization), transportation, export processing, financing. A recent comparison across countries – CLM lagging, much room for improvement

6. With the exception of Vinafood I and II in Viet Nam, CLM have rolled back the involvement of SOEs, - Myanmar Agriculture Produce Trading (Myanmar) and State Enterprise for Food and Crop Promotion (Lao PDR) – now playing minor role or restructured – future of SOEs (in exporting as well as importing countries – NFA and BULOG) and G to G trade? G to G facilitated but B to B executed – beyond trade to cross border investments and regional supply chains and trading networks?

SALIENT POINTS: (Cont'd)

7. Significant FDI in mills and processing – pivotal role for transforming upstream and downstream segments – development of comprehensive supply chains and sub-chains – investments in input supply, modern distributive trade, especially supermarkets – various forms of contract farming and modalities of provision of agri-support services and foundation for enhancing productivity – financing, technology and business organization and market access.

8. Need to get basics, balance and leveraging right in order to support ASEAN Equitable Economic Development and enhance regional food security – intuitively private sector driven – but for regional or cross-border P-P-P and within national borders, role of Government still important – especially in terms of governance and dispute settlement

SALIENT POINTS: (Cont'd)

9. Floated Recommendations

- **Policy issues – sequential strengthening of identified weak links in rice supply chains;**
- **Coordinated initiatives/emphasis on green food (low chemicals, traceable, food safety - food scare, absence of heavy metals);**
- **Development of more high-value end-uses – transmission of better prices to farmers/producers;**
- **Proactive in attracting FDI (technology transfer, export platform);**
- **More organized border trade – leveraging on increasing GMS and ASEAN connectivity – especially neighbour's (China and Thailand's) superior infrastructure and linkages to other countries**
- **New Markets with preferential treatment – EU - EBA and possibility China and Russia – need to be more proactive**
- **Scalability and Replicability of innovative approaches – adaptation, sharing and shoring – Private Sector more adept/capable in this – hence can be the solution rather than traditionally held view of being the cause of socio-politico-economic ills**
- **Explore possibility of development of 'regional rice cluster' covering not only ASEAN but also ASEAN + 3**

NEW DIMENSIONS OF FOOD SECURITY – Post 2008

Beyond the 'Traditional' Dimensions of Availability; Accessibility; Stability; and Utilization – new dimensions have rendered Food Security more complex, multi-scale, and interconnected.

- **Considered as part of Human Security – Non Traditional Security**
- **Cross-border or Regional dimension – collaboration/solutions**
- **Food-Feed-Fuel-Finance conundrum**
- **Food-Water-Energy nexus**
- **Traceability and food safety - Safe Food**
- **Demand Management – Save Food**
- **Self-reliance rather than self-sufficiency**
- **Increasing importance of more holistic Supply Management (and trading network) Approach**
- **Role of private sector – Public-Private Partnership**
- **Changing Role of Rice**

BUT basic issues of 'Price Dilemma', Domestic Price Stabilization and (mis)Trust of Global Rice Market remains – [CARE - debate trapped in mindset of 1970s despite realities of 2010s]

THE CHANGING ROLE OF RICE

- Rice increasingly food of the poor and rural segment – impacted most by volatility as well as 'high stable' (incentive) prices as mechanism to achieve food security at macro level and high level of self-sufficiency
- Urbanization lowers per capita consumption of rice – variety of substitutes – changing diets
- Relatedly, modern supply chains/supermarkets have linked and changed interactions between farmers, processors, markets and consumers
- Share of total calories from rice declining, food budget share of rice declining even faster < 20% (higher for poor); > 80% on other food, including processed & convenience food
- Consequently, share of rice in agricultural output and in overall economy also declining rapidly
- As rice cannot generate degree of employment and incomes required for inclusive and sustainable growth, water moving out of rice, land moving out of rice – horizontal and vertical diversification

Unfortunately, current food security debate still mired in the mindsets of the 1970s .. rice-centric, production-centric, public sector-centric, nation-centric (self-sufficiency rather than self-reliant), etc… can and should do better!

THE CHANGING ROLE OF RICE (Cont'd)

- **A cautionary note on continuing over-emphasis on the productivity of rice at farm level – 'necessary but insufficient' . Many regional successes in dynamic rural development stems from rural households 'climbing the value ladder' – from low quality rice to high quality rice, to fish, vegetables, fruits and livestock – all of which are more employment creating and pay up to 10 times more income per hectare and per labour day than common quality rice.**

- **Given the dominance of rice, however, such efforts should be coupled with vertical diversification along rice and supply chain - focusing on higher value end-uses and well as intercropping (Rice++ strategy). This horizontal and vertical diversification should be a market driven desired outcome, with Government as enabler rather than past practice of Governments 'picking winners' and subsidizing its development.**

MYANMAR: AVERAGE MONTHLY HOUSEHOLD EXPENDITURE BY GROUP, 2006

(Value-Kyat)

S.N.	Particulars	Union		Urban		Rural	
		Value	%	Value	%	Value	%
I.	SIZE OF HOUSEHOLD	4.72		4.87		4.67	
II.	HOUSEHOLD EXPENDITURE TOTAL	97699.87	100.00	113320.51	100.00	90631.85	100.00
	1.FOOD AND BEVERAGES TOTAL	69170.71	70.80	77345.92	68.25	65358.17	72.11
	Rice	17891.45	18.31	18186.16	16.05	17781.50	19.62
	Pulses	1842.16	1.89	2046.60	1.81	1814.61	2.00
	Meat	7824.56	8.01	9414.54	8.31	6923.67	7.64
	Eggs	2369.46	2.43	2837.48	2.50	2194.62	2.42
	Fish and crustacea (fresh)	5252.35	5.38	6260.64	5.52	4825.62	5.32
	Fish and crustacea (dried)	2926.79	3.00	3240.12	2.86	2821.10	3.11
	Ngapi and nganpyaye*	1687.13	1.73	1683.00	1.49	1688.67	1.86
	Cooking oil and fats	5536.11	5.67	5887.05	5.20	5309.74	5.86
	Fruits and vegetables	8826.45	9.04	9560.30	8.43	8480.76	9.35
	2.NON-FOOD TOTAL	28529.16	29.20	35974.59	31.75	25273.68	27.89

1/ Includes food taken outside home.
* Fish/Shrimp paste and sauce

Source: Central Statistical Organization
Statistical Year Book 2011

New Vision for Agriculture - Creating Shared Value

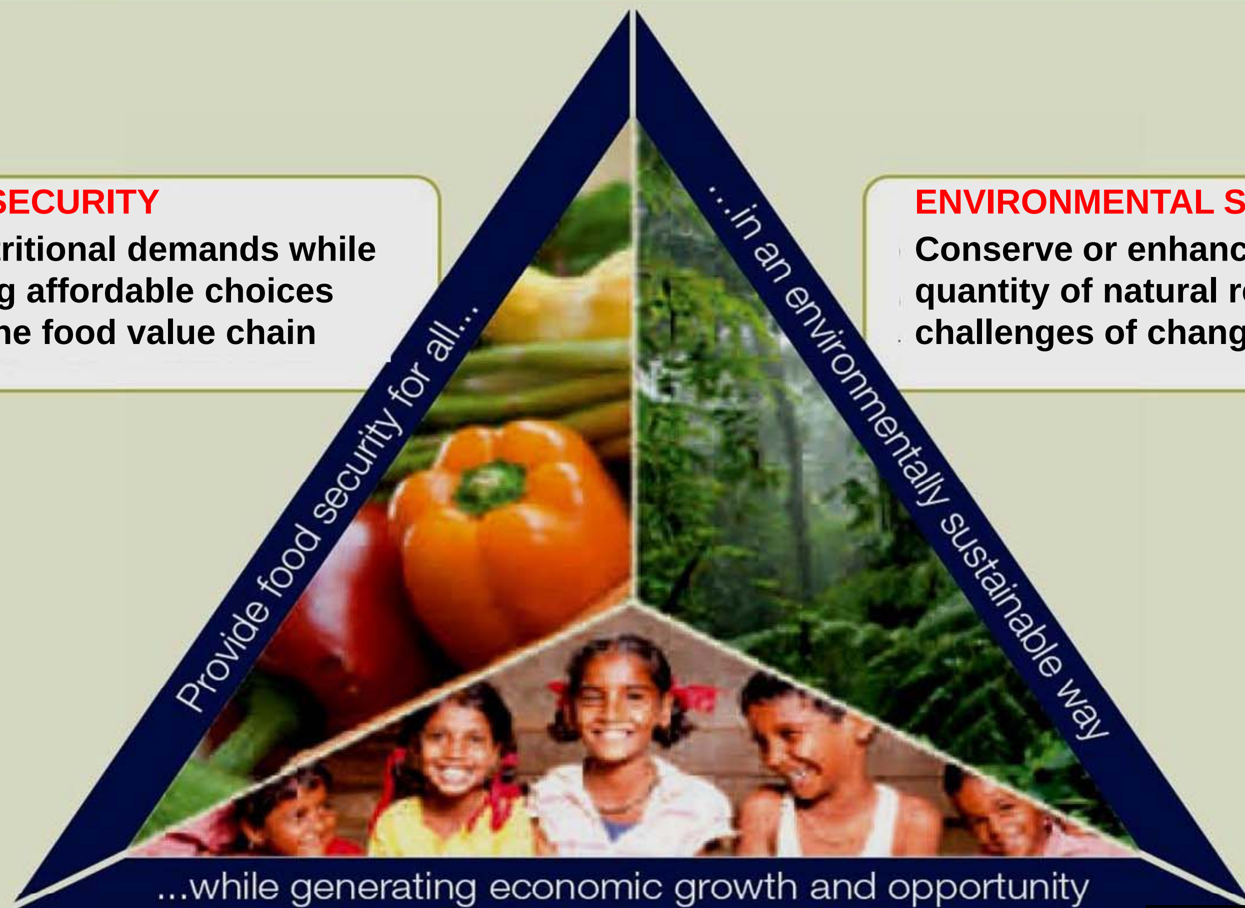
A global agriculture system that harnesses the power of markets and multi-stakeholder collaboration to feed the world, protect our planet and create prosperity

FOOD SECURITY

Meet nutritional demands while providing affordable choices across the food value chain

ENVIRONMENTAL SUSTAINABILITY

Conserve or enhance the quality and quantity of natural resources; meet the challenges of changing climate

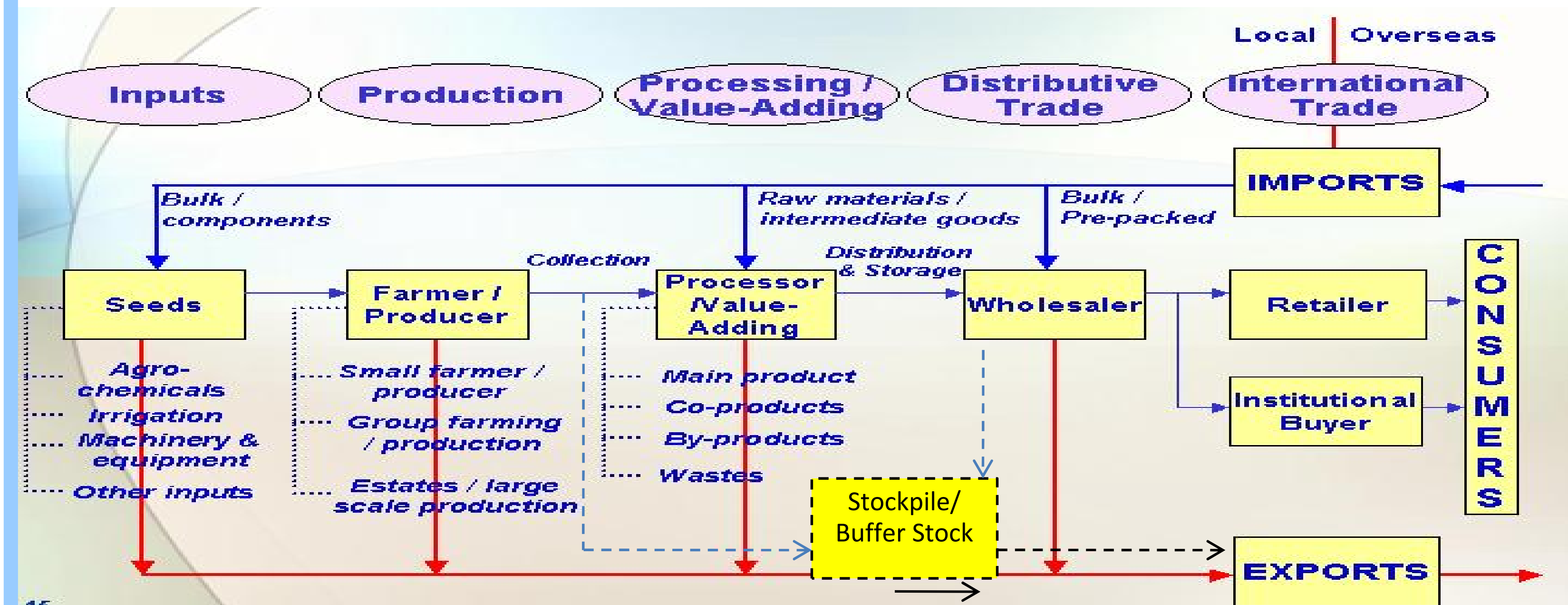


ECONOMIC OPPORTUNITY

Drive rural and national economic development around the globe with well-targeted investments

Source: WEF, 2010

HOLISTIC SUPPLY CHAIN MANAGEMENT CUM CLUSTER DEVELOPMENT APPROACH – Economic Activities Along Supply Chain: basis for Agriculture as 'Engine of Growth'

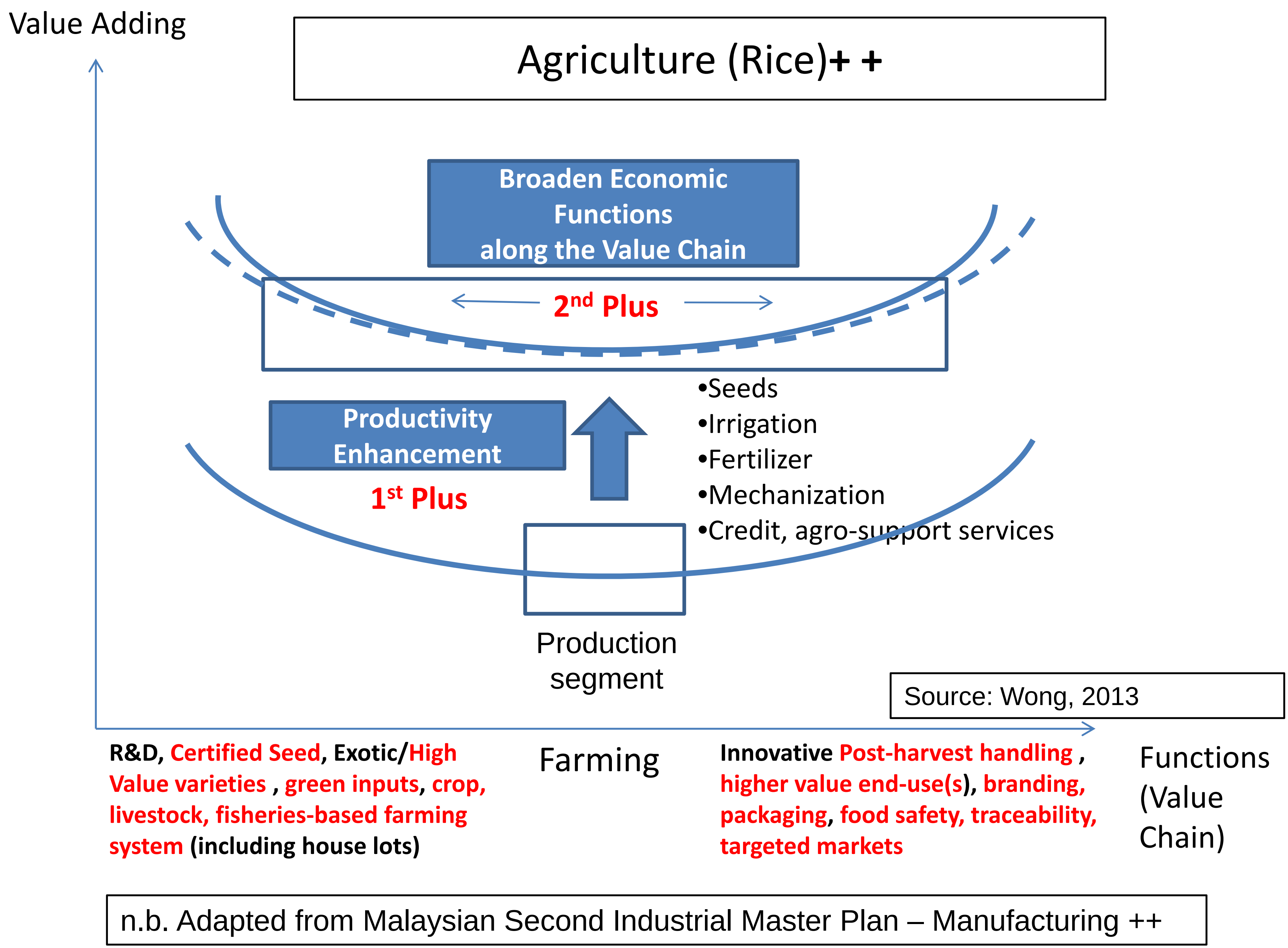


<u>CURRENT/FUTURE OPPORTUNITIES</u>

TIER I → INPUT / PRODUCTION / OUTPUT →
- End uses, End uses enabled by science & technology innovations

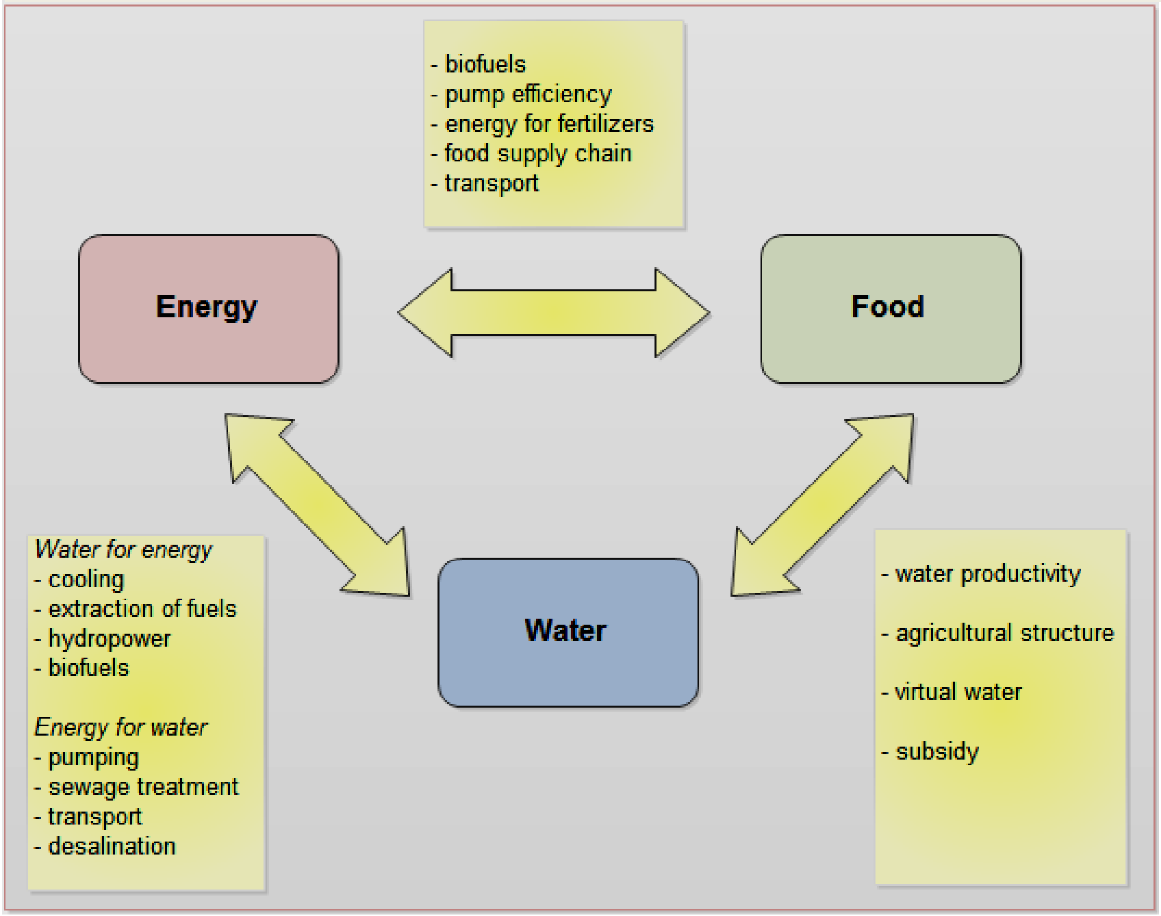
TIER II → INTERMEDIATE SUPPLIER & SUPPORT SERVICE →
- Inputs, Machinery & Equipment, Metal industry
- Industrial Chemicals, Paper industry, Printing
- Logistics, Business Services

TIER III → FOUNDATION PROVIDERS →
- Infrastructure, Finance, HR Development
- Technology, Regulatory Environment


Value Adding
Agriculture (Rice)+ +
Broaden Economic Functions along the Value Chain
2nd Plus
Productivity Enhancement
1st Plus
•Seeds
•Irrigation
•Fertilizer
•Mechanization
•Credit, agro-support services
Production segment
Source: Wong, 2013
R&D, Certified Seed, Exotic/High Value varieties , green inputs, crop, livestock, fisheries-based farming system (including house lots)
Farming
Innovative Post-harvest handling , higher value end-use(s), branding, packaging, food safety, traceability, targeted markets
Functions (Value Chain)
n.b. Adapted from Malaysian Second Industrial Master Plan – Manufacturing ++

ASIDE: Energy, Water and Food Nexus:

Energy, water and food resources are inextricably linked



- **Water for energy currently amounts to about 8% of global water withdrawals (45% in industrialized countries, e.g. in Europe).**

- **Food production and supply chain is responsible for around 30% of total global energy demand**

- **Food production is the largest user of water at the global level, responsible for 80% of consumptive blue water use [A crop of rice requires 1200-1400mm of water or 4 acre feet water duty. Therefore for many countries, 'too expensive' to grow rice.]**

Major Global Rice Producers and Consumers

Major rice producing countries

Country	2012/13 (mi. ton)	%
China	143	30.3
India	105.2	22.3
Indonesia	36.6	7.8
Bangladesh	33.8	7.2
Vietnam	27.7	5.9
Thailand	20.2	4.3
Myanmar	11.7	2.5
Philippines	11.4	2.4
Japan	9.8	2.1
Brazil	8.0	1.7
USA	6.3	1.3
Cambodia	4.6	0.9
Others	53.2	11.3
Total	471.5	100

Source: Grain: World Market and Trade, USDA, March 2014

Major rice consuming countries

Country	2012/13 (mil.ton)	%
China	144	30.8
India	94	20.1
Indonesia	38	8.1
Bangladesh	34.5	7.4
Vietnam	20.5	4.4
Philippines	12.9	2.8
Thailand	10.6	2.3
Myanmar	10.4	2.2
Japan	8.3	1.8
Brazil	7.9	1.7
Nigeria	5.4	1.2
Korea	4.6	1.0
USA	3.8	0.8
Egypt	3.9	0.8
Cambodia	3.6	0.7
Others	64.8	13.9
Total	467.2	100.00

Major Rice Exporting and Importing Countries

Major Rice exporting countries in 2013

Country	Amount (mil. ton)	%
India	10.50	27.16
Vietnam	6.80	17.59
Thailand	6.70	17.33
Pakistan	3.50	9.05
USA	3.27	8.46
Myanmar	1.16	3.01
Cambodia	0.98	2.53
China	0.45	1.16
Brazil	0.83	2.15
Uruguay	0.90	2.33
Argentina	0.53	1.37
Egypt	0.85	2.20
Australia	0.46	1.19
Guyana	0.35	0.91
Others	1.38	3.56
Total	38.66	100.0

Major Rice importing countries in 2013

Countries	2013	%
China	3.20	8.28
Nigeria	2.60	6.73
Iran	2.15	5.56
Iraq	1.30	3.36
Cote d Ivore	1.30	3.36
EU	1.30	3.36
Saudi Arabia	1.23	3.18
Senegal	1.25	3.23
Philippines	1.10	2.85
South Africa	0.95	2.46
Malaysia	0.90	2.33
Indonesia	0.65	1.68
Brazil	0.75	1.94
Japan	0.69	1.78
Mexico	0.73	1.89
Others	17.91	46.33
Total	38.66	100.0

Source: Grain: World Market and Trade, USDA, March 2014

Trade structure (quality segments) has changed

World Trade: Est. Changes in Quality since Mid 1990s			
(millions of tons, milled equiv.)			
Quality	mid 90s	2005-07	2010-12
Basmati	.89	2.00	3.64
Jasmine	1.20	1.90	2.52
Jasmine Bkns	NA	.69	0.73
Glutinous	.28	.34	.46
Japonica	1.50	2.58	2.42
Rough	.50	2.45	2.36
Brown	.60	0.70	.64
Parboiled	2.15	6.93	6.07
High	3.20	5.10	8.14
Medium	2.50	3.07	2.97
Low	3.86	5.27	4.63
Brokens	.83	1.82	2.01
Total	17.50	32.85	36.60

Source: Personal Communication Tom Slayton

Key Importers Changing - Opportunities

Imports by Key Markets (million tons)				
	2011	2012	2013	2014
Bangladesh	1.49	.05	.30	0.70
China	.58	2.90	3.00	4.30
Indonesia	3.10	1.96	1.50	1.30
Iran	1.87	1.70	1.50	1.65
Iraq	1.04	1.48	1.40	1.15
Ivory Coast	.94	1.45	1.15	1.20
Nigeria	2.55	3.40	2.90	3.20
Philippines	1.20	1.50	1.50	1.70
Senegal	.81	1.20	1.00	1.20
Others	22.69	23.51	25.75	26.52
TOTAL	36.25	39.15	38.60	42.90

China: Increasing Paddy support prices- 2012 $381/MT, 2013 420/MT (~620/MT rice wholesale); TRQ – 5.32 MMT (duty 1% cf outside TRQ 65%)

EU: imports 1.5MMT/annum; EBA – duty free, quota free; 2013 – E175 or USD228/MT

Source: Tom Slayton and USDA

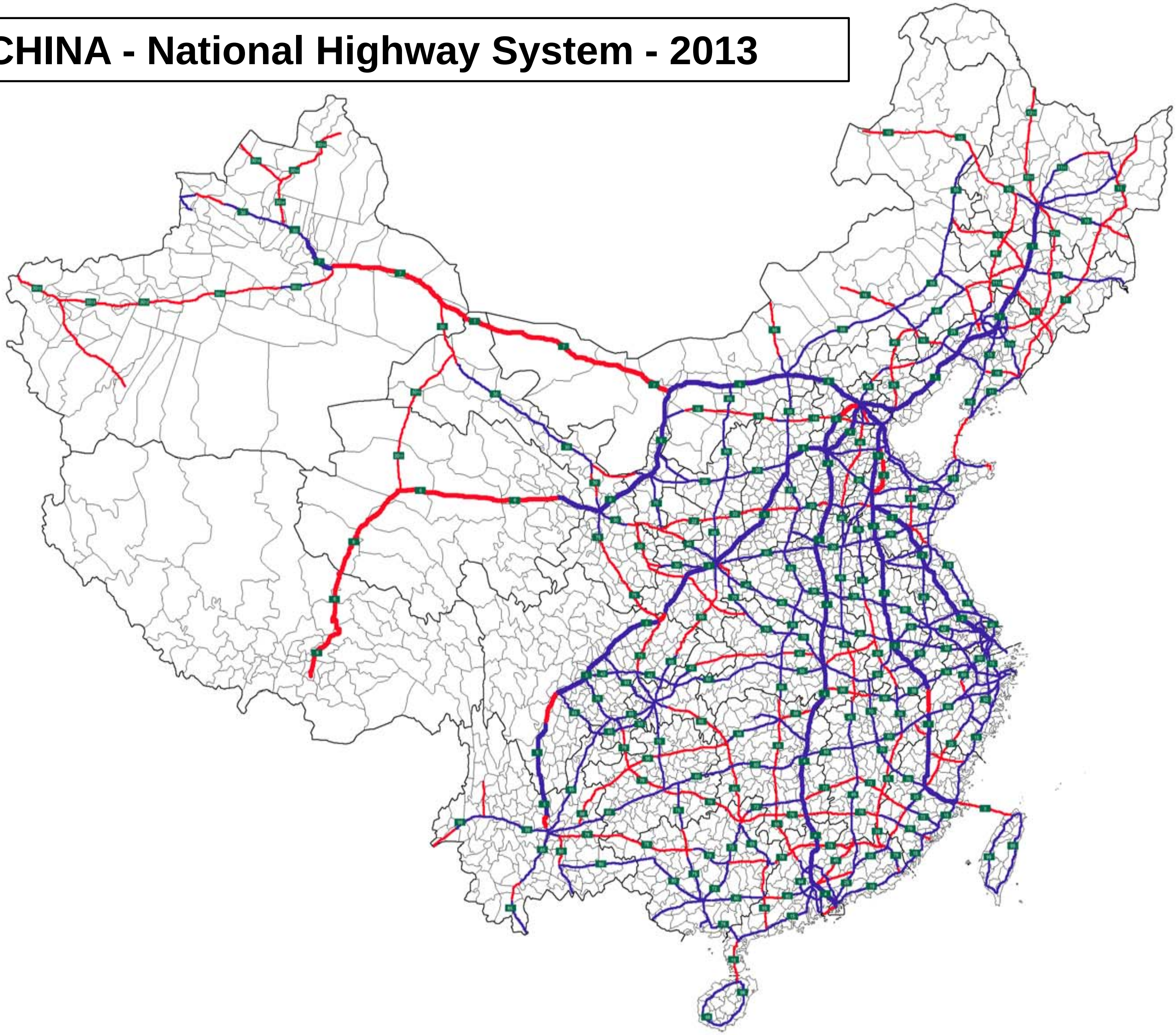
GMS Connectivity

Road Transport Network

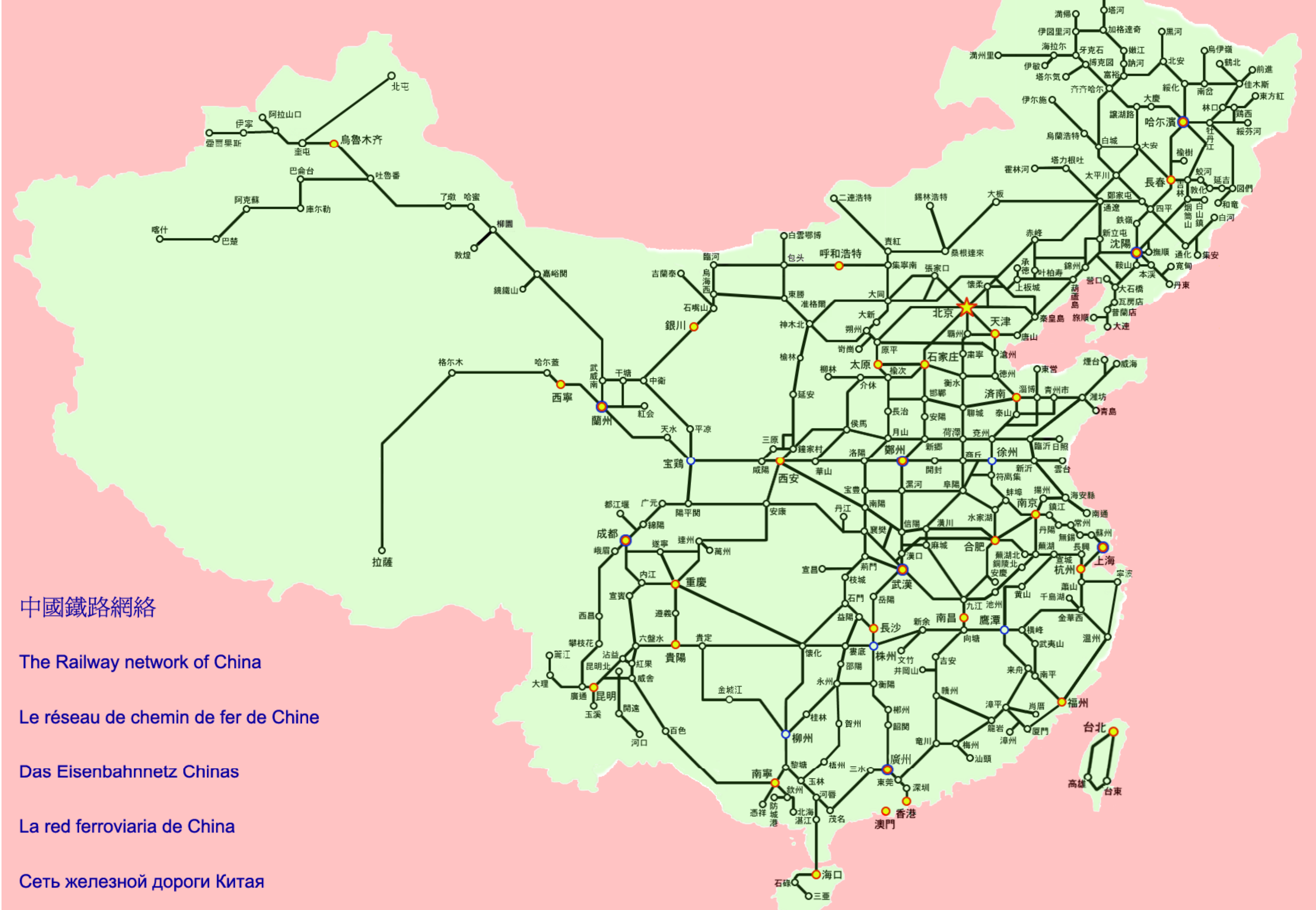
2015 (Committed)

Source: West Indochina

CHINA - National Highway System - 2013



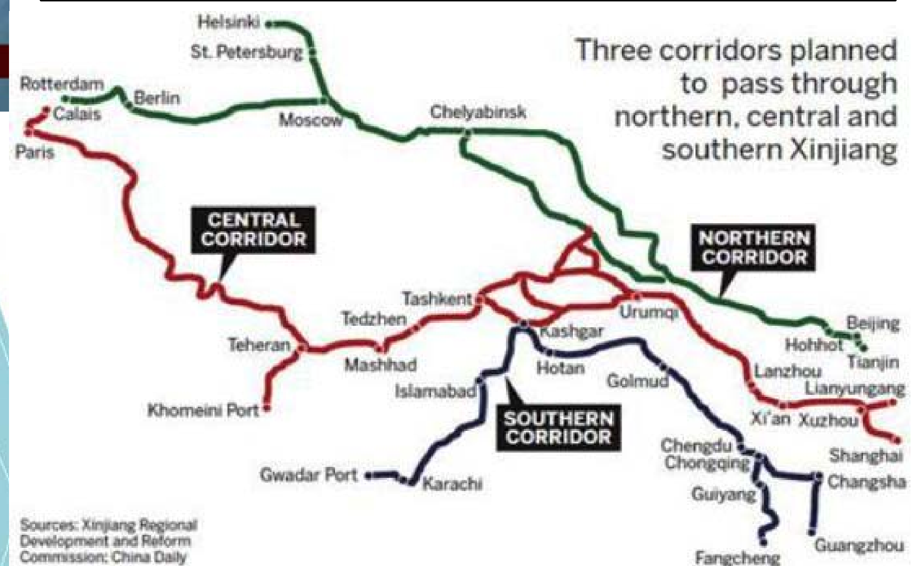
Current Railways in China, 2013



China's 'One Belt and One Road'

China's efforts at **Modern Silk Routes** and recent ambitious **'One Belt and One Road' initiative** spanning Eurasia – linking 60 countries, 4.4 billion people, accounts for 29% of world's GDP – expected to be completed by 2025

Asian Infrastructure Investment Bank (AIIB) – 24 Oct 2014 - 21 countries signed - 22 Mar 2015 – 36 countries (incl non-regional members) - starting with $50 Bil.



2011 – Chong Qing to Duisburg (Germany)

2014 - Yiwu (near Shanghai) to Madrid 13,000 km, 82 containers, 1,000MT, 21 days

REGIONAL RICE SUPPLY CHAIN AND TRADING NETWORK INTEGRATION – ALREADY HAPPENING

- **Dynamics of Global and regional rice markets – coupled with ASEAN and GMS connectivity – increasing involvement of private sector in treating ASEAN as a production and market base ahead of 2015.**

- **Productivity enhancement - along entire supply chain – beyond efficiency and cost of production, but also cost of milling/processing (electricity), transportation, export processing, financing.**

- **Significant cross-border investments in mills and processing - pivotal role in transforming upstream and downstream segments – development of comprehensive supply chains and trading networks - investments in input supply, modern distributive trade (especially supermarkets) – various forms of contract farming and modalities of provision of agri-support services and foundation for enhancing productivity and international trade.**

Notable Examples of Cross-Border Investments

Viet Nam – 2000s – Golden Resources (Hong Kong); Kitoku (Japan) JV with Angimex in An Giang province

2007 – Vinafood JV with Iraqi Company in Cantho;

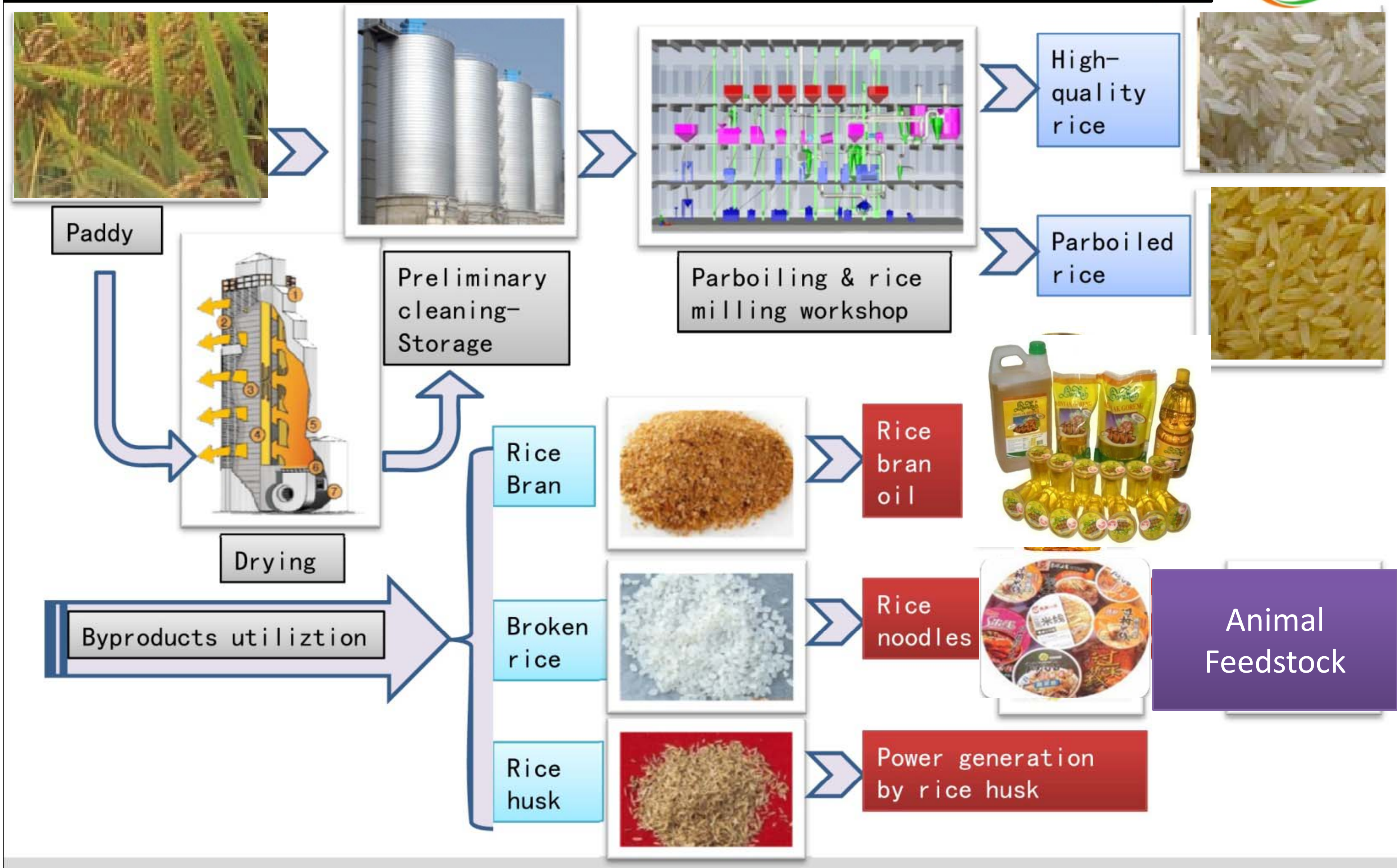
2012 – Vinafood JV with Singapore company in Dong Thap

Cambodia – CCAD – JV with Sinograin & Yunnan Pan Asia Ag Cooperation & Development Co; Long Grain Co – JV with UK and Indian investors; Batambang Rice Investment Co (BRIC) – JV with Singapore investor; Crystal Rice Kampuchae – JV with Asia Golden Rice (Thai) in Kampot

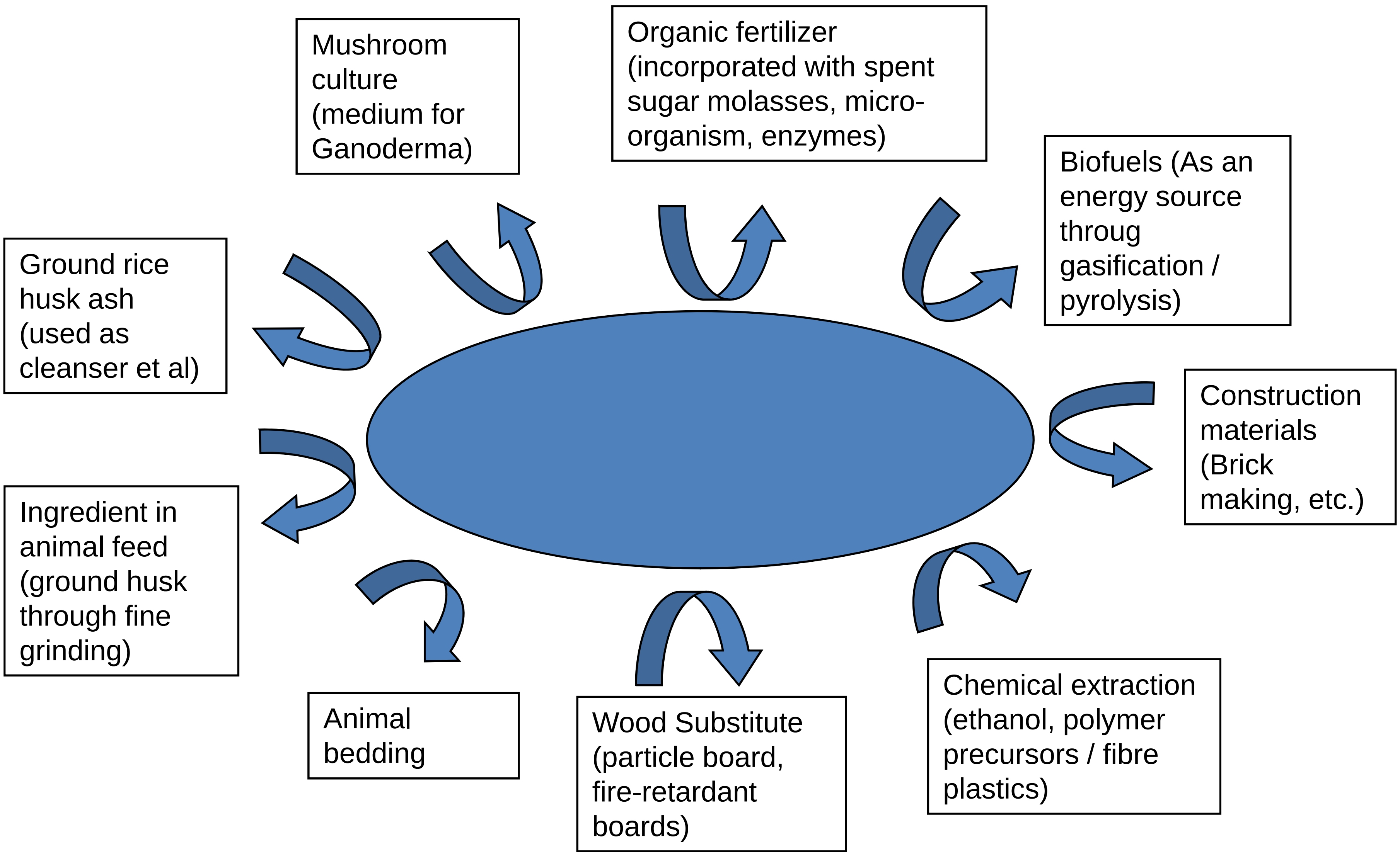
Lao PDR – Lao World Co Ltd (French); Sengarthit Development Co Ltd (French); Daum Agro Sole Ltd (Korean); Fu Teng (China) strategic alliance with Dao Phet Group

Myanmar – Myanmar Japan Rice Industry Co Ltd – JV between MAPCO and Mitsui; JV Siacom (French) with XY Trading Co Ltd in Ayeyarwaddy; CP (Thai) with Amari; CAMC Engineering (China) MOU with Myanmar Rice Mill Company

Targeting Multiple end-uses - MAPCO-Mitsui JV in Myanmar



Alternative Uses for Rice Yield Components



Summary: Opportunities for Innovative Rice Products Commercialization

Product	Value Addition Potential*	Closeness to Commercialization	Market Potential**	Potential for returns
Gaba rice	Medium	Ready	Medium	Medium
Organic five-grain rice blend	Medium	Ready	Low / medium	Medium
Modified starch	Medium / High	Ready	Medium / High	High
Baby foods	High	Ready	Medium / High	High
Rice bran oil	Medium	Ready	Low / medium	Medium / High
Oryzanol	High	Ready	Medium / High	High
Probiotics	High	Ready	Medium / High	High
Phytosterols	High	Ready	Medium / High	High
Rice ingredients for Cosmetics	High	Ready	High	High
Rice ingredients for cosmeceuticals	High	Ready	High	High

Source: Asia BioBusiness, 2006

* Relative to base ingredient

** Integration of factors e.g. competing products / size of products / time scale to gain value

BERNAS' Business Strategy/Experience (1996-2004)

Vertical Integration

(Linking & Managing Supply Chain)

SOURCING

- Vertical integration in the sourcing countries through JVs

FARMING

- Pioneering HQR farming

MILLING

- Improve operational efficiency & quality by using automation and other end-uses of rice

WAREHOUSING

- Refocus warehouse to become distribution and logistic support

DISTRIBUTION

- Consolidate business entities and vertically integrated with logistic and production

LOCAL & INTERNATIONAL

(International Trading Network)
- Commodities Trading

- Backward integration through JVs with related sources (eg: flour, manufacturer of food, etc)

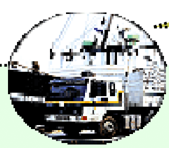
OTHER FOOD

Semi Perishables • Onions, shallots, Garlic, Dried Chilies, Potatoes, Spices
Dry Food • Bread, Flour , Sugar
Processed Food
Wet Food • Beef, Chicken, Fish

Horizontal Integration

(Food Super Highway)

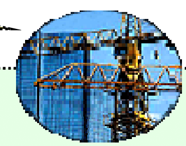
- **Forward integration through JVs with food distribution network**



LOGISTICS

ENGINEERING

PACKAGING



REALTY & CONST

CONCENTRIC DIVERSIFICATION

OTHER BUSINESSES (LOCAL)

(Cluster Development)

Key Messages:

- ❖ Idea of OREC misplaced – rice is NEITHER oil nor wine. More pragmatic to develop regional supply chains and trading networks developed and driven by strategic players from exporting and importing countries – then let supply chains compete against each other. Need to seek out synergisms and win-win arrangements.

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- ❖ Under the radar, increasing incidence of cross-border investments in continental ASEAN and increasingly regional rice and agri-food supply chains and trading networks are forming and signs of integration and convergence. So far, Indonesia, Malaysia and Philippines are lagging - missing out on emerging opportunities.

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THANK YOU !

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