Smart Rice Farming
For the Future

Roger F. Barroga
Information Technology Officer III
Philippine Rice Research Institute (PhilRice)

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3rd Most Vulnerable Country in Climate Related Risks

24 typhoons/cyclones per year
Rainy season – June to November
Dry season – December to May
Ave Temp – 26 C
Rainfall from 765 – 4,064 mm
Mean rainfall 978 mm
Increased production thru R&D has reduced the level of importation.

But incomes of farmers have dwindled due to high cost of production.

Bordey, Flordeliza. 2015 Philippine Rice Situationer
Department of Agriculture launches Food Staples Sufficiency Program (FSSP)

- NextGen Rice Plants
- Cross Country Research
- PRISM: Rice mapping from Space
- RCM: Nutrient Mgt App
- IPaD: New Breed of Extension Professionals
- Associated Technologies

Globalization, Climate Change, Environmental

DA-National Rice Program
Bureau of Agricultural Research
International Rice Research Institute
Philippine Rice Research Institute
PhilRice recasts its Rice R&D program towards clean, green, practical, and smart farming for competitiveness, sustainability and resiliency.
The FutureRice Project: integrating innovations for future scenarios

www.facebook.com/FutureRice
Less dependence on chemical inputs for safer food and environment

Main photo: organic rice; Insets fr top L-R: water harvesting; vegetables; reduced tillage; mungbean after rice; planting of flowering weeds along dikes
Increased efficiency with machines and alternative and renewable energy

Top left: mechanical rice planter; bottom: combine harvester

Top left to right: rice hull gasifier; solar powered water pump; biogas digester; ethanol fueled water pump
Knowledge based farming with new ICTs for Farm Automation and Precision Agriculture

L-R: Automatic weather station; field water sensor; wifi and cctv; drone; farm management app
Engaging the youth & community to learn, earn, & experience fun & smarter farming thru AgRiTOURISM
Farms of the Future will have safer food sources and multiple income streams

- 2 rice crops in a year
  - Rice-Fish culture
  - Rice-duck culture
  - 2 short duration crops after rice

- Rice straw for mushroom
- Biomass for animal fodder
- Rice straw for much
- Rice hull bedding and CRH
- Rice hull for fuel heating

- Decomposed rice straw; CRH
- Vegetable biomass
- Animal manure
- Vermi compost; Organic fertilizer

- Assorted vegetables along the Paddy dikes

- Small water impounding; Inland fishery

- Leguminous plants
- Pesticidal plants
- Herbs and Flowers

- 1 Carabao
- 5 goats
- 5 pigs
- ducks
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**PRISM** – use of satellites to map rice areas; monitor rice production, droughts and floods;

**NEXTGEN** – advanced breeding to create next generation varieties tolerant to drought, flood, heat, cold, and salinity;

**RCM** – personalized nutrient management guide with the use of smart phones and tab.

**ASSOCIATED TECHNOLOGY** – location specific production support system

**HEIRLOOM RICE** – collection of traditional rice varieties for breeding work and value added products

**IPAD** – training a new breed of rice extension professionals

**CROSS COUNTRY RESEARCH** – study rice policy and industry of other countries production system
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Integrated Rice Agri-Bio Systems – to address low income, food security, and nutrition of farmers; create resilient farming communities; sustain the rice environment;

High Value Products from Rice – develop industrial and pharmaceutical, food products, rice proteins, algae and microorganisms for rice

Farming without Fossil Fuel – promote alternative fuels from rice, other crops, animal wastes, solar, wind, and water for remote farming communities

Coping with Climate Change – develop mitigation and adaptation strategies for farming communities; develop climate resilient rice varieties and management

FutureRice – create a model farm of the future that will integrate all the clean gps innovations to serve as demonstration and training farm.