



Is Rice Sector in Sri Lanka at Cross Roads?

Jeevika Weerahewa

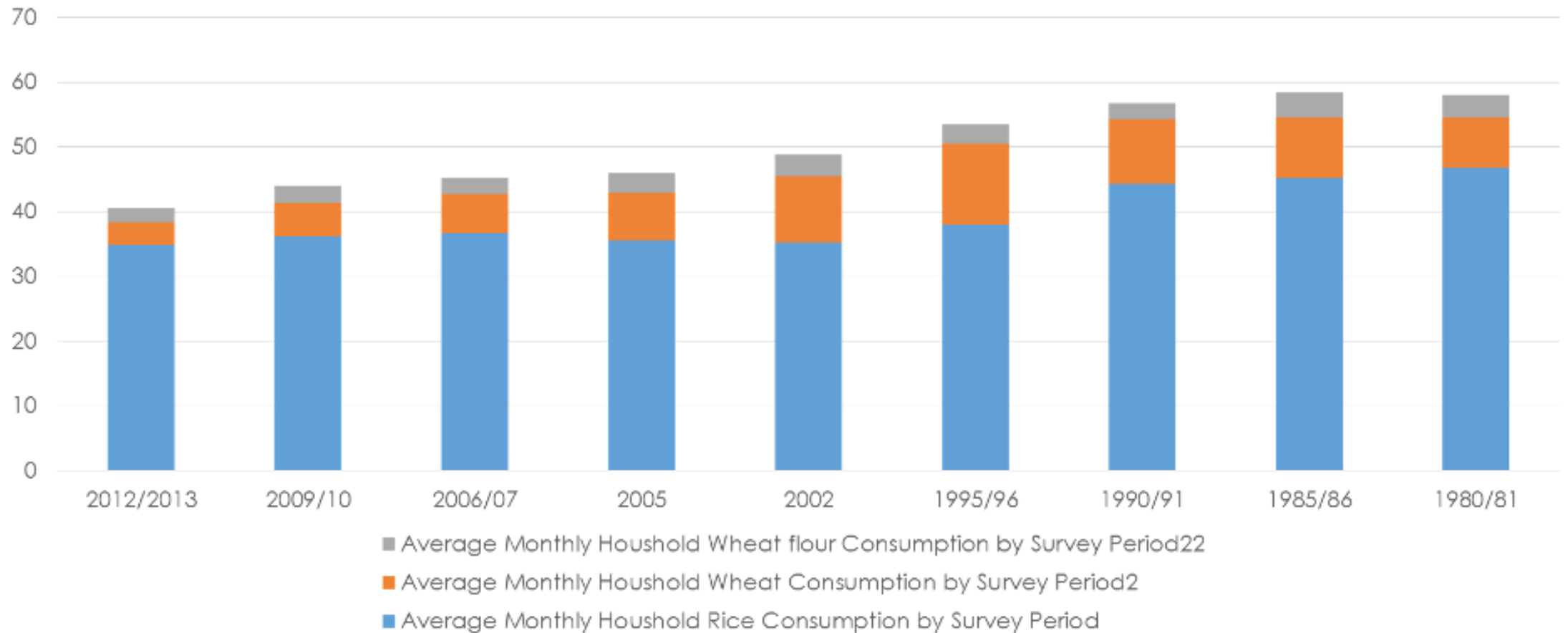
Department of Agricultural Economics and Business
Management, Faculty of Agriculture, University of
Peradeniya



Outline

- Sri Lanka: A Rice Eating Nation
 - Rice self sufficiency
- Domestic Rice Supply: Patterns and Recent Trends
 - Drought 2016/2017: Effects on the paddy and rice supply
- Rice Imports into Sri Lanka: Historical partners
 - A glimpse of the world rice market
- Way Forward: Policy options to address contemporary challenges

Sri Lanka: A Rice Eating Nation



Rice requirement of the country as per 2012/13 consumption

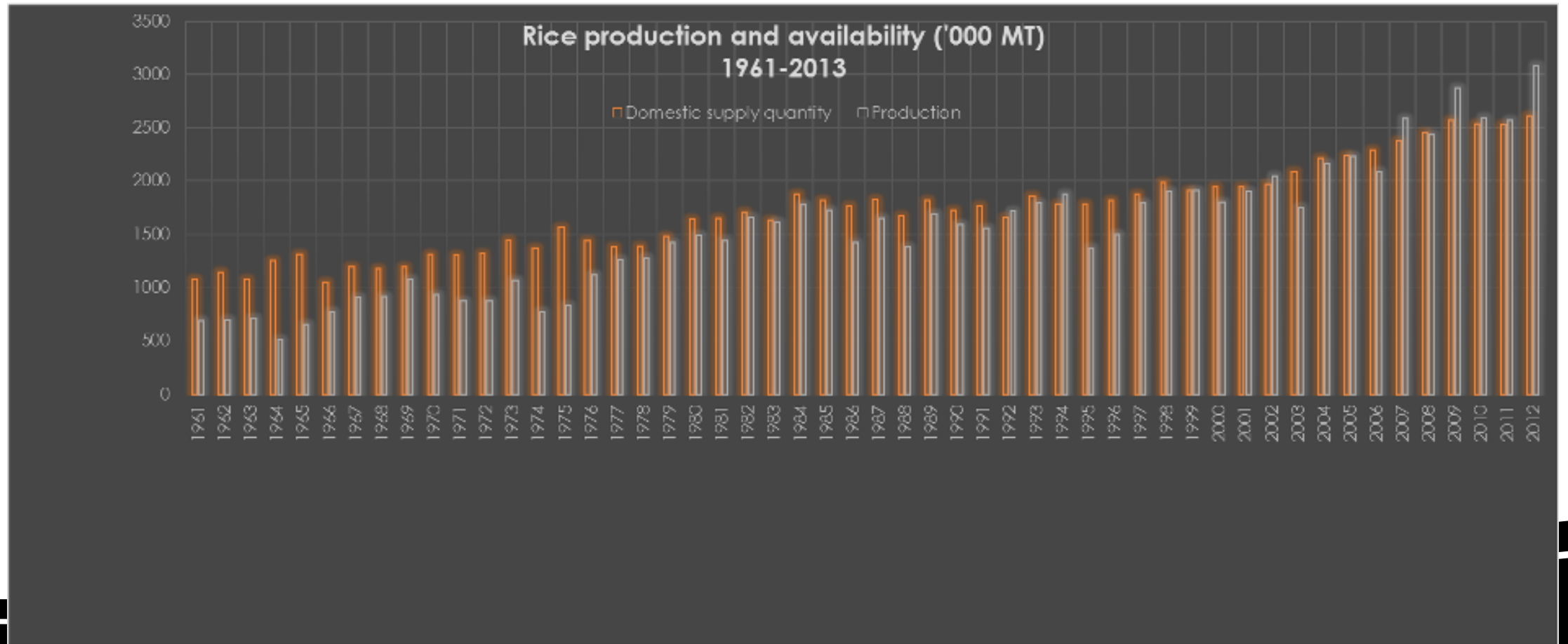
Rice Type	Per person requirement in kg	National requirement in mt
Rice - (Kekulu - white)	22.33	473,436.70
Rice - (Kekulu Samba - white)	2.81	59,517.67
Rice - (Kekulu - red)	23.28	493,524.42
Rice - (Kekulu Samba - red)	1.21	25,664.96
Rice - (Samba)	17.26	365,871.33
Rice - (Nadu-red)	4.38	92,879.32
Rice - (Nadu - white)	35.21	746,583.92
Rice - (Basmathi)	0.12	2,625.78
Rice - (other)	1.28	27,071.99
Rice flour	2.32	49,289.34
Sub-total Rice All	110.20	2,336,465.43



Trends and patterns in rice consumption

- Food ratio
 - Declining over the years and smaller for high income earners
- Structural change in cereal consumption
 - Own price (fairly inelastic: -0.58), cross price (very inelastic: -0.01) and income elasticities of rice (inelastic: 0.58)
- Substitution among various rice types
 - Taste (Basmathi rice, Japonica rice)
 - Nutrition (Traditional rice, Brown rice)
 - Healthy rice types (GI—Basmathi rice)
 - Demand for safe food (Organic rice, fake rice from plastic)

Rice self sufficiency

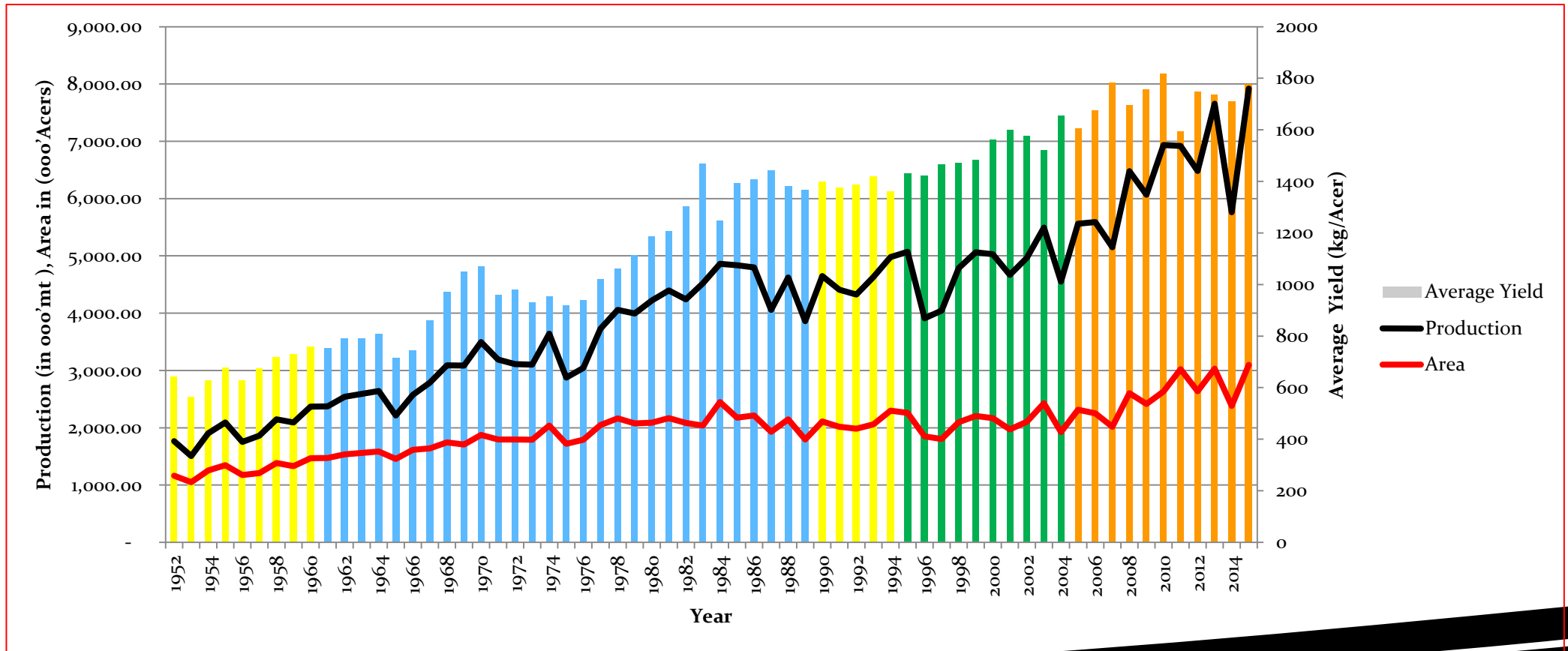




Rice production and supply pattern

- Determinants of rice production—the technical relationship
 - High yielding varieties
 - Climate variables (Rainfall, Temperature and Salinity)
 - Labor, fertilizer, seeds etc.
 - Land size, shape, tenure arrangement
 - Research investments
- Determinants of rice supply—the behavioral relationship
 - Guaranteed price of rice
 - Fertilizer price, agro-chemical price etc.

Paddy production, extent cultivated and average yield of paddy



Paddy Production function Estimates

Variable Name	notation	Units
Season	S	Dummy
Irrigation	I	Dummy
Trend	T	
Machinery cost real	MC	Rs/Ac
Seed Rate	SR	Kg/Ac
Labour	LB	Manday/ Ac
Urea	UR	Kg/AC
TSP	TSP	Kg/AC
MOP	MOP	Kg/AC

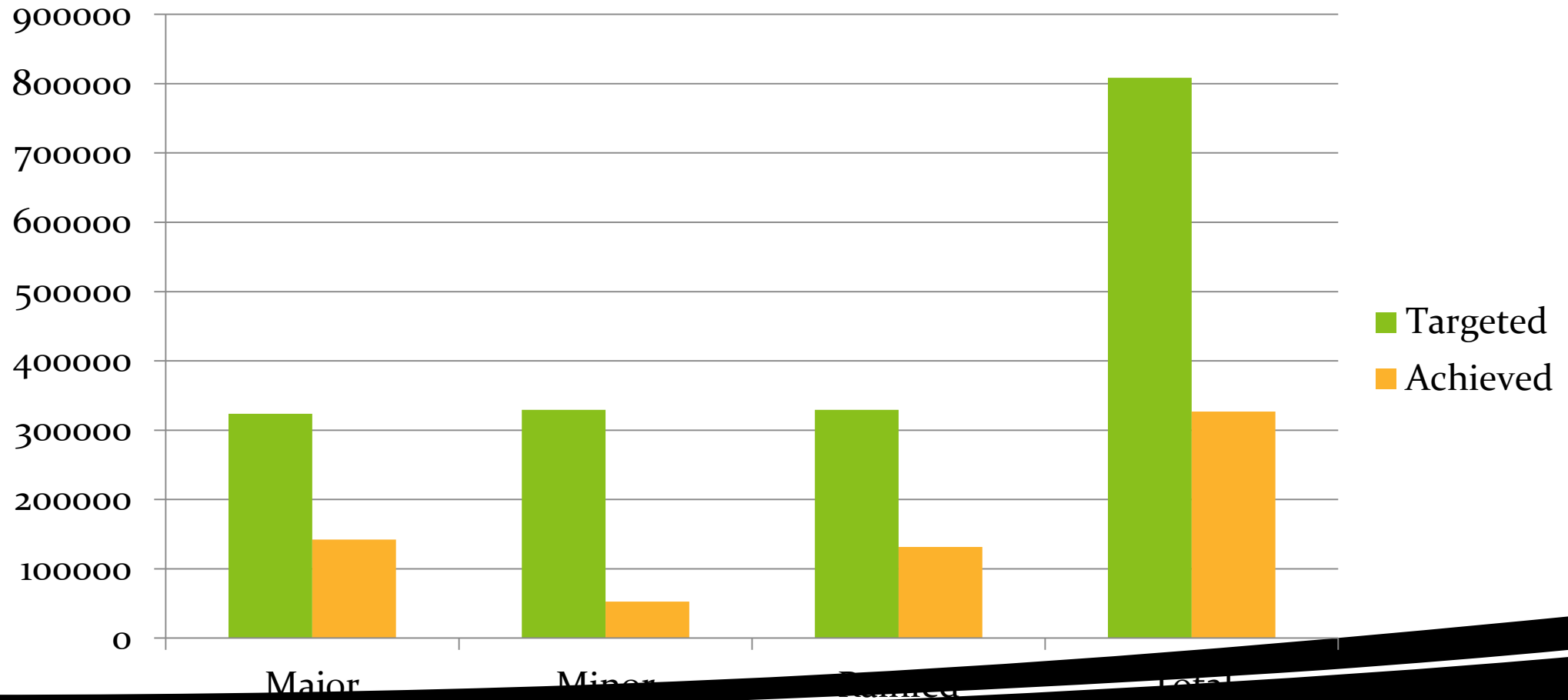
Variable	Coefficient value	S.E	t value	P value
S	53.17212	28.02992	1.90	0.059
I	548.1161	54.43545	10.07	0.000
T	17.54718	9.025823	1.94	0.053
MC	-.2247506	.0880692	-2.55	0.011
SR	8.006571	11.40992	0.70	0.48
LB	27.28259	14.02834	1.94	0.053
UR	10.61295	4.686117	2.26	0.024
TSP	-4.796415	16.52362	-0.29	0.772
MOP	20.73779	15.12347	1.37	0.172
MC*MC	.0000249	8.28e-06	3.00	0.003
SR*SR	.0085397	.0936012	0.09	0.927
LB*LB	-.4584867	.2360527	-1.94	0.053
UR*UR	-.0361194	.0254825	-1.42	0.158
TSP*TSP	-.0193133	.243163	-0.08	0.937
MOP*MOP	-.2820039	.2060539	-1.37	0.172
Constant	205.0677	533.3943	0.38	0.701



Supply elasticities...

- Rajapaksa and Karunagoda (2008) argue that paddy yield is more responsive to output price than to fertilizer price.
- Weerahewa (2004) found that the elasticity of paddy supply with respect to paddy price, though inelastic, is quite a bit higher (0.609) than that of fertilizer price (-0.074).
- Ekanayake (2006) revealed that fertilizer demand elasticities with respect to price vary by type of fertilizer (urea, TSP, or MOP), but they are inelastic with respect to their own prices, output price, and policy changes.

Effects of 2016/2017 drought on extent cultivated (ha) as per the crop forecast estimates of the DoA



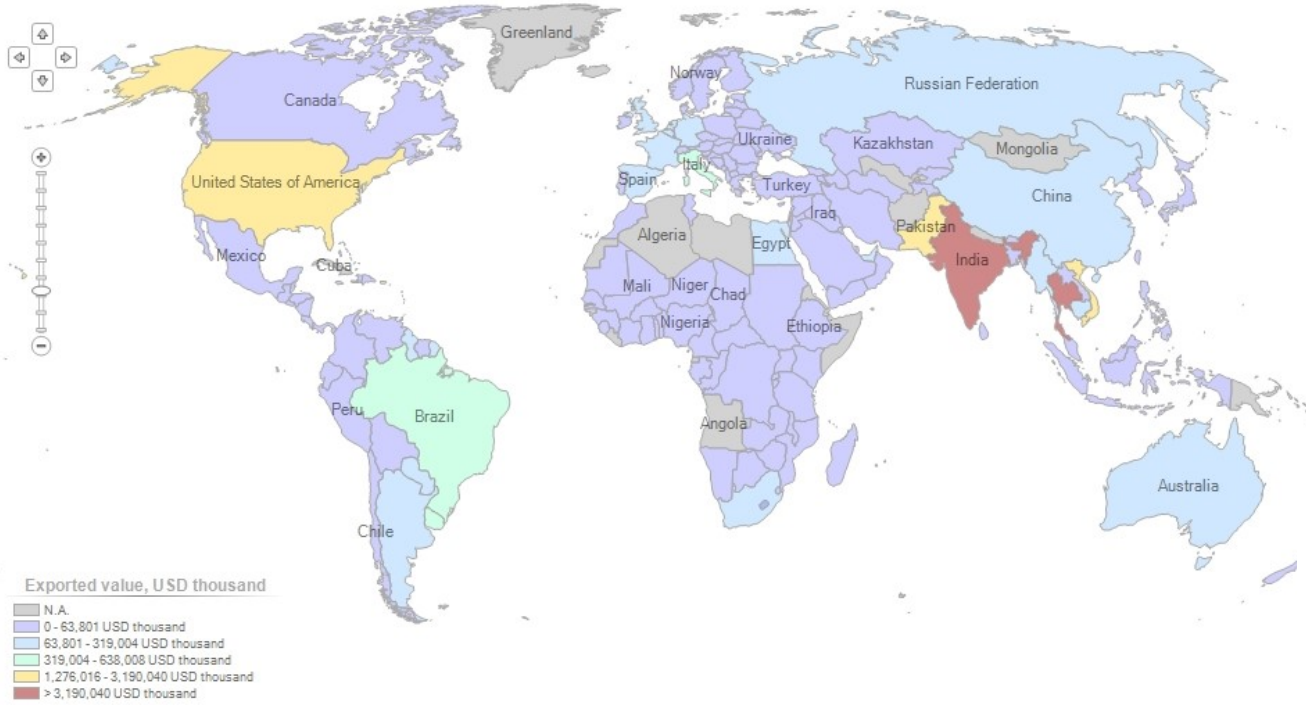


International trade in rice

- Restricted through various tariffs and para-tariff barriers
- Import mainly from India and Pakistan
- During the global food crisis period, export restrictions were imposed by the India government

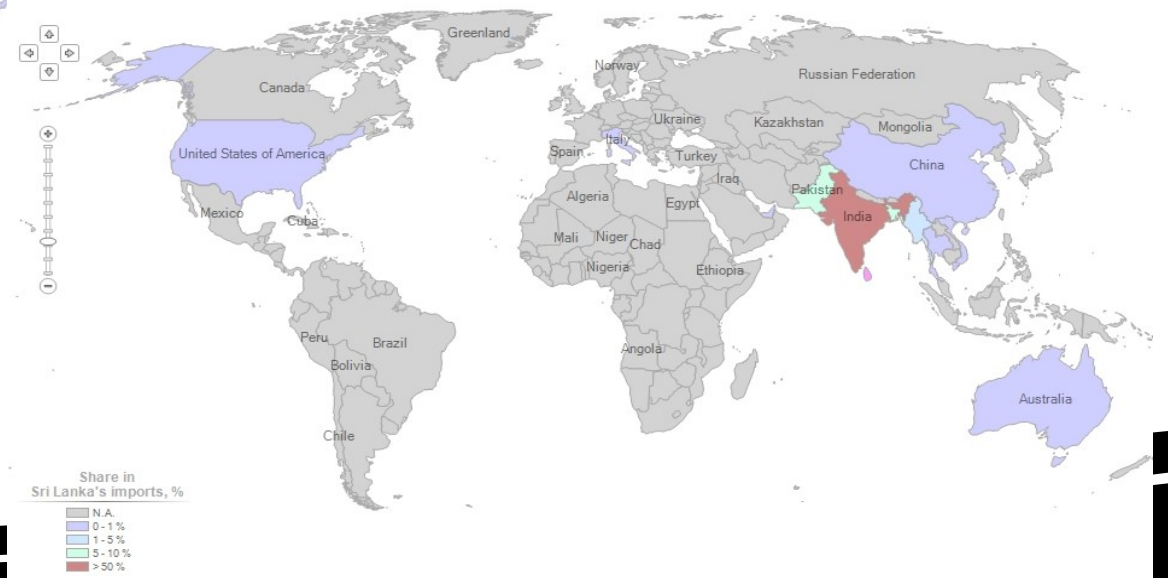
List of exporting countries for the selected product in 2015

Product : 1006 Rice



List of supplying markets for a product imported by Sri Lanka in 2015

Product : 1006 Rice

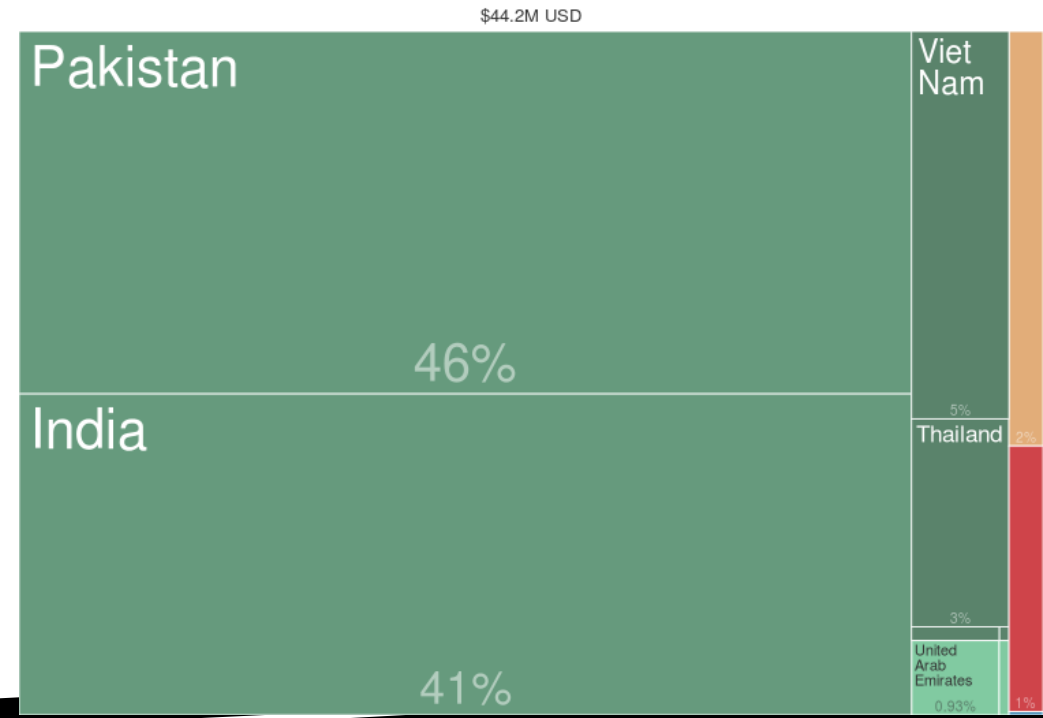
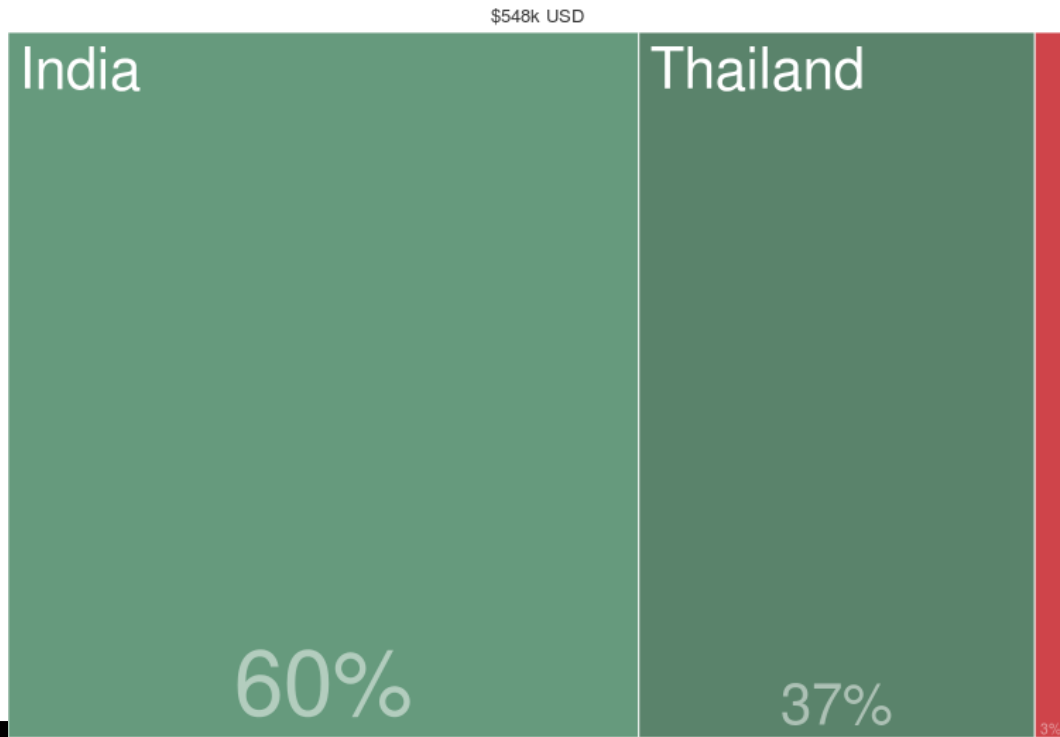




Rice imports into Sri Lanka

1995

1999

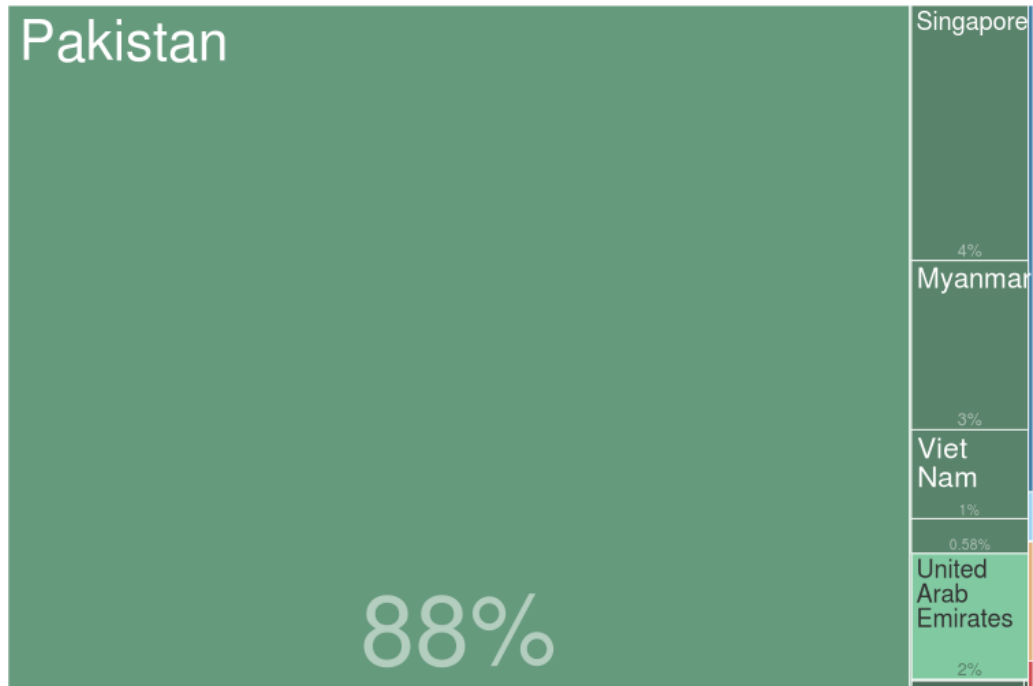




Rice Imports into Sri Lanka

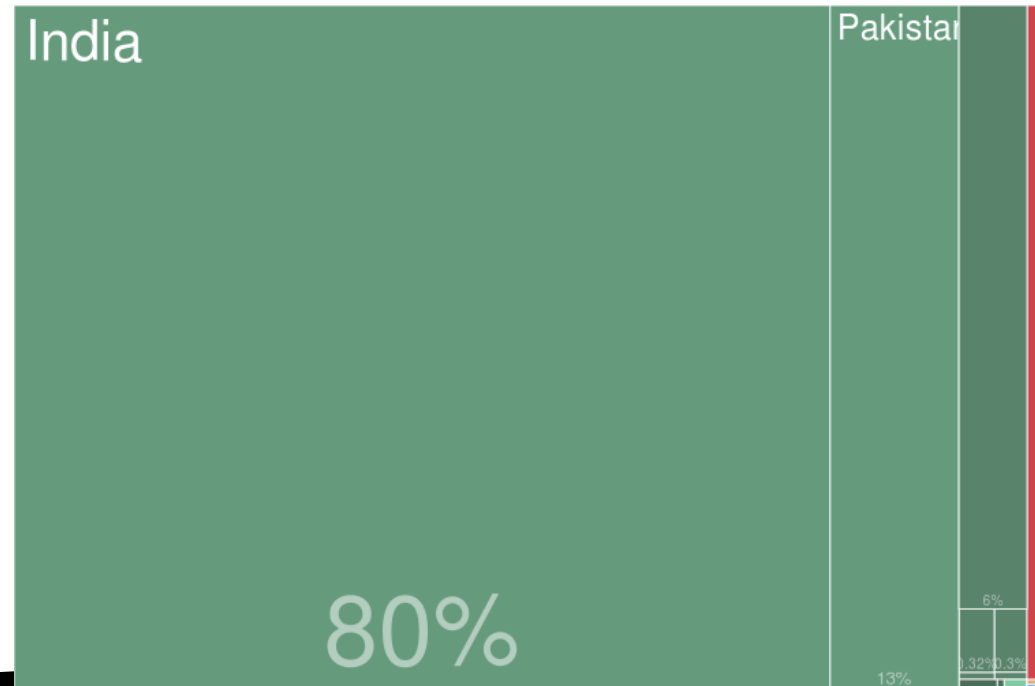
2010

\$56.7M USD



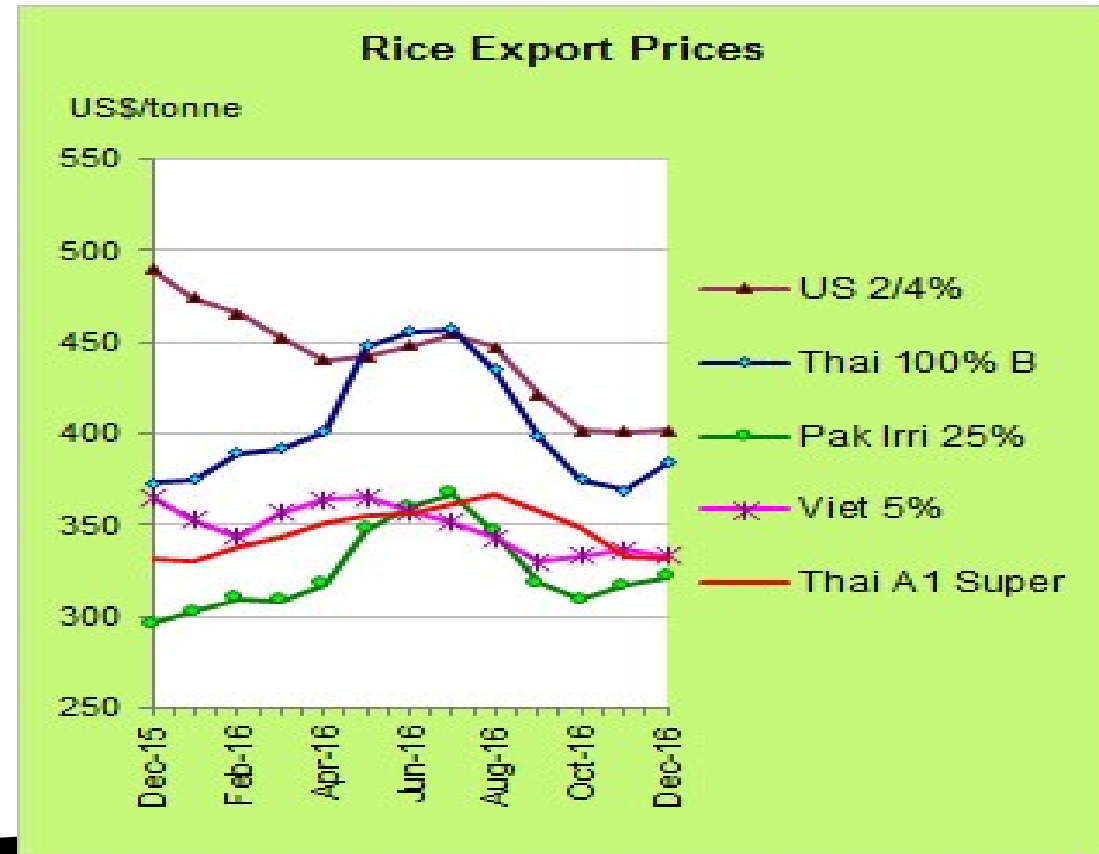
2014

\$267M USD



Global market situation as per FAO rice market monitor

- International prices of Japonica and Indica rice
- Exports from major producers
- Imports from major consumers



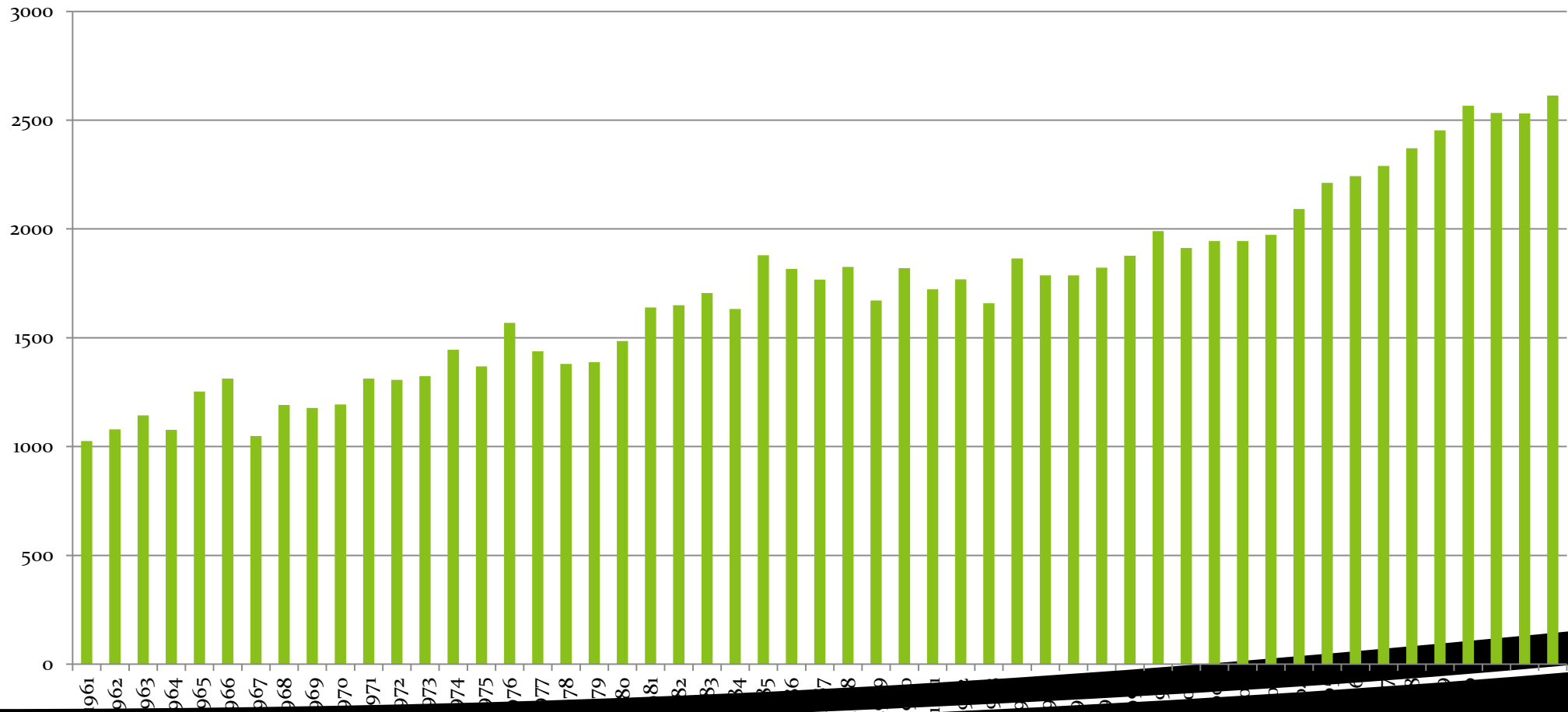


Way Forward: Policies that worked well in the past...

- Production support
 - Guaranteed prices and ceiling prices
 - Government procurement schemes
 - Fertilizer price subsidies
 - Irrigation and land settlement
- Marketing and Distribution of Rice
 - Public distribution systems
 - Import restrictions and buffer stocks
- Consumption
 - Ceiling prices
 - Universal food subsidy schemes



Resulting effects on rice supply ('000 tons)






Contemporary challenges -- Nutritional and health outcomes

- Children under the age of five: 18% are stunted, 22% are underweight, and 15% are wasted.
- Close to 1 in 5 infants (18%) are born with a low birth weight.
- 35% of preschool aged children, and 23% of pregnant women are deficient in vitamin A
- Current rates of anemia among preschool aged children and pregnant women are roughly 30%



Way Forward: Policies to address present challenges

- Climate smart and sustainable
 - Varietal development to meet the diverse needs of local and global rice consumers
 - Water saving technologies and technologies to minimize environmental and health hazards
- Inclusive and nutrition and health driven
 - Targeted programs for the poor and vulnerable (instead of non-targeted price subsidies)
 - Buffer stocks and public distribution system for the needy



Way Forward: Policies to address present challenges (contd...)

- Efficient in resource allocation and business friendly
 - Competitive market (no market power) and lesser interventions on international trade, marketing and processing
 - Land tenure security
 - Market tagged subsidies (Fertilizer voucher systems)
 - Farmer cooperatives, agricultural insurance, branding
- Scientific evidence based policy designing (as opposed to policy making responding to pressure groups to patch short term issues)



Thank you