

# **Rice self-sufficiency, pitfalls and remedies**

**Ramon Clarete.**

**University of the Philippines  
School of Economics**



# What this presentation conveys

- Assesses the likelihood of success and economic cost of self-sufficiency programs in rice in the Philippines and Indonesia
- Claims that the full the **self-sufficiency approach** is very unlikely to succeed and costlier compared to the **trade route**
- Proposes **regional cooperation measures** towards greater rice security in ASEAN under an expanded conducive regional rice trade

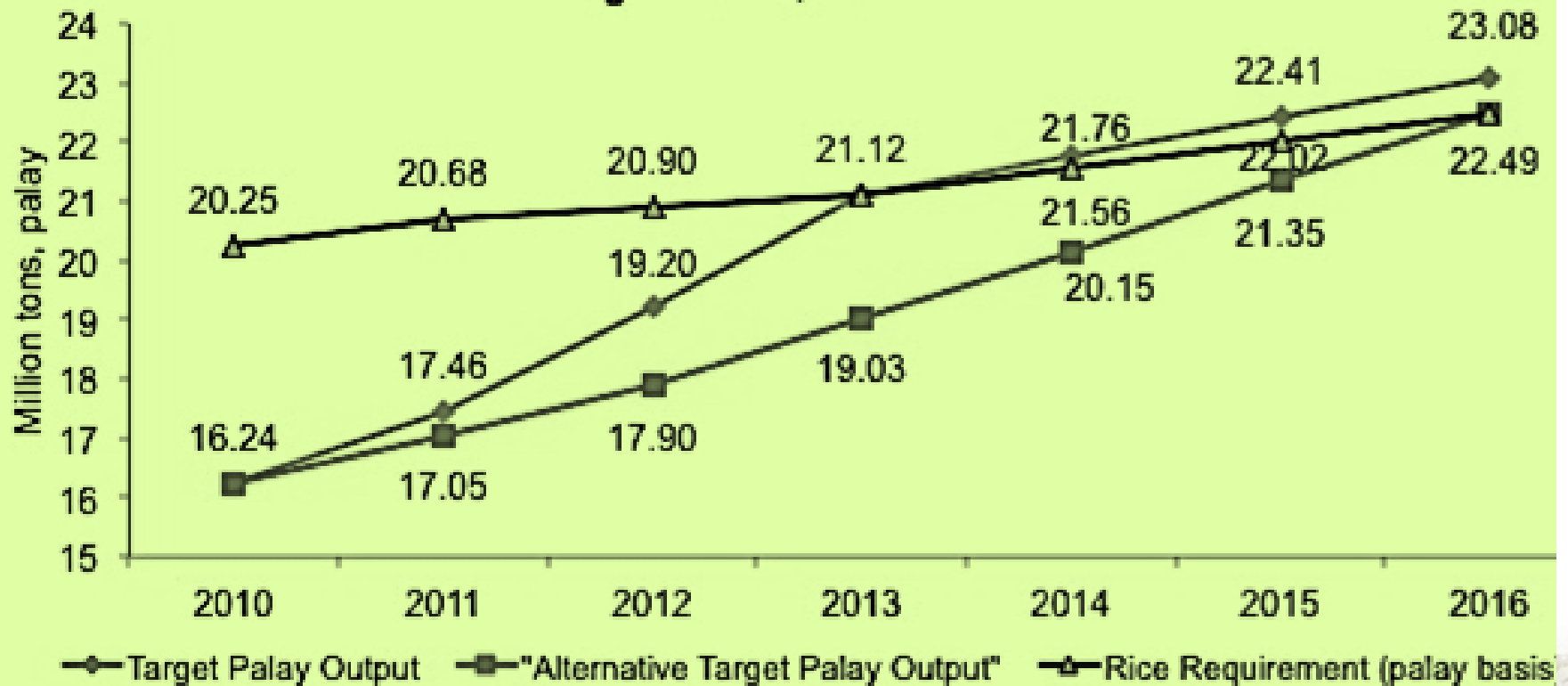


# Self-sufficiency programs

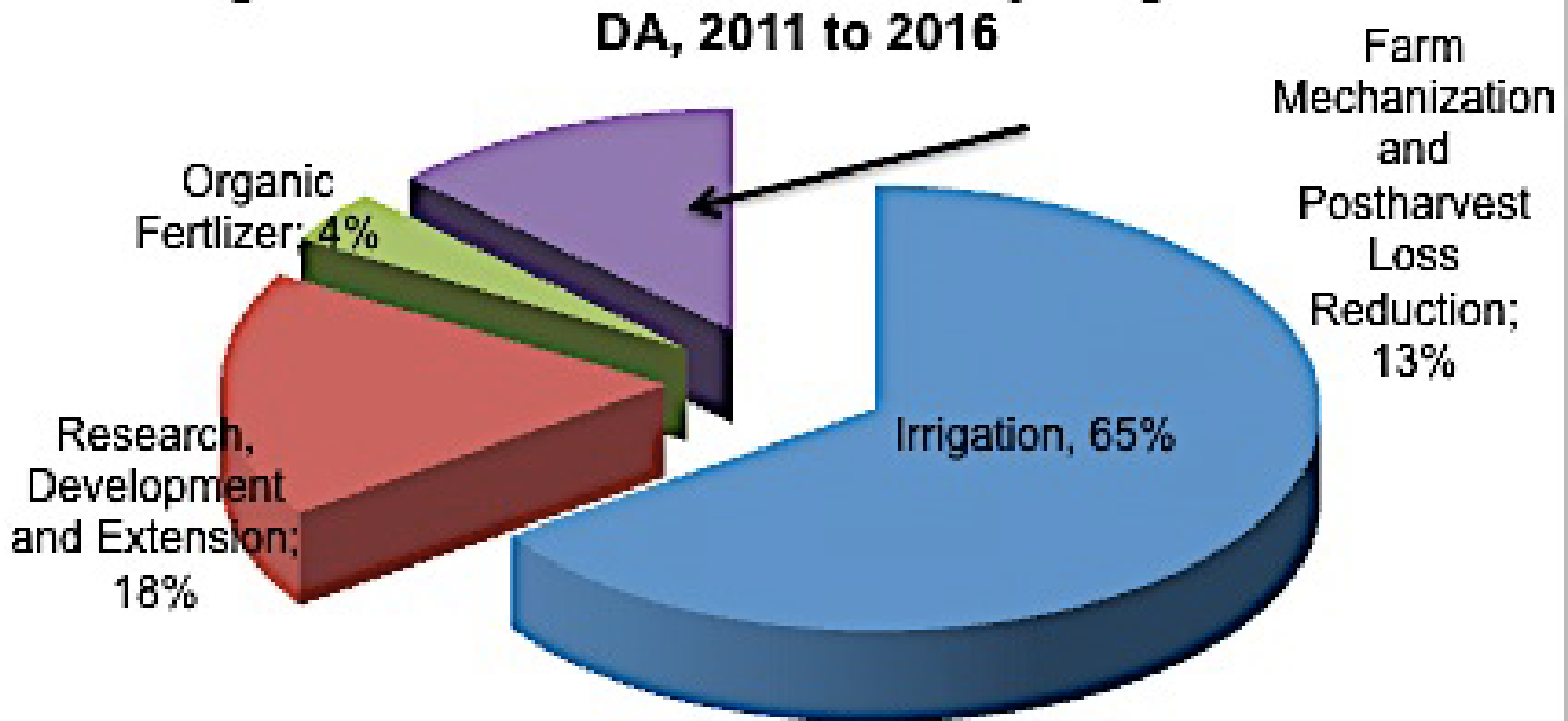
- Large importing countries, Indonesia and Philippines, pursue full self-sufficiency programs, comprising of:
  - Public investments in irrigation, research and extension, input subsidies on seeds and fertilizer, post harvest facilities, and farm price supports
  - Import restrictions



# Philippine rice self sufficiency plan



# Program Interventions



Source: Department of Agriculture

# Possible rice imports to use (1)

	SU Beginning Stocks	SU Productio n	SU Imports (1)	SU Imports (2)	SU Imports (3)	SU Gross Supply (1)	Impor ts/Use (1) %
2006	2094	10024	1716	1716	1716	13834	12.40
2007	2253	10621	1805	1805	1805	14679	12.30
2008	2172	10997	2432	2432	2432	15601	15.59
2009	2639	10633	1755	1755	1755	15027	11.68
2010	2629	10315	2378	2378	2378	15322	15.52
2011	3424	10911	707	1414	1914	15042	4.70
2012*	2627	11793	500	1000	1500	14920	3.35

- Imports are simply the rice imported by the NFA.



# Possible rice imports to use ratio (2)

	SU Beginning Stocks	SU Productio n	SU Imports (2)	SU Gross Supply (2)	Imports/U se (2) %
2006	2094	10024	1716	13834	12.40
2007	2253	10621	1805	14679	12.30
2008	2172	10997	2432	15601	15.59
2009	2639	10633	1755	15027	11.68
2010	2629	10315	2378	15322	15.52
2011	3424	10911	1414	15749	8.98
2012*	2627	11793	1000	15420	6.48

- Imports are simply the rice imported by the NFA plus an equal amount brought in by the private sector.

# Possible rice imports to use ratio(3)

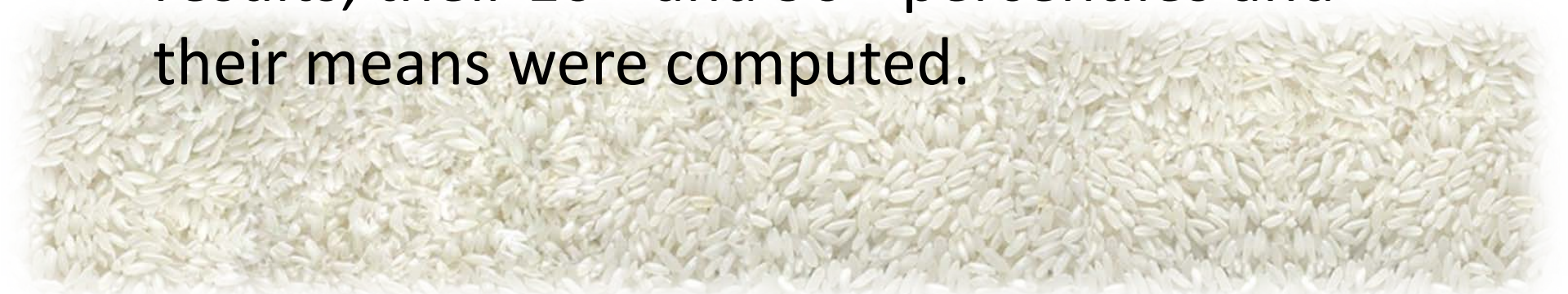
	SU Beginning Stocks	SU Production	SU Imports (3)	SU Gross Supply (3)	Imports/Use (3) %
2006	2094	10024	1716	13834	12.40
2007	2253	10621	1805	14679	12.30
2008	2172	10997	2432	15601	15.59
2009	2639	10633	1755	15027	11.68
2010	2629	10315	2378	15322	15.52
2011	3424	10911	1914	15749	12.15
2012*	2627	11793	1500	15420	9.73

- Imports are simply the rice imported by the NFA plus an equal amount brought in by the private sector plus undocumented imports.

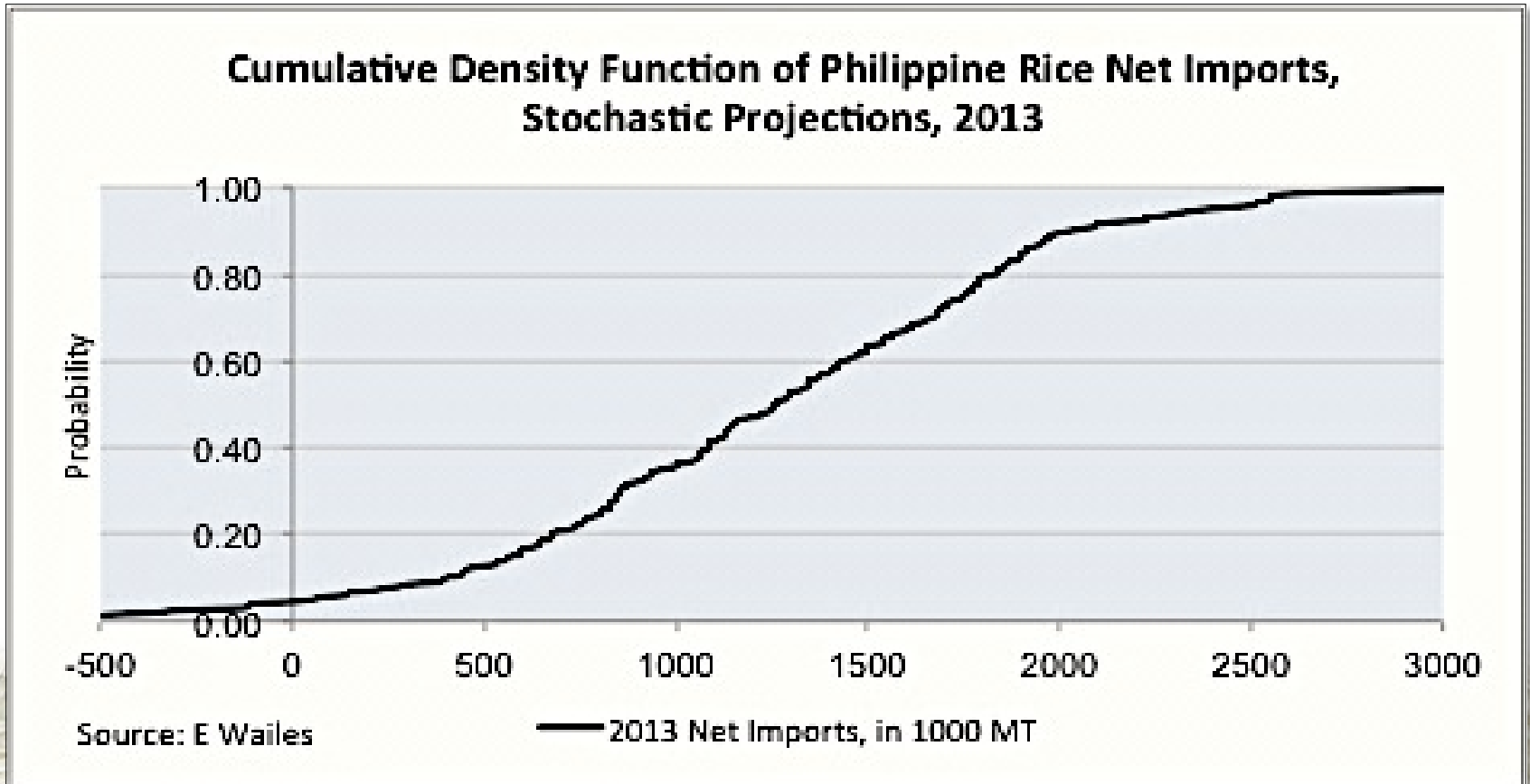


# Assessment of likelihood of success of these programs

- Simulations using the **Arkansas Global Rice Model (AGRM)** were conducted.
- Introduced random shocks to the AGRM 200 times following a historical pattern of rice yields in 50 rice producing countries.
- The cumulative density function of these results, their 10<sup>th</sup> and 90<sup>th</sup> percentiles and their means were computed.



# Results indicate a low likelihood of success: Philippines

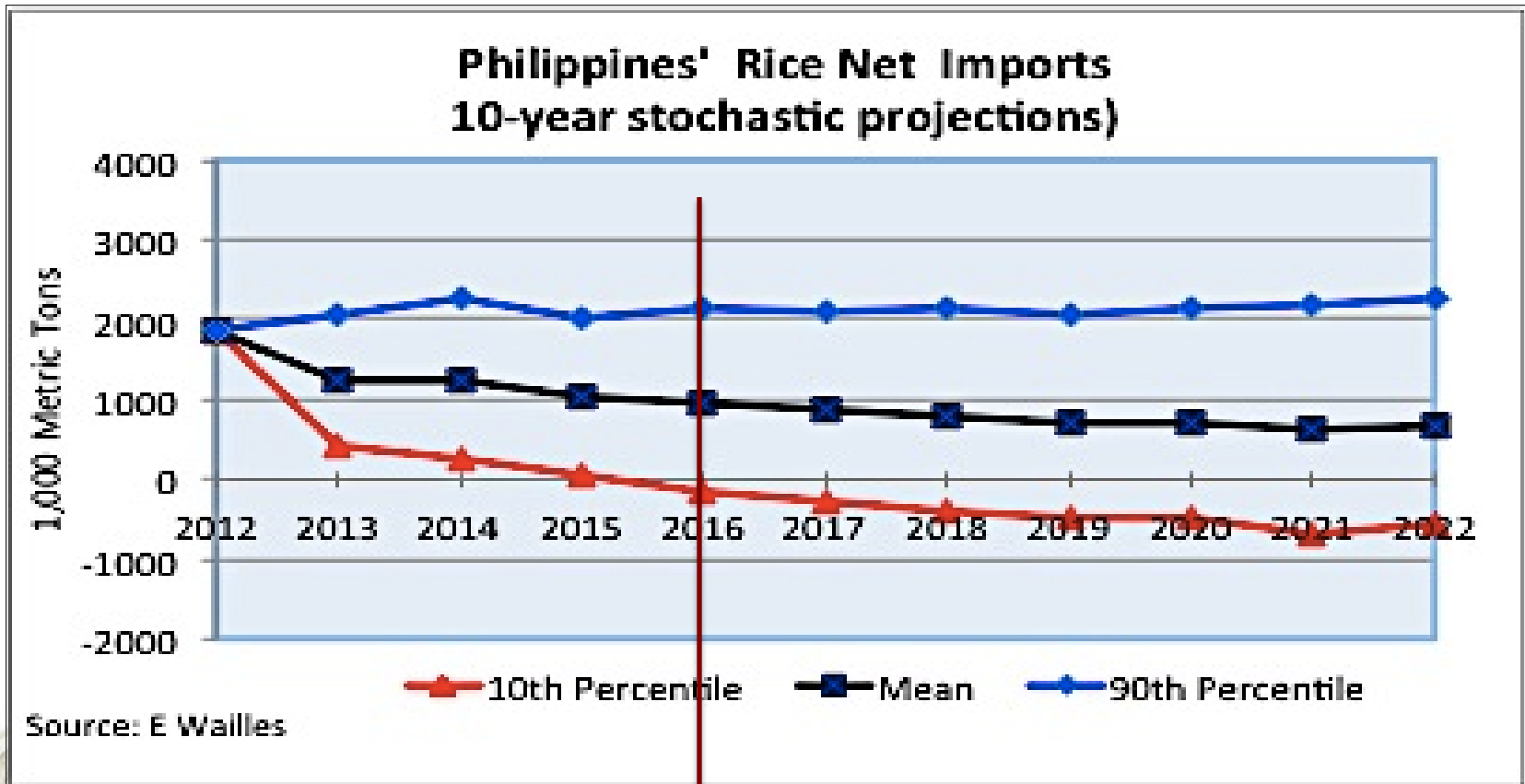


# Multi-period simulations with sustained investments

- Same exercise was done but this time extending it to several periods, 2013 to 2022 and with known pattern of yield growth.
- The 10<sup>th</sup> and 90<sup>th</sup> percentiles and means of the results of the simulations were computed.



# Self-sufficiency can be generated: Philippines



- With 10 % chance starting in 2016.

# But how costly are these programs?

- Computed the added output that a self-sufficiency program produces, valued this at world price and compared the value with the cost of the program.
- Did the comparison using data from the Philippines.



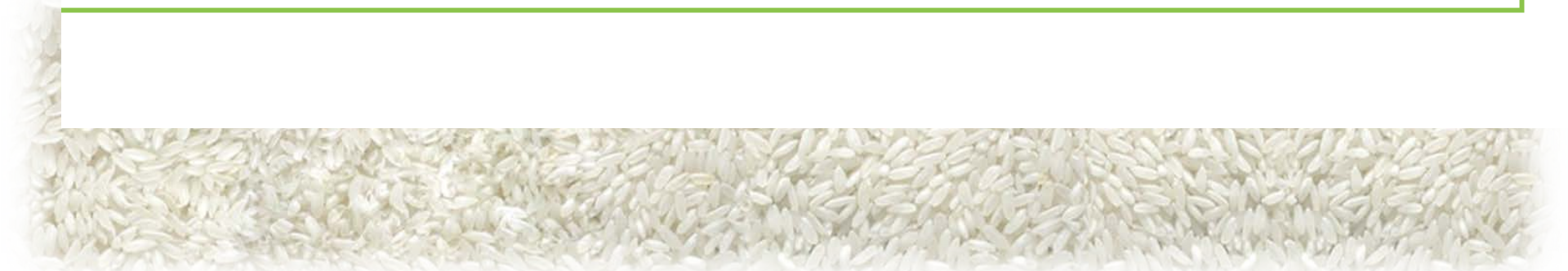
# Philippine Food Self-Sufficiency Program

- Program aims to be fully sufficient in rice by 2016, aiming to produce an added **4.524 mln. tons** of rice over the life of the program (2011 to 2016).
- Program entails:
  - Irrigation investments, research and extension, post-harvest facilities, organic fertilizer, and other inputs



# Cost of the Program

<b>Program Component</b>	<b>Cost (in bln. pesos)</b>	<b>Percent</b>
<b>Irrigation</b>	97.47	68.65
<b>Research and Extension</b>	17.71	12.47
<b>Post harvest facilities</b>	18.53	13.05
<b>Others</b>	8.27	5.82
<b>Total</b>	141.98	100.00



# Added cost

<b>Added output</b>	<b>4.52</b>	mln. tons
<b>Cost to produce</b>	<b>141.98</b>	bln. pesos
<b>Cost if imported</b>	<b>91.38</b>	bln. pesos
<b>Extra cost</b>	<b>50.60</b>	bln. pesos



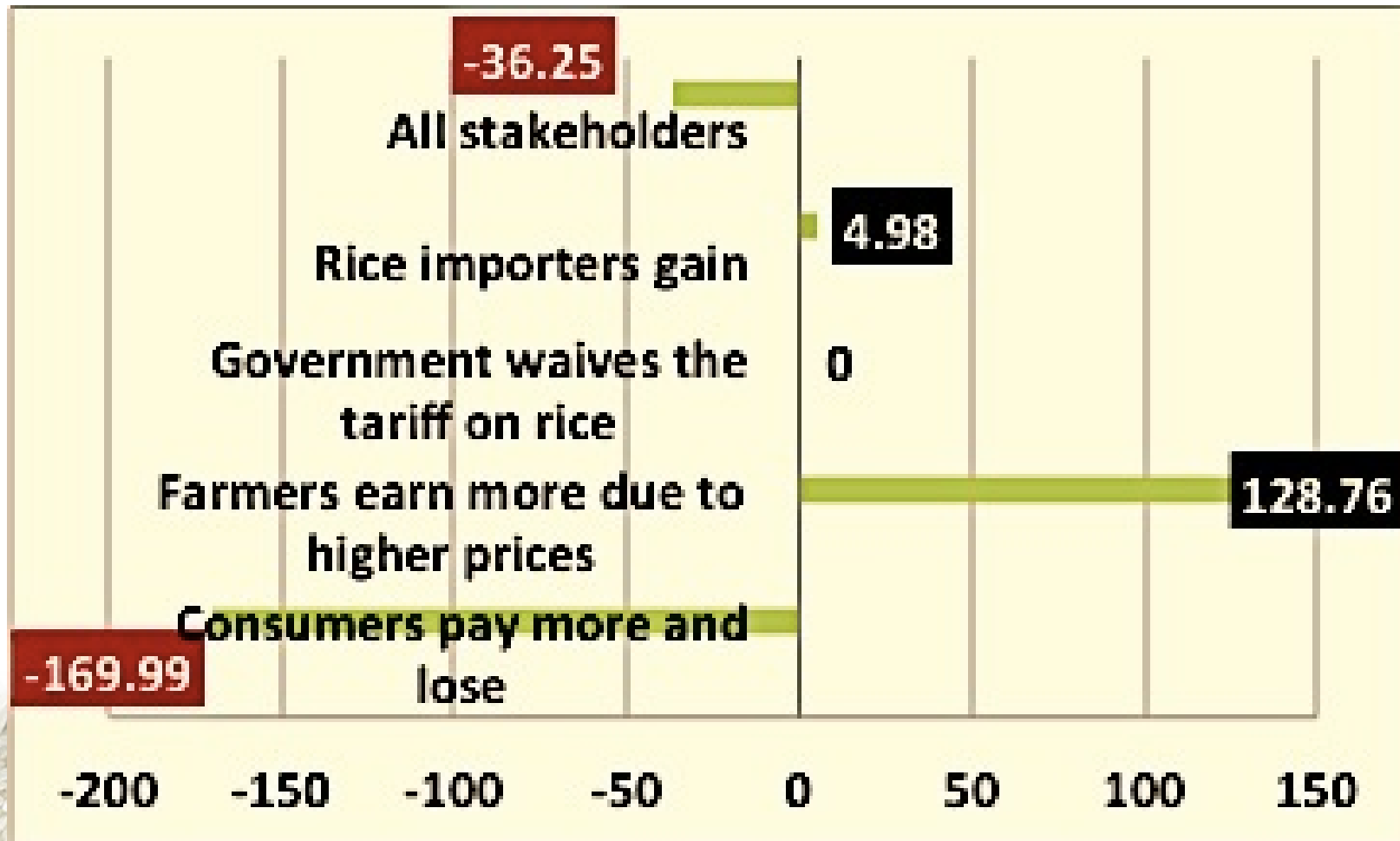


# Cost implications of import controls

- Import controls raise rice prices penalizing all consumers, **particularly the poor**.
- But higher prices benefit rice farmers and if taxes are collected the government gain added tax revenues.
- How do these flows sum up?
- Who pays, who gains from import controls?

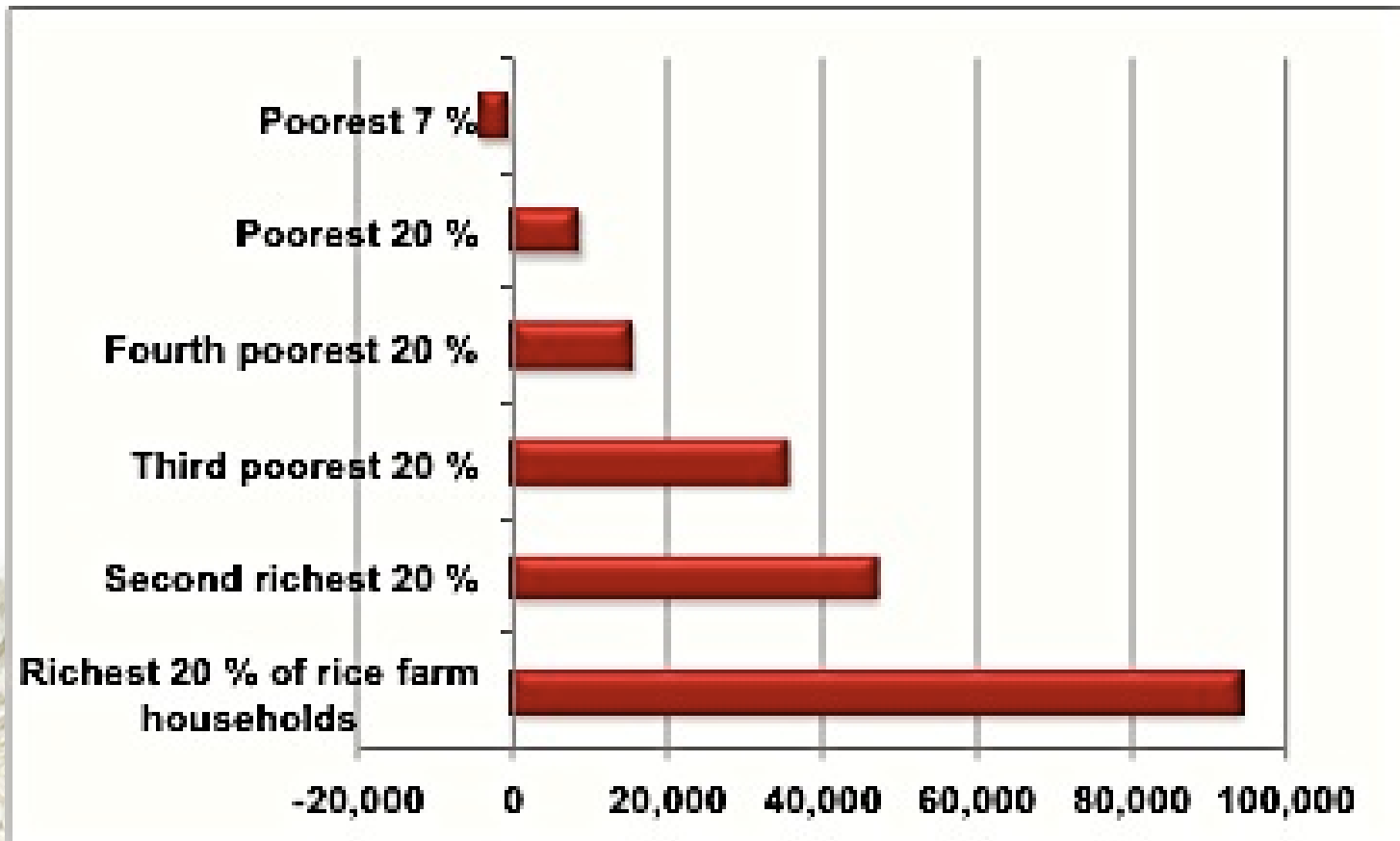


# Efficiency cost of import controls



# Farmers are penalized

- Benefit is distributed unevenly.
- Farmers are consumers too.



# Why importing countries pursue rice self-sufficiency

- Self-sufficiency programs in rice are virtual insurance against the **risk of running out of rice to import**.
  - Clarete, Adriano and Esteban (2012) provided an evidence for this.

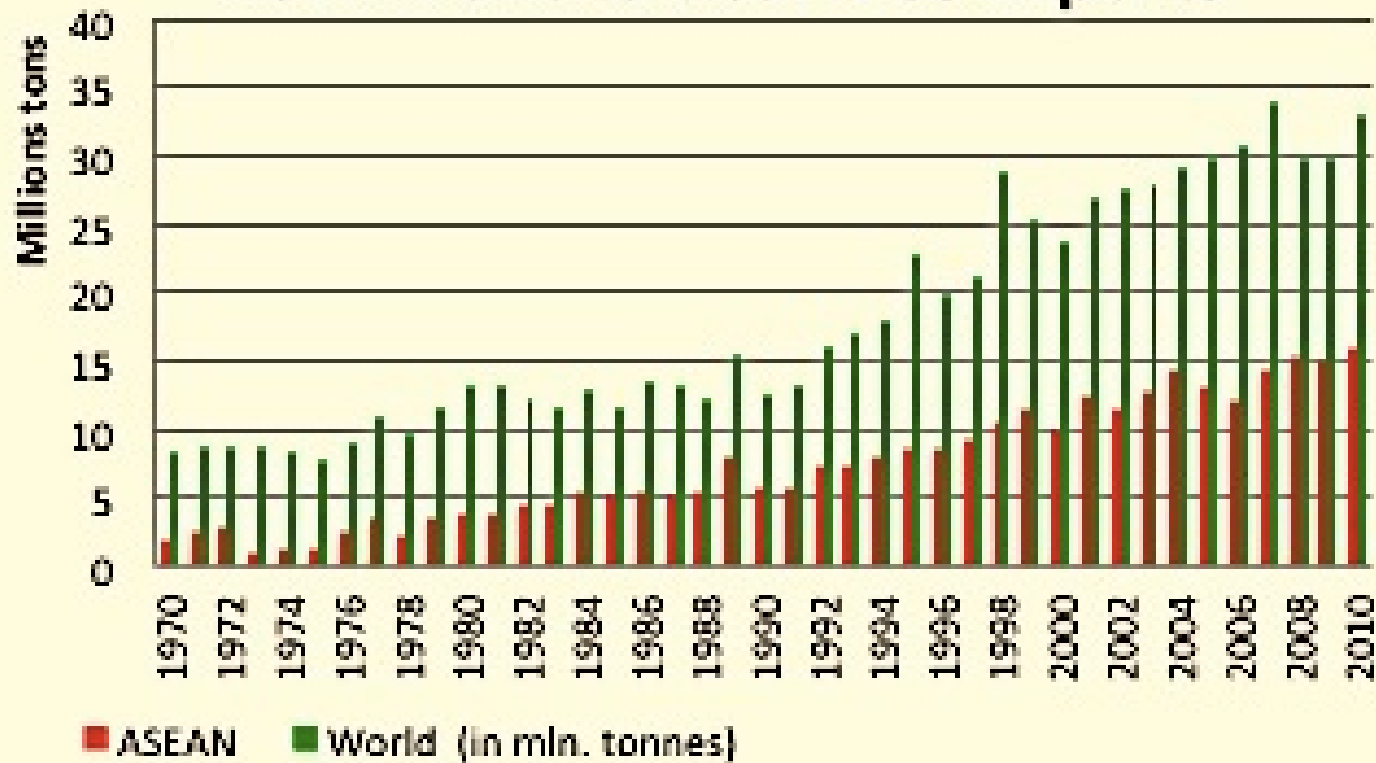


# ASEAN, major player in the global rice market

- ASEAN hosts two of the largest exporters and two of the largest importers of rice in the world.
- Yet, the intra-ASEAN rice trade in rice is smaller.

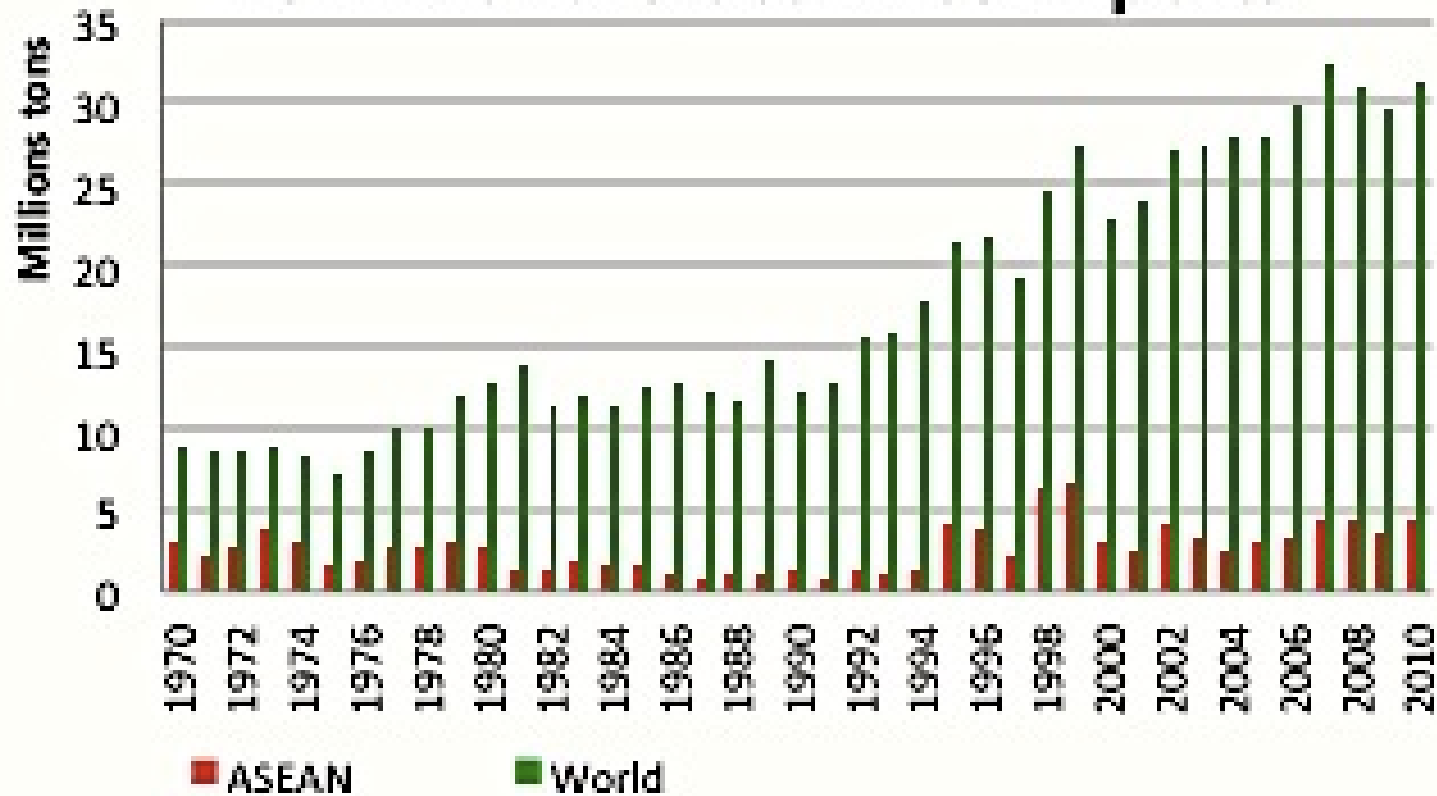


## ASEAN and Global Rice Exports



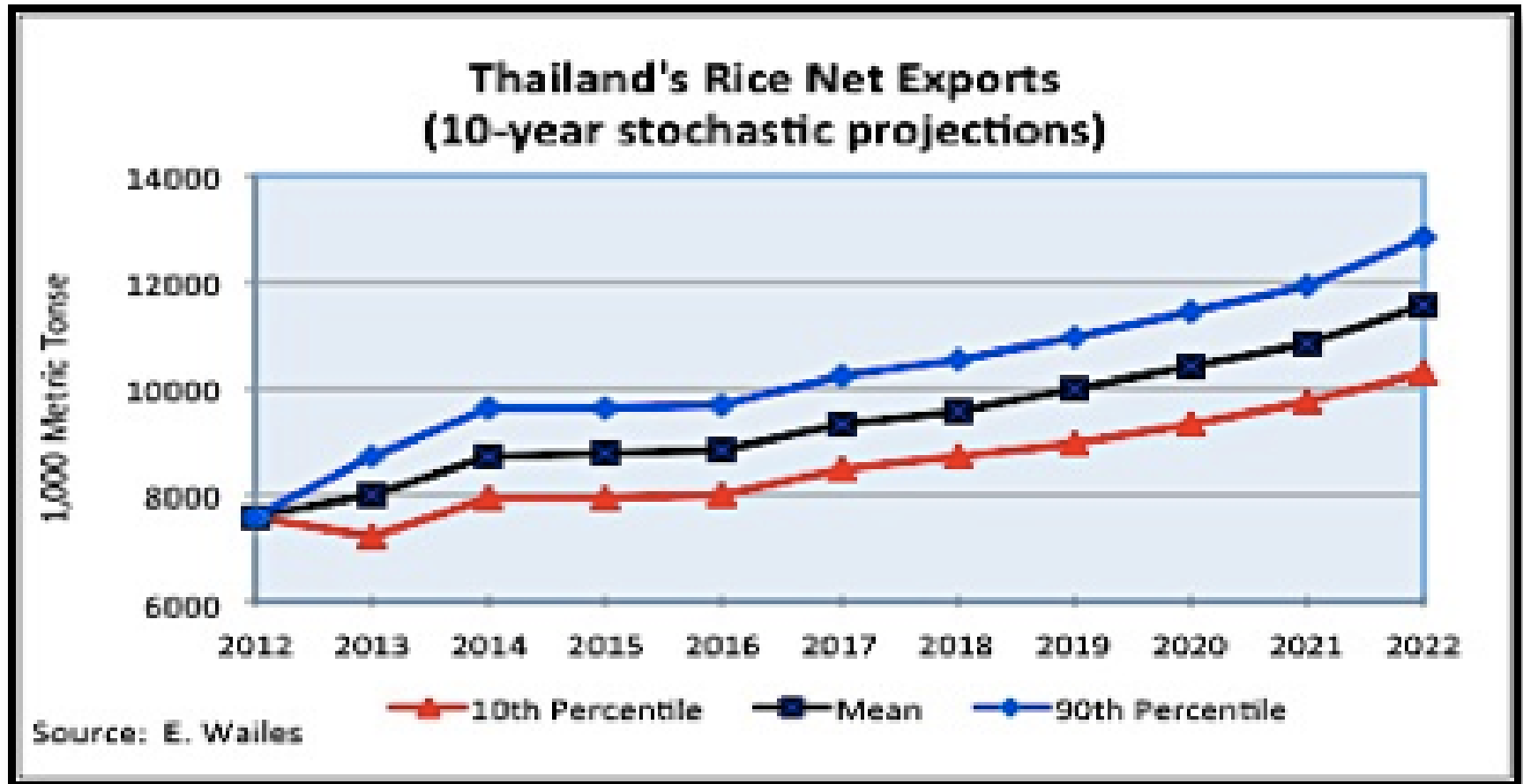
Source of Data: UN Organization FAO (Faostat)

## ASEAN and Global Rice Imports



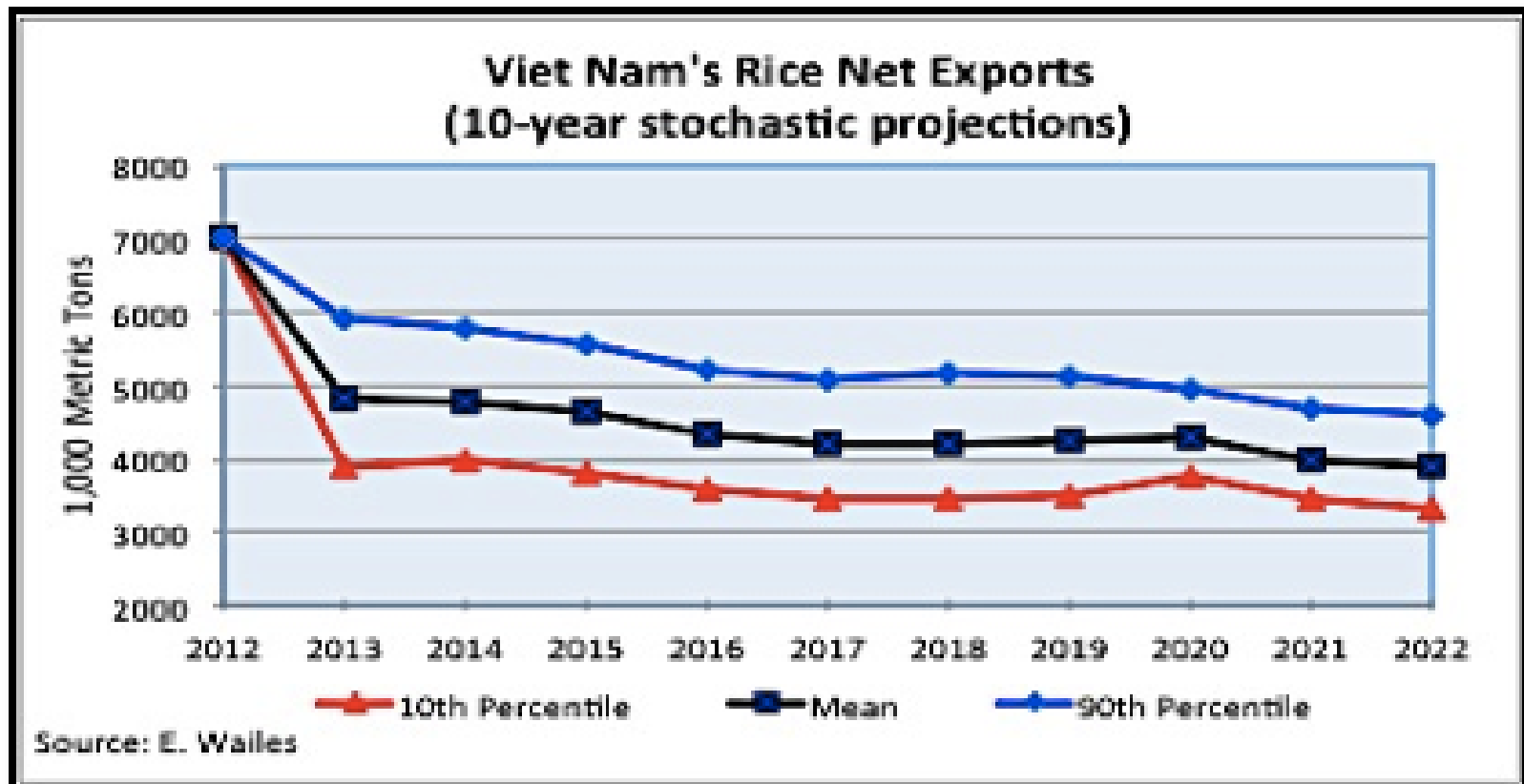
Source of Data: UN Organization FAO (Faostat)

# The risk of running out with rice to import is low: Thailand





# The risk of running out with rice to import is low: Vietnam



# Self-sufficiency and trade options for food security

- Pursue self sufficiency in rice efficiently
  - Sound public investments to increase productivity
  - Price policies that provide even playing field between private sector market players and parastatals
  - Alignment of local prices to world prices (borderless trade)



# Self-sufficiency and trade options for food security

- ASEAN Economic Community 2015 provides for a single market in goods and services (borderless trade)
- Intermediate step:
  - Scale down self-sufficiency targets in exchange guaranteed supply from exporting countries.



# Self-sufficiency and trade options for food security

- Article 24 of ASEAN Trade in Goods Agreement (ATIGA) allows member states to temporarily waive their obligations in rice (and sugar)
- Importance in coming up with a more structured rules in implementing ATIGA 24 to avoid unnecessary off-on participation in the market, needed to sustain investments in export capacity.



# Self-sufficiency and trade options for food security

- Exporting countries invest to expand their marketable surplus.
  - This requires predictable and sustained growth of the rice market in the region.
- Avoid the use of export restrictions.



# ASEAN Rice Trade Forum

- Managing the risk of extreme rice price volatility is important to prevent unilateral export restrictions
- Rice trade forum is designed in coming up with a regional coordinated response to an emerging tightening of the global rice market
- From the ideas generated in the Forum, ASEAN Ministers of Agriculture and Food (AMAF) are informed of options to prevent a rice crisis.

# ASEAN Rice Trade Forum

- To make this Forum more effective,
  - Explore expanding the topic to food in general or call this **ASEAN Food Trade Forum**
    - Food diversification is a strategy for raising resilience of the region to food crisis.
  - Explore expanding the forum to include South Asian and Plus 3 rice exporters and importers
    - How about East Asian Food Trade Forum?
    - Or Asian Food Trade Forum?



# ASEAN Economic Community

- AEC proposes that by 2015 the region becomes a single market in goods and services, including rice.
- Efficient self-sufficiency trade option for food security is proposed here to make us all effective in our common pursuit of regional food security.
- Option is more compelling because of 2015.





# Thank you.

For information, contact:

Ramon Clarete, Ph.D.

[ramonclarete@econ.upd.edu.ph](mailto:ramonclarete@econ.upd.edu.ph)

