

Towards enhanced capacity of farmers and institutions in irrigation and drainage as key contributors to sustainable food production and poverty alleviation in the Philippines

Mona Liza F. Delos Reyes¹
Bart Schultz²


¹PhD, University Researcher, University of the Philippines Los Banos
²Prof. Em., IHE Delft Institute for Water Education, Delft, the Netherlands



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Outline of the Presentation

- Materials and methods
- Level of attained benefits from irrigation
 - Crop production
 - Food sufficiency
 - Economy
 - Poverty
- State of irrigation development
- Irrigation improvement initiatives
- Laws and institutions for farmers' involvement
- Key areas for increasing production and income
- Capacity enhancement needs



Rice production & sufficiency

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Materials and Methods

1. Analysis of data at the country level

- ❖ Level of attained benefits from irrigation
 - Crop production
 - Food sufficiency
 - Economy
 - Poverty
- ❖ State of irrigation
- ❖ Laws and institutions for farmers' involvement

2. Analysis based on field surveys/walkthroughs

- ❖ Irrigation improvement initiatives
- ❖ Key areas for increasing production and income
- ❖ Capacity enhancement needs

Rice production & sufficiency

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Materials and Methods

Irrigation Systems

❖ Luzon

- Balanac RIS
- Sta. Maria RIS
- Agos RIS
- Lower Chico RIS
- Pampanga Delta RIS
- Angat-Maasim RIS
- Sta. Cruz RIS
- Sulib CIS

❖ Visayas

- Mainit RIS

❖ Mindanao

- Tago RIS
- Palalan CIS
- Kaulayanan CIS
- Balingasag RIS
- Manupali RIS
- Lacson CIS
- Karpa CIS
- Maligaya CIS
- Tagkiling drip irrigation
- Cabadbaran-Taguibo RIS
- MAP IS

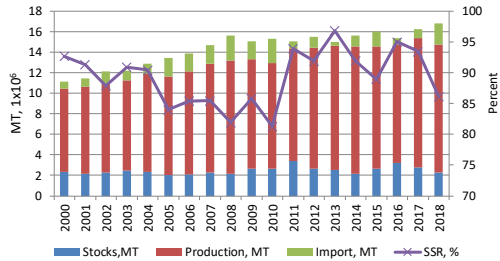
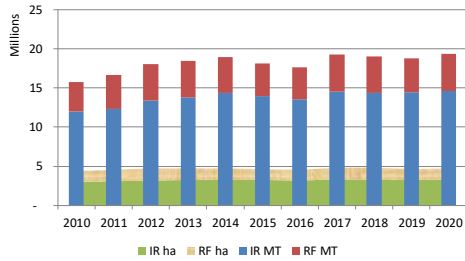
Rice production & sufficiency

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Level of Realized Irrigation Benefits

Rice production and sufficiency

- Avg. production: 18.82 MT
 - 76% from irrigated area
 - Avg. area harvested: 4.71 Mha
 - 69% is irrigated area
 - Avg. yield: 4.4 (irrigated); 3.1 (RF)
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- Avg. SSR: 90%
 - Avg. import: 1.18 MT
 - Avg. yield: 4.4 (irrigated); 3.1 RF



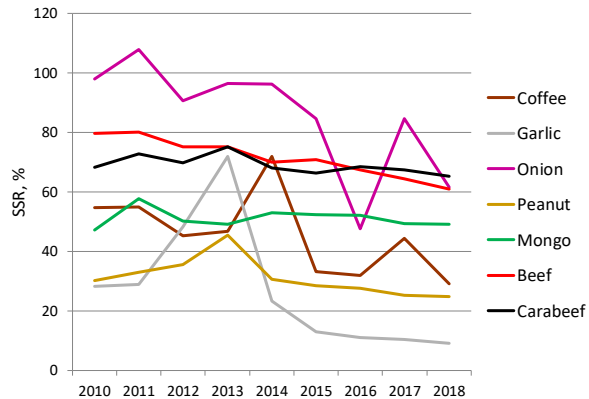
Sufficiency: other food crops

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Level of Realized Irrigation Benefits

Self-sufficiency in other crops

- Garlic: 13%
- Peanut: 27%
- Coffee: 42%
- Mungbean: 54%



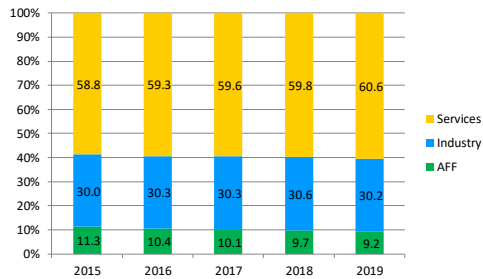
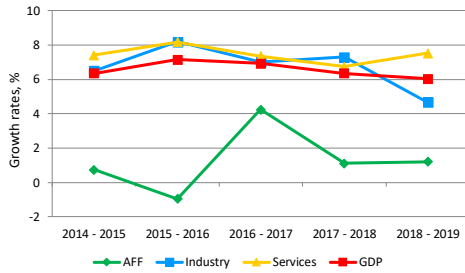
Economy & Agriculture

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Economy and Agriculture

- ❖ GDP growth rate: 6.6%
- ❖ Main driver: Services & Industry
- ❖ Agriculture
 - 1.3% avg. growth rate
 - 10% of GDP
 - 25% labor force
 - Low productivity

Level of Realized Irrigation Benefits



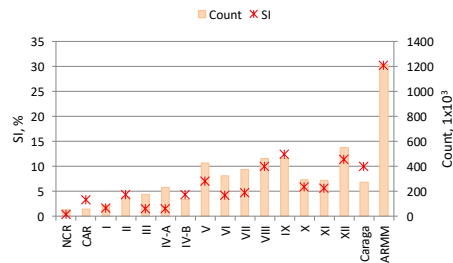
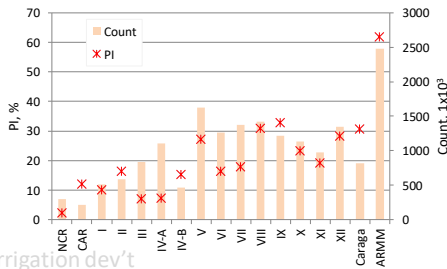
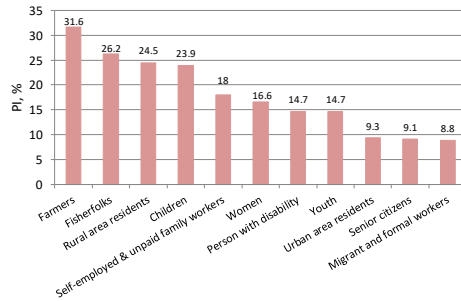
Poverty

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Poverty Incidence

- Poverty Incidence: 18.1% (20M)
- Subsistence level: 5.9%
- Highest PI: farmers 31.6%

Level of Realized Irrigation Benefits

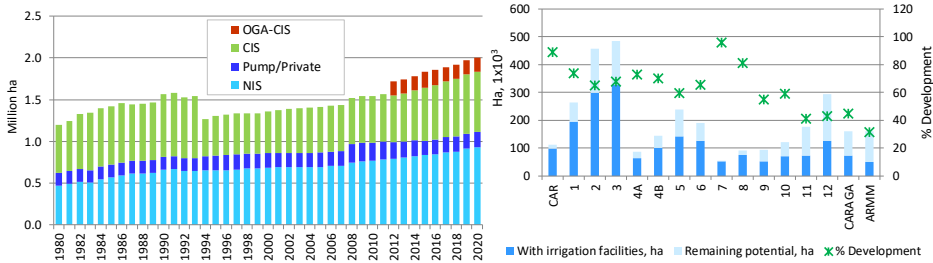


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State of Irrigation Development

Irrigation service area

- Irrigable: 3.13 Mha
- w/ irrigation: 64% (2.01 Mha)



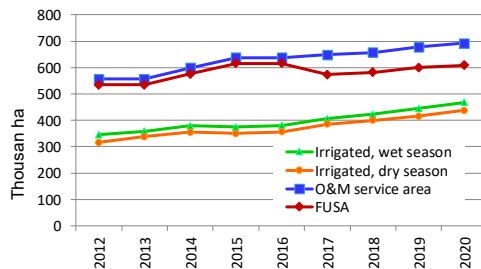
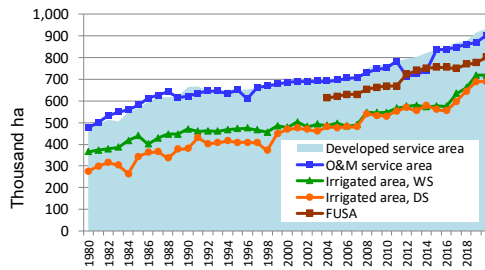
Irrigation performance

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State of Irrigation Development

Irrigated area

- NIS (% O&M, 2010-2020)
 - Range: 66 – 88%
 - Avg WS: 76%
 - Avg DS: 74%
- CIS (% O&M, 2012-2020)
 - Range: 55 – 68%
 - Avg WS: 63%
 - Avg DS: 59%



Irrigation interventions

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Irrigation interventions

1. National level

- NIS Rehabilitation and Improvement Project
- Small River Impounding Project
- Climate Change Adaptation Works

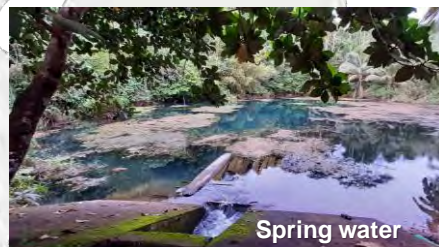
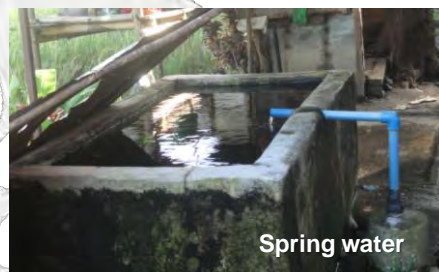
2. System level

- Water reuse and conjunctive use
- Minor irrigation schemes
- Alternate wetting and drying (AWD)
- Segmental cropping, rotational irrigation
- Shifting of cropping calendar
- Crop diversification

Irrigation intervention photos

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Irrigation Interventions



Irrigation interventions

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Irrigation Interventions



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Legal basis for farmers involvement

1974	PD 552 Amendments on the NIA Charter. To give NIA power to delegate the partial or full management of NIS to duly organized farmers organizations
1975	Creation of the Farm Systems Development Corporation (FSDC). To promote organization and assist IAs; to develop small low-lift pump irrigation schemes
1976	Pilot project transferring the responsibility, ownership, and management of small-scale irrigation systems to farmers groups
1980	Implementation of Participatory Approach Program of NIA; adoption of farmer participation in all CIS and, subsequently, in NIS
1987	The creation of the Bureau of Soils and Water Management (BSWM). To develop small water impounding irrigation systems
1991	Enactment into law (Republic Act 7607) of the Magna Carta of Small Farmers

Laws & institutions

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Legal basis for farmers involvement

1992	Transfer of NIA to the Department of Agriculture (DA); launch of the DA shallow tubewell irrigation project
1997	Passage of Agriculture and Fisheries Modernization Act (AFMA). To accelerate and complete the turnover of O&M and management of secondary canals and on-farm structures of NIS to the IA. Start of implementation of IMT program
2014	Transfer of the NIA to the Office of the President
2018	Passage of the Free Irrigation Service Act (RA 10969) Mandanas Ruling full devolution of CIS to LGUs

Key areas for increasing production & income

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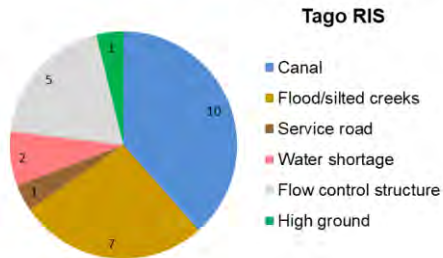
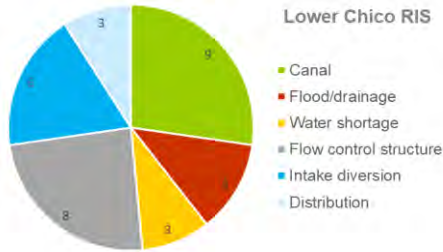
Key areas for increasing production and farmers' income

- Increasing rice yield: 4.4 → 6-8 t/ha
 - Management of production factors
- Increasing cropping intensity: 150 → 180-200%
 - Irrigation expansion
 - ❖ 0.92 M ha is RF; 40% not planted during dry season
 - irrigation modernization
 - Drainage system
 - Crop diversification

System issues

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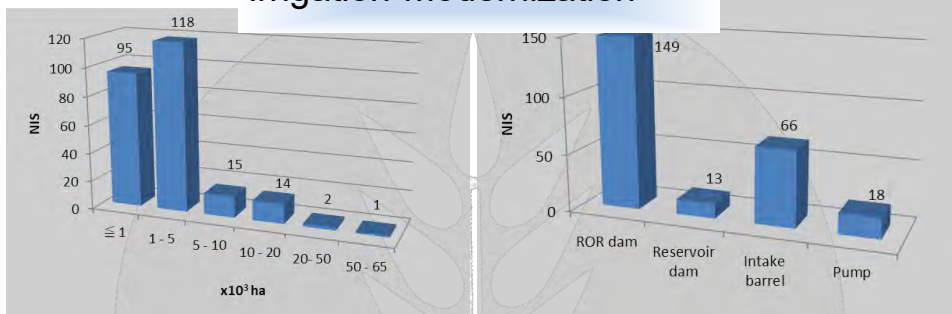
Irrigation modernization



Diversion structures

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Irrigation modernization



Capacity enhancement: Farmers

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Key areas for increasing production and farmers' income

- Increasing rice yield: 4.4 \Rightarrow 6-8 t/ha
 - Management of production factors
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Cropping intensity

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Capacity enhancement

Farmers' level

- ❖ canal operation at the system level and working principles of flow control structures
- ❖ logical combinations of structures, canal operation objectives and their farming goals
- ❖ development planning for irrigation modernization
- ❖ diversified cropping and HVC production
- ❖ postharvest handling and food processing

Capacity enhancement: institutions

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Capacity enhancement

Institution level

- ❖ synergy among agriculture offices and the NIA
- ❖ arrangement with other water right holders
- ❖ IA's role in monitoring and acceptance of completed projects
- ❖ revisiting of standard O&M budget
- ❖ access to market and postharvest/processing facility

Thank u

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