

“development that meets the needs of the present without compromising the ability of future generations to meet their own needs” - The World Summit on Sustainable Development: reaffirming the centrality of health

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1156926/>

Inclusive Market Oriented Development

- Signifies that the poor farmers are included in any initiative to improve their lives
- Farmers or their associations are themselves the ones marketing their produce so that they enjoy the values added from local production to local sales or export as the case may be
- Growth and improvement in the lives of all sectors concerned.

The DOST is responsive to four of the 10-point National Socio-Economic Agenda

- Optimize research and development (R&D) investment outcomes by prioritizing pressing concerns as well as potentials in the areas of health, agriculture, and process industries with particular consideration to the needs of the potentials of the regions
- Continue to address the reduction of risks brought about by unpredictable, changing climate, natural disasters and environmental degradation
- Contribute to hastened countryside development by maximising the utilization of R&D results and S&T innovations by communities and productive sectors nationwide
- Stimulate technology-based economic activities through the availability of the highly trained S&T professionals, state-of-the-art facilities and world-class institutional infrastructure.

- Continue to address the reduction of risks brought about by unpredictable, changing climate, natural disasters and **environmental degradation**

AROGAN

RED RICE

Glutinous Aromatic

Net Wt. g

Expiry Date:

Lot No.:



PRODUCT OF THE PHILIPPINES

Manufactured by
Zarraga Integrated
Organic Farmers Assn
Zarraga Municipal Hall
Contact No.: 09287691

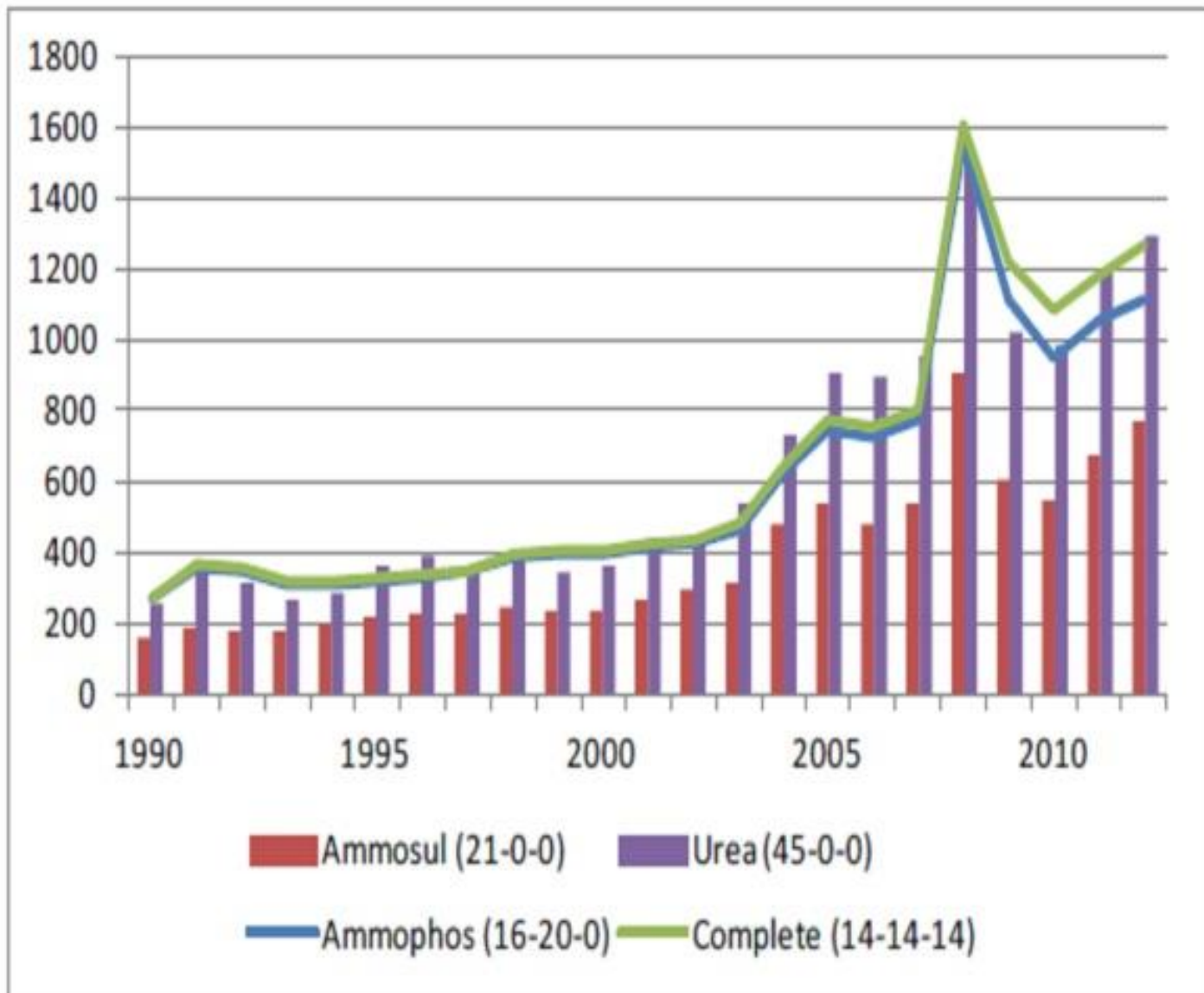
AROGAN

Environmental Implications of Eco-Labeling for Rice Farming Systems

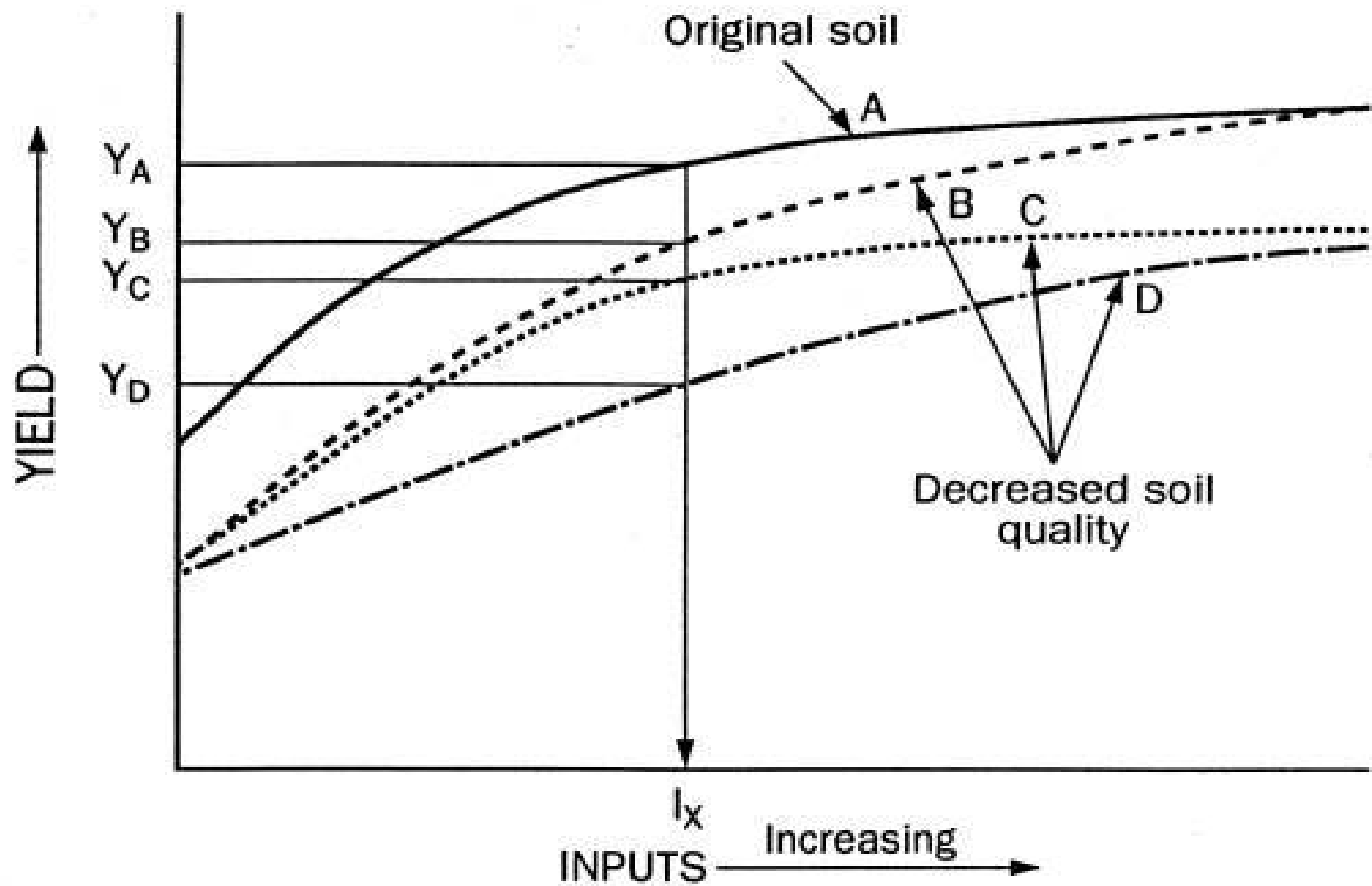
Table 3. Life cycle inventory of inputs for 1 kg of rice cultivation in South Korea.

Input	Life Cycle Inventory	Unit	CRF	LRF	NRF	ORF	Sources
Fertilizer	Urea	kg	1.25×10^{-3}	6.26×10^{-4}	4.13×10^{-4}	-	RDA
	Ammonium sulfate	kg	6.48×10^{-4}	3.24×10^{-4}	2.14×10^{-4}	-	RDA
	Fused phosphate	kg	2.03×10^{-4}	1.02×10^{-4}	6.72×10^{-5}	-	RDA
	Fused superphosphate	kg	9.94×10^{-6}	4.97×10^{-6}	3.28×10^{-6}	-	RDA
	Potassium chloride	kg	1.83×10^{-4}	9.13×10^{-5}	6.02×10^{-5}	-	RDA
	Potassium sulfate	kg	1.42×10^{-5}	7.11×10^{-6}	4.70×10^{-6}	-	RDA
	Calcium carbonate	kg	1.82×10^{-3}	9.08×10^{-4}	5.99×10^{-4}	-	RDA
	Calcium silicate	kg	2.76×10^{-3}	1.38×10^{-3}	9.12×10^{-4}	-	RDA
Compound fertilizer	Nitrogen fertilizer	kg	3.17×10^{-3}	1.58×10^{-3}	1.05×10^{-3}	-	RDA
	Phosphorous fertilizer	kg	2.64×10^{-3}	1.32×10^{-3}	8.72×10^{-4}	-	RDA
	Potassium fertilizer	kg	2.60×10^{-3}	1.30×10^{-3}	8.58×10^{-4}	-	RDA

Input	Life Cycle Inventory	Unit	CRF	LRF	NRF	ORF	Sources
Germicide	Thiocarbamate compound	kg	6.64×10^{-6}	3.32×10^{-6}	-	-	KCPA
	Acetamide-anilide compound	kg	2.32×10^{-7}	1.16×10^{-7}	-	-	KCPA
	Benzimidazole compound	kg	1.17×10^{-6}	5.85×10^{-7}	-	-	KCPA
	Cyclic N compound	kg	8.86×10^{-6}	4.43×10^{-6}	-	-	KCPA
	Organophosphorus compound	kg	1.46×10^{-4}	7.29×10^{-5}	-	-	KCPA
	Pesticide unspecified	kg	1.52×10^{-4}	7.59×10^{-5}	-	-	KCPA
Insecticide	Thiocarbamate compound	kg	2.19×10^{-4}	1.10×10^{-4}	-	-	KCPA
	Organophosphorus compound	kg	6.50×10^{-5}	3.25×10^{-5}	-	-	KCPA
	Pesticide unspecified	kg	1.31×10^{-4}	6.53×10^{-5}	-	-	KCPA
	Pyrethroid compound	kg	1.21×10^{-6}	6.07×10^{-7}	-	-	KCPA
Herbicide	Sulfonyl urea compound	kg	7.57×10^{-6}	3.79×10^{-6}	-	-	KCPA
	Thiocarbamate compound	kg	6.75×10^{-5}	3.38×10^{-5}	-	-	KCPA
	Benzothiadiazole compound	kg	2.47×10^{-5}	1.23×10^{-5}	-	-	KCPA
	Dinitroaniline compound	kg	2.44×10^{-6}	1.22×10^{-6}	-	-	KCPA
	Diphenylether compound	kg	3.60×10^{-6}	1.80×10^{-6}	-	-	KCPA
	Organophosphorus compound	kg	5.16×10^{-7}	2.58×10^{-7}	-	-	KCPA
	Pesticide unspecified	kg	2.09×10^{-4}	1.05×10^{-4}	-	-	KCPA
	Phenoxy compound	kg	5.89×10^{-6}	2.95×10^{-6}	-	-	KCPA
	Triazine compound	kg	6.32×10^{-7}	3.16×10^{-7}	-	-	KCPA
Deposition	Sulfonyl urea compound	kg	6.73×10^{-11}	3.37×10^{-11}	-	-	NAQS
	Thiocarbamate compound	kg	9.39×10^{-8}	4.69×10^{-8}	-	-	NAQS
	Bipyridylum compound	kg	3.26×10^{-7}	1.63×10^{-7}	-	-	NAQS
	Cyclic N compound	kg	8.07×10^{-7}	4.03×10^{-7}	-	-	NAQS
	Pesticide unspecified	kg	3.32×10^{-4}	1.66×10^{-4}	-	-	NAQS
Energy	Electricity	kW	4.11×10^{-3}	3.61×10^{-3}	2.30×10^{-3}	2.05×10^{-3}	RDA
	Diesel	m ³	5.18×10^{-3}	4.55×10^{-3}	2.90×10^{-3}	2.59×10^{-3}	RDA
	Kerosene	m ³	7.61×10^{-4}	7.61×10^{-4}	7.61×10^{-4}	7.61×10^{-4}	RDA
	Gasoline	m ³	2.03×10^{-3}	1.79×10^{-3}	1.14×10^{-3}	1.02×10^{-3}	RDA



Source: BAS.



Year	Farm Gate Price	Wholesale Price	Retail Price
1990	16.24	19.53	21.02
1991	13.69	16.94	18.60
1992	12.74	16.29	17.87
1993	13.38	17.36	19.08
1994	13.23	17.68	19.37
1995	15.22	20.55	22.30
1996	15.89	22.10	24.14
1997	14.66	20.31	22.32
1998	14.06	19.16	20.96
1999	12.59	18.15	19.92
2000	12.95	17.77	19.45
2001	11.77	16.49	18.19
2002	12.34	16.55	18.16
2003	11.95	16.08	17.75
2004	12.06	15.85	17.45
2005	12.36	16.12	17.63
2006	11.67	15.51	17.08
2007	12.17	15.93	17.43
2008	14.08	19.23	21.10

Relative financial position of VCA players in Visayas: fresh paddy-milled rice

Player	Product	Cost (P/kg)		Profit (P/kg)		Margin
		Total unit cost	Added unit cost	Selling price	Unit profit	Unit margin
Farmer	Fresh Paddy	11.64	11.64	17.01	5.37	41.43
Paddy trader	Dry Paddy	18.18	1.17	18.53	0.34	3.69
Rice miller	WMR	32.75	14.22	34.93	2.18	39.95
Wholesaler	WMR	36.14	1.21	36.91	0.77	4.83
Retailer	WMR	38.28	1.36	41.06	2.78	10.10
			29.60		11.45	41.06

“The oppression of Ilonggo farmers must end now. I will not allow it to continue anymore because it is an outright injustice and oppression” – Agriculture Secretary

Manny Pinol



AKLAN

CAPIZ

Visayan
Sea

ANTIQUE

ILOILO

ZARRAGA

NEGROS
OCCIDENTAL

GUIMARAS



Vision

ZIDOFA envisions itself as a reputable **producer of quality and globally competitive organic agriculture and aquaculture products**. It envisions a **resilient** and productive community where families are healthy, happy and living harmoniously in a **sustainable** environment.

Mission

To advance holistic, farmer-managed and **environment-friendly programs** utilizing leading edge processes promoting quality agricultural and aquaculture products

Project Objectives

- promote the **climate/environment-friendly organic-based** System of Rice Intensification (SRI) as an alternative to input-intensive, conventional chemical-based rice cultivation
- produce sufficient high quality, safe, affordable and **healthy** rice choices to consumers;
- lower production costs, increase yields and consolidate paddy rice at fair trade farmgate prices thereby increasing farmers' incomes and;
- **restore, conserve and protect biodiversity in the farm and coastal and marine ecosystems**

The Organic-Based System of Rice Intensification (SRI)

SRI creates a triple-win situation for agriculture, food security and climate security because it:

- Sustainably Increases Production and Farmers Income (Greater Crop Productivity)
- Strengthens crops' resilience to climate change and variability (Facilitates Adaptation)
- Reduces Rice Production's Contribution to Climate Change (Helps Promote Mitigation)

- Higher water productivity gives 'more crop per drop'
 - *Reductions in irrigation water requirements – by 30-50% per hectare; and*
 - *Higher water productivity – more output of grain per unit of water input – by 30-100% [1]*

[1] Jagannath P et al. (2013). Meta-analysis evaluating water use, water saving, and water productivity in irrigated production of rice with SRI vs. standard management methods; Taiwan Water Conservancy, 61: 14-49.

Reduced GHG Emissions

- Methane is reduced by between 22-64 percent as soils are maintained under mostly aerobic conditions
- Nitrous Oxide emissions are reduced from non-use of synthetic fertilizers and due to the presence of a more diverse community of arbuscular mycorrhizal fungi (aMF) in their roots which can induce a reduction of N₂O (nitrous oxide)
- Total Global Warming Potential (GWP) from flooded rice paddies is reduced from 20-30%, and even up to 70%



what's underneath

healthy soil has amazing water-retention capacity.



Every

1%

increase in organic matter results in as much as



25,000

gal of available soil water per acre.

Source: Kansas State Extension Agronomy e-Updates, Number 257, July 6, 2012



United States
Department of
Agriculture

Want more soil secrets?
Check out www.nrcs.usda.gov























Beneficiaries

- Farmer-members of ZIDOFA and their immediate families and farm-workers (community)
- Non-participating small-farmers
- Consumers
- Farm Ecosystem

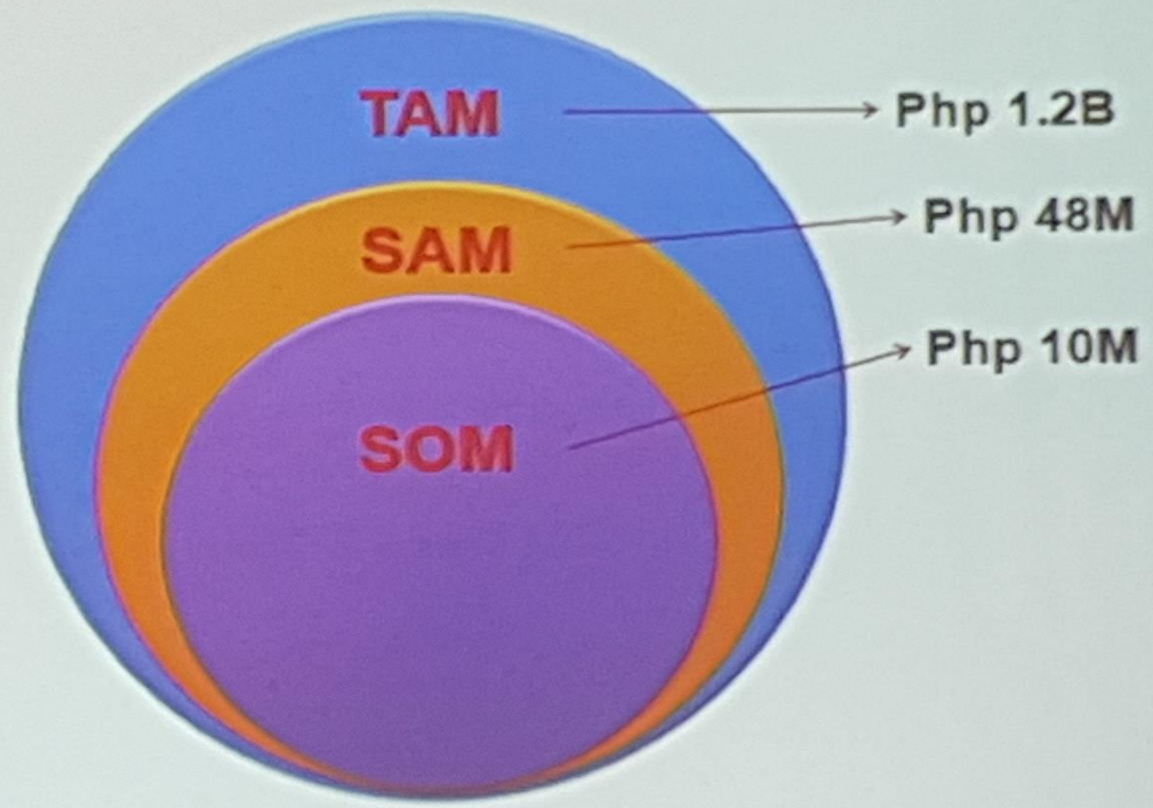


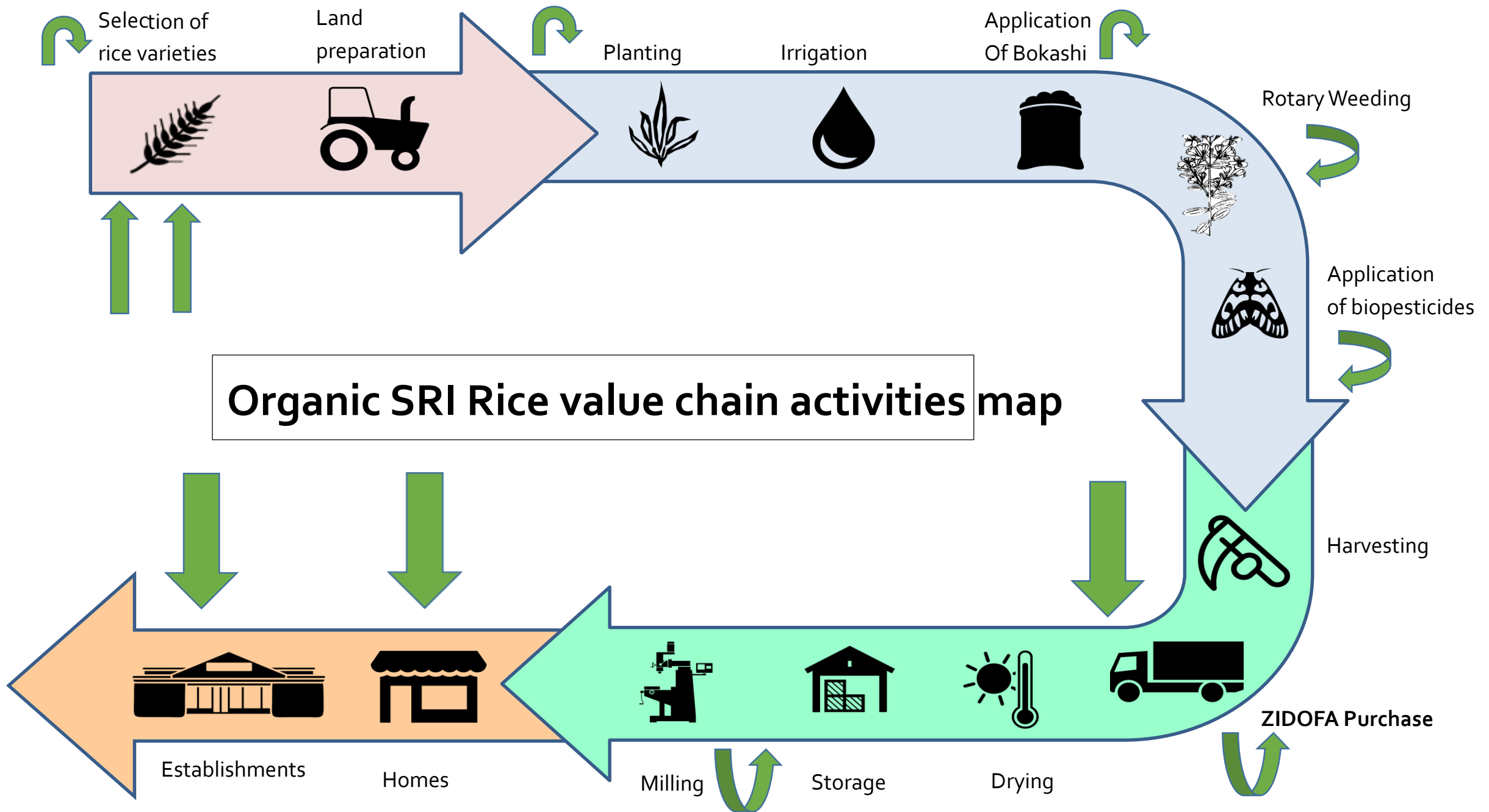
FNRI

FOOD AND
NUTRITION
RESEARCH
INSTITUTE

DEPARTMENT
OF SCIENCE
AND
TECHNOLOGY

MARKET POTENTIAL









- Produce Safe, Affordable and Healthy Rice Options for Consumers
- Increase milling recovery rate from 65-65% to up to 74.6 %
- Decrease use of fossil fuel by 15%





OREGENA rice is grown by small-farmers in Panay Island using the Regenerative Agriculture method of the System of Rice Intensification (SRI) with Zero Chemicals and Zero Synthetic Fertilizers. By ZIDOFA.



your rice to perfection

- black
- white
- glutinous
- red
- aromatic
- other _____

LOT NO. SRI001103015001001



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REGEN
Red **RICE**

Glutinous Aromatic

Net Wt. g

Expiry Date:
Lot No.:

Integrated Diversified Farmers Association (ZIDOFA)
Municipal Hall, Zarraga 5004, Iloilo
No.: 09287691926

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PRODUCT OF THE PHILIPPINES



GEN RICE
Glutinous Aromatic
Net Wt. g
DOST
PRODUCT OF THE PHILIPPINES
Expiry Date:
Lot No.:

RICE
Glutinous Aromatic
Net Wt. g
DOST
PRODUCT OF THE PHILIPPINES
Manufactured by:
Contact Information:
Contact No. 0928260197

FARM TO TABLE
BRUNCH TO DINNER • COFFEE TO CRAFT BEERS








BPI AWARDS
7

BPI SINAG



Featuring your solution during PANORAMA theme launch at COP23 

November 1, 2017 12:41 AM

Ann-Kathrin Neureuther

[DETAILS](#)

Dear Joby,

I am writing to you as we found your solution around Sustainable Rice Intensification highly interesting and our Farming for Biodiversity Solution Search jury has selected it among the top 10% of solutions received.

Dear Joby Arandela and team,

Congratulations to a very interesting solution about “Establishment of A Closed-Loop Organic System of Rice Intensification (SRI) Rice Value Chain to Empower Farmers, Produce Safe, Affordable and Healthy Rice to Filipino Consumers and Protect and Restore Biodiversity in the Farm and Coastal Ecosystems”, which has been reviewed right now and is ready for publication. The solution will go online with the launch of our new “Portal on Agriculture&Biodiversity” on November 16th in the frame of the COP23 here in Bonn

Paddy Rice Consolidation at Fair Trade Farmgate Prices

- Php 24.00 / Kilo up to Php 30.00 / kilo



Convergence of Additional Support from Stakeholders





Next Steps

- E-commerce
- Value-adding
- Biodegradable packaging
- Installation of Solar powered pumps and solar powered lighting
- Installation of small-farm reservoirs with lining
- Precision agriculture using machine learning AI Agribots
- Advocacy



The Zarraga Integrated
Diversified Organic Farmers
Association (ZIDOFA)



your rice to perfection

o·reg·e·na

/ə'rijənə/

Acronym and abbreviation for

"Organic **REGEN**erative **A**griculture"



Scaling New Heights in Regenerative Agriculture and
Thought Leaders in Organic SRI

Producers of



Your Rice to Health and Environmental Perfection

That Farmers, Soils and Oceans May Live

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