How Close We Are to 10-5?
An Empirical Evidence From RBFHS

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CLEAN | GREEN | PRACTICAL | SMART

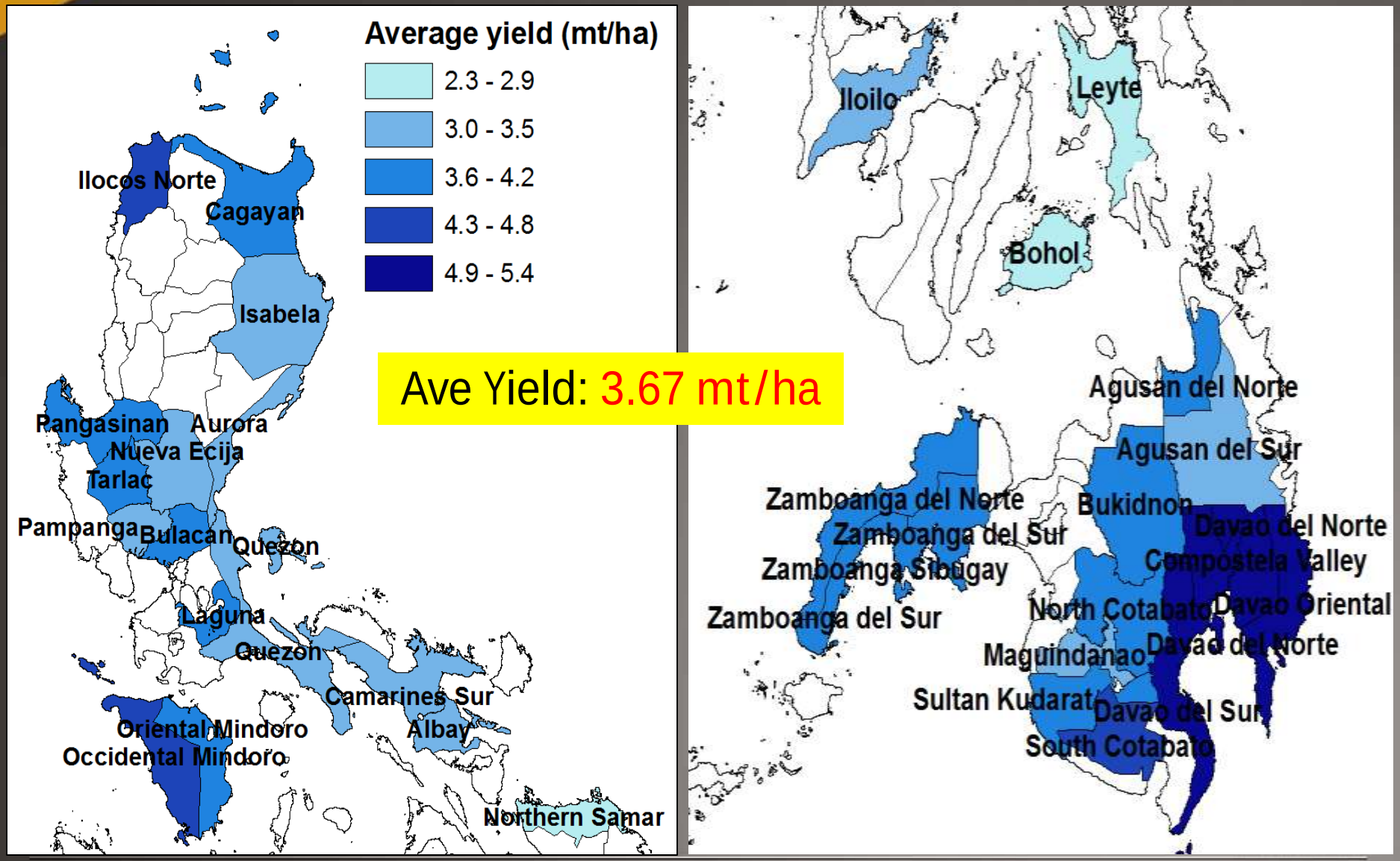
RBFHS Review

- 2011 Wet Season and 2012 Dry Season
- 2500 respondents but 2399 is available for analysis
- Previous seminars – Social characteristics, Technology and Input Uses (Seed, Fertilizer, Chemical Pesticide, Labor and Machinery), Water Source, Farm Asset, Marketing and Production Disposition

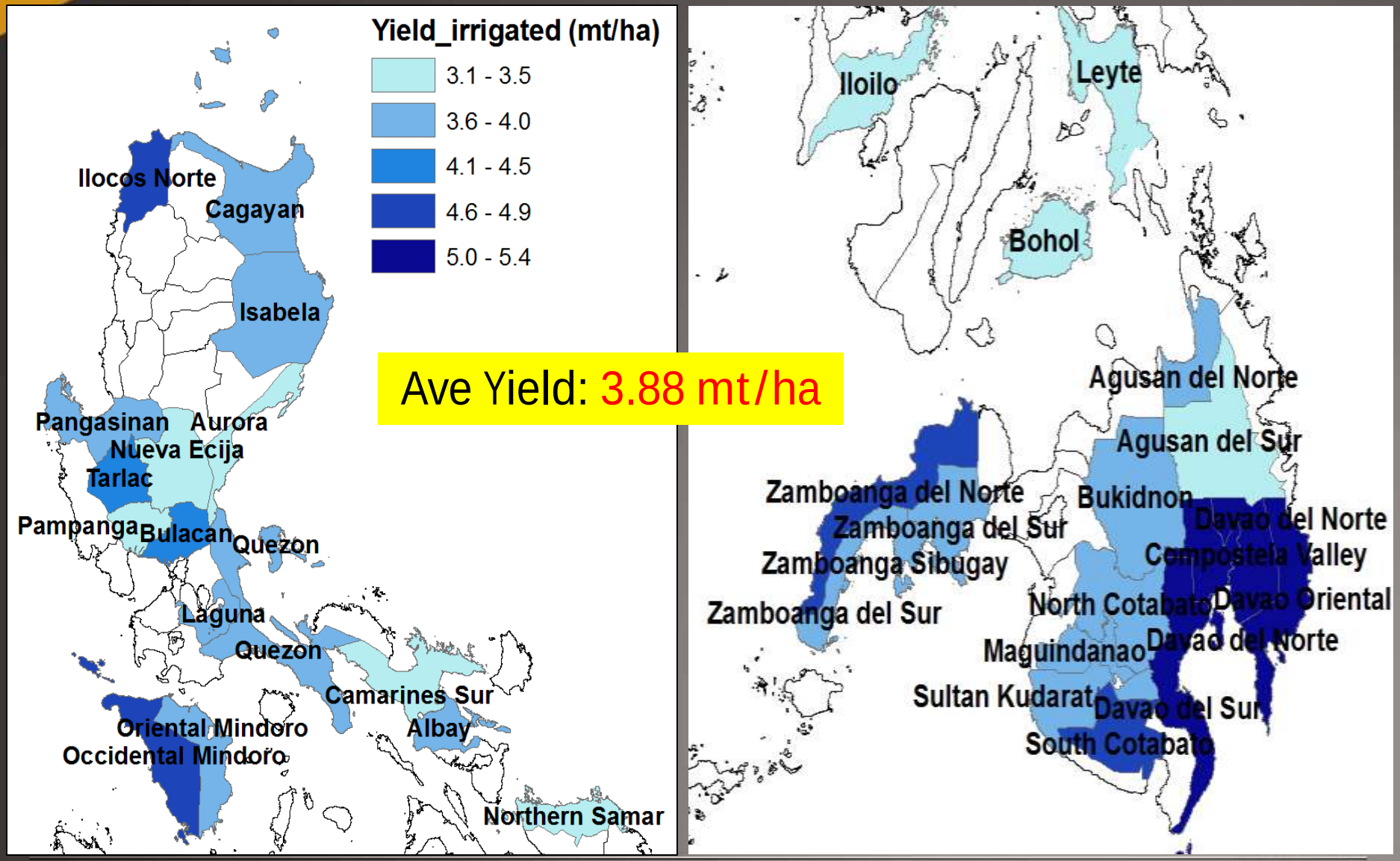
In this presentation…

- Yield and relation to factors of production
- Yield and relation to social characteristics
- Costs and returns of rice production
- Spatial distribution of yield and unit cost

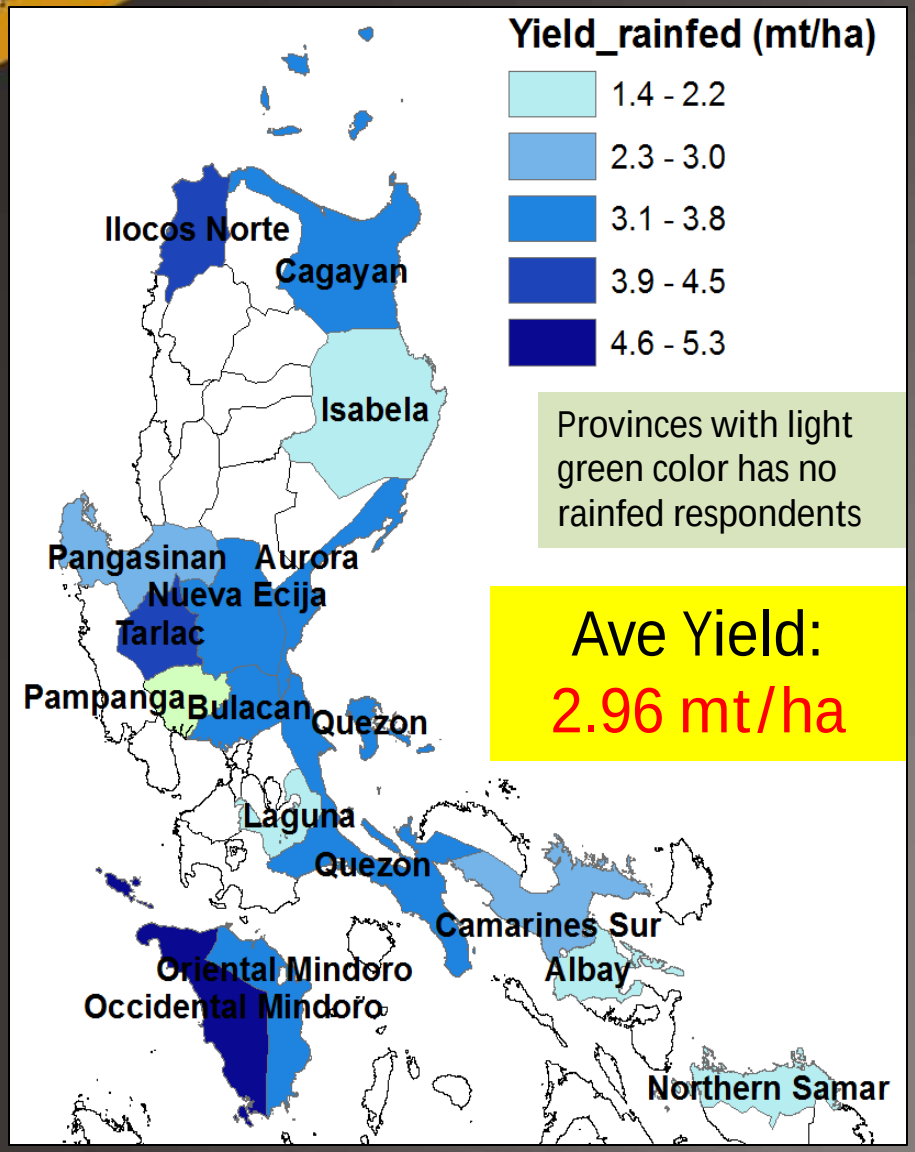
Average Yield per Province, All Ecosystems 2011 WS

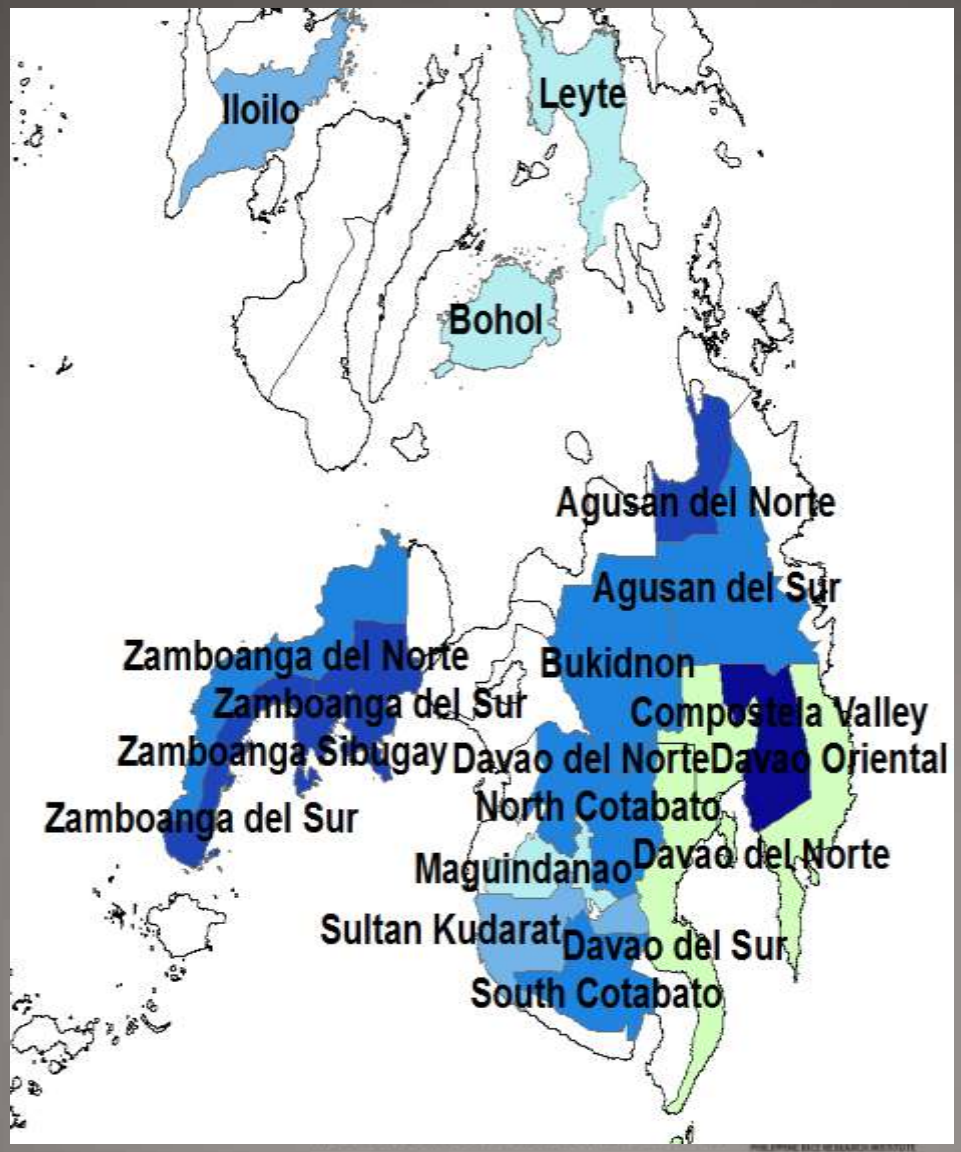


Average Yield per Province, Irrigated Ecosystem 2011 WS

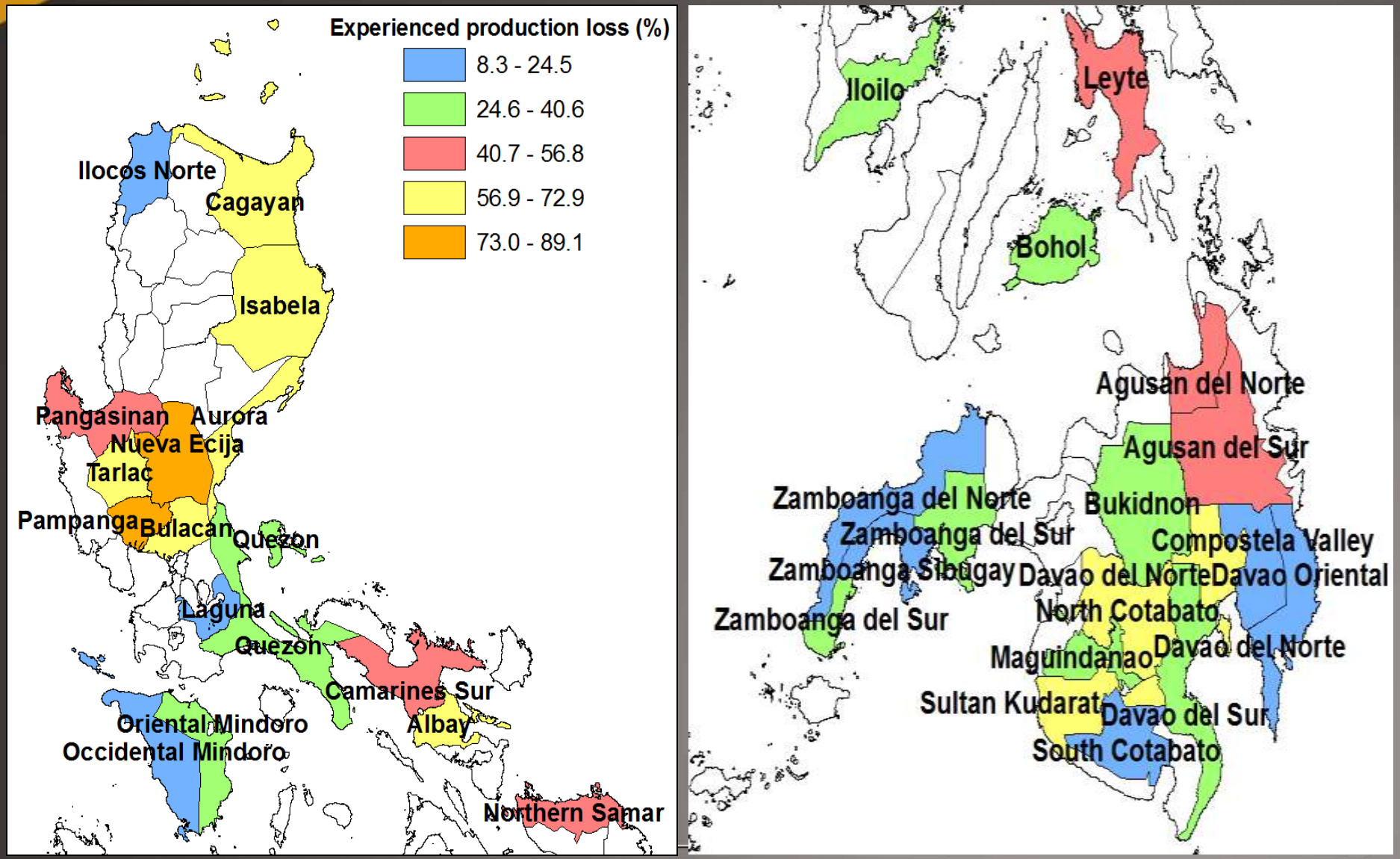


Average Yield per Province, Rainfed Ecosystem 2011 WS



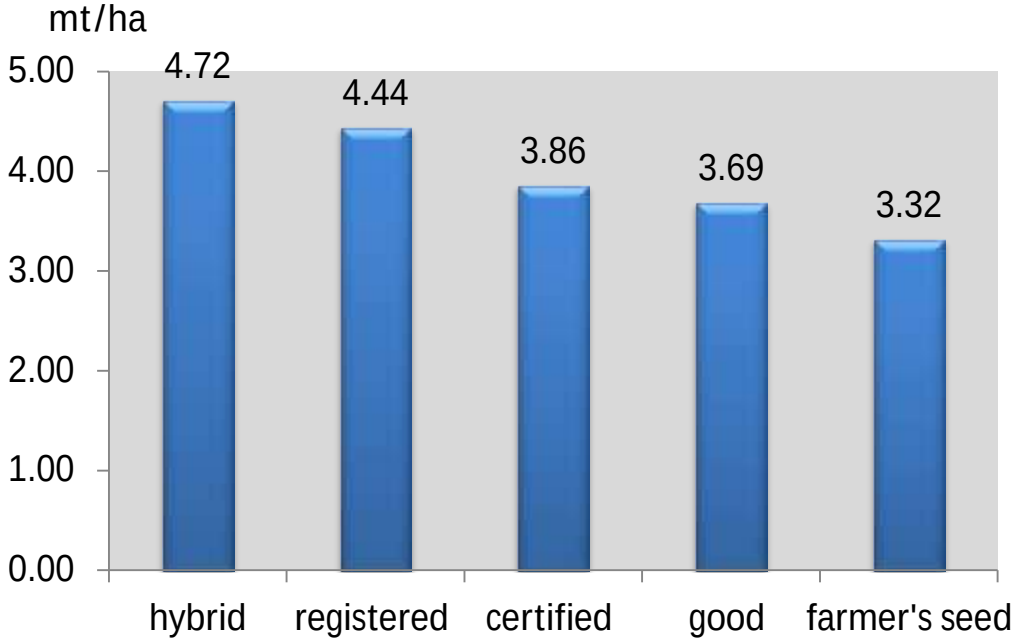


Production Loss, % of Respondents

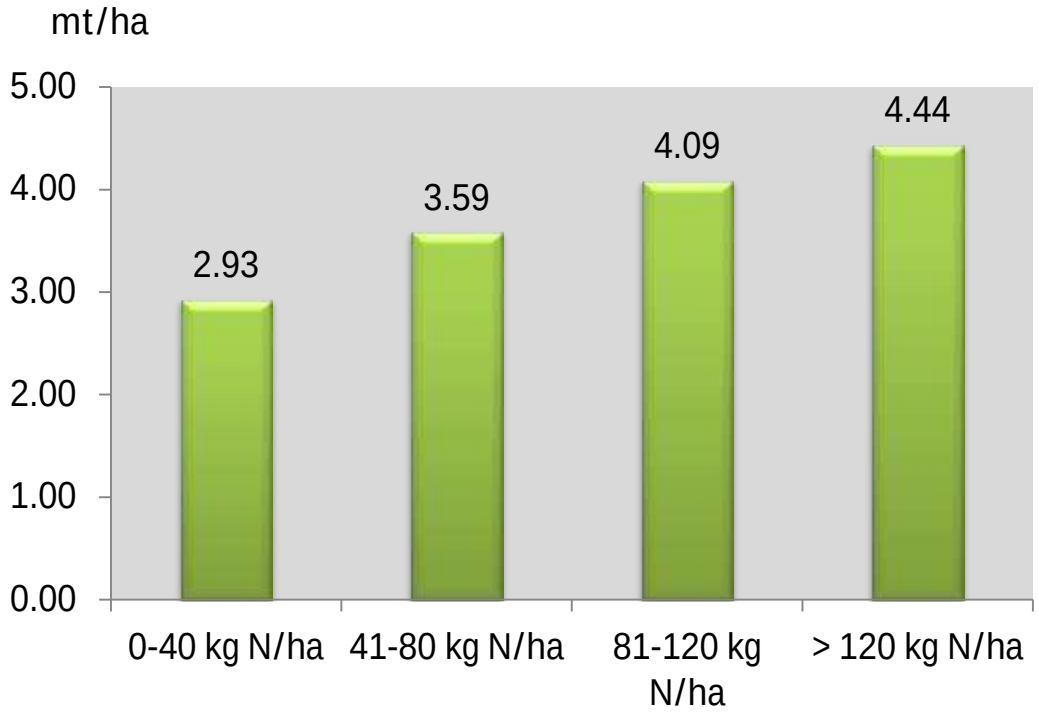


Yield by Seed Class

Hybrid yield is significantly ↑ than CS (certified), GS (good), FSS (farmer's seed)
Registered seed is significantly ↑ than CS, GS, FSS
Certified seed is significantly ↑ than GS, FSS
Good seed is significantly ↑ than FSS

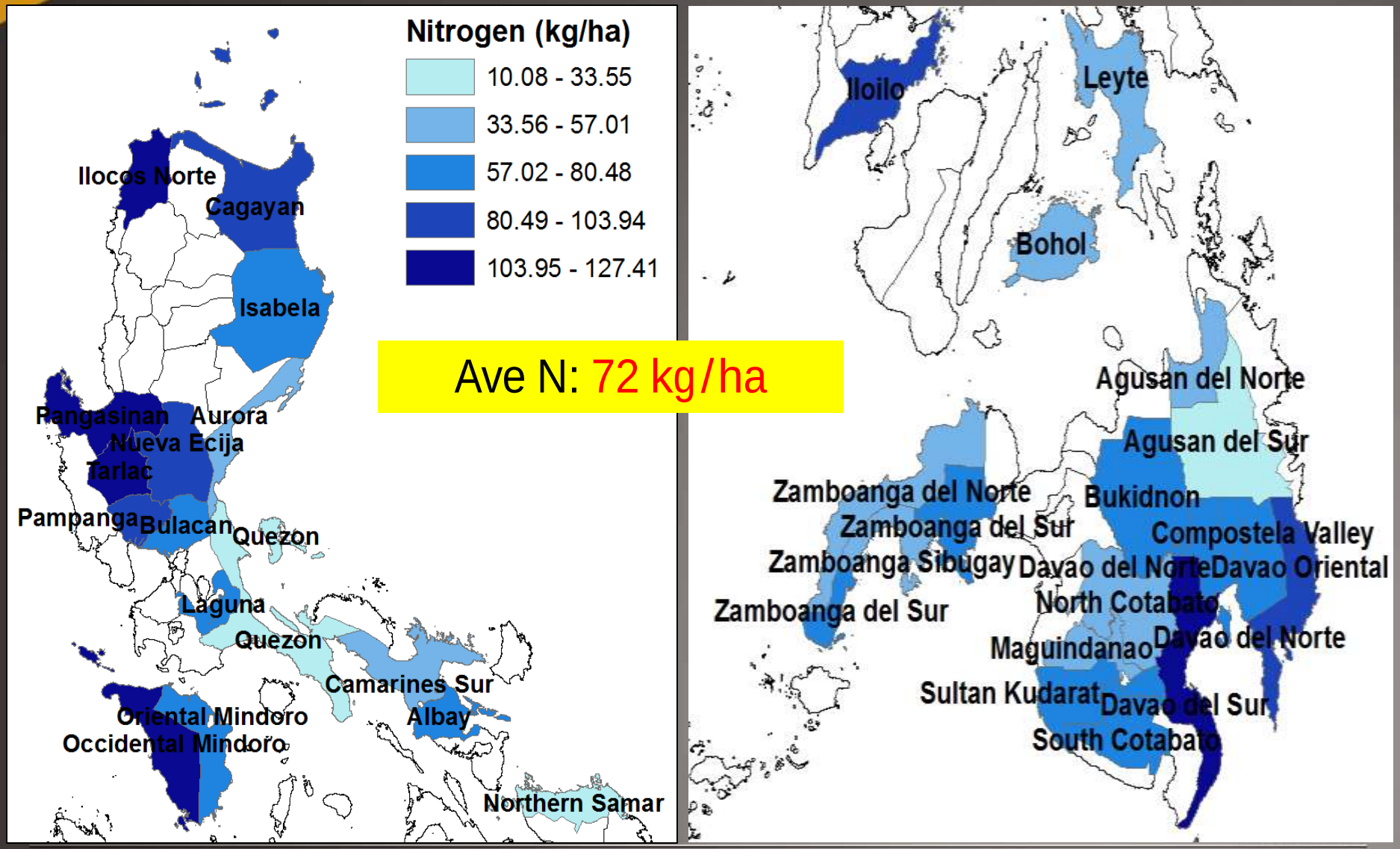


Yield by Nitrogen Application

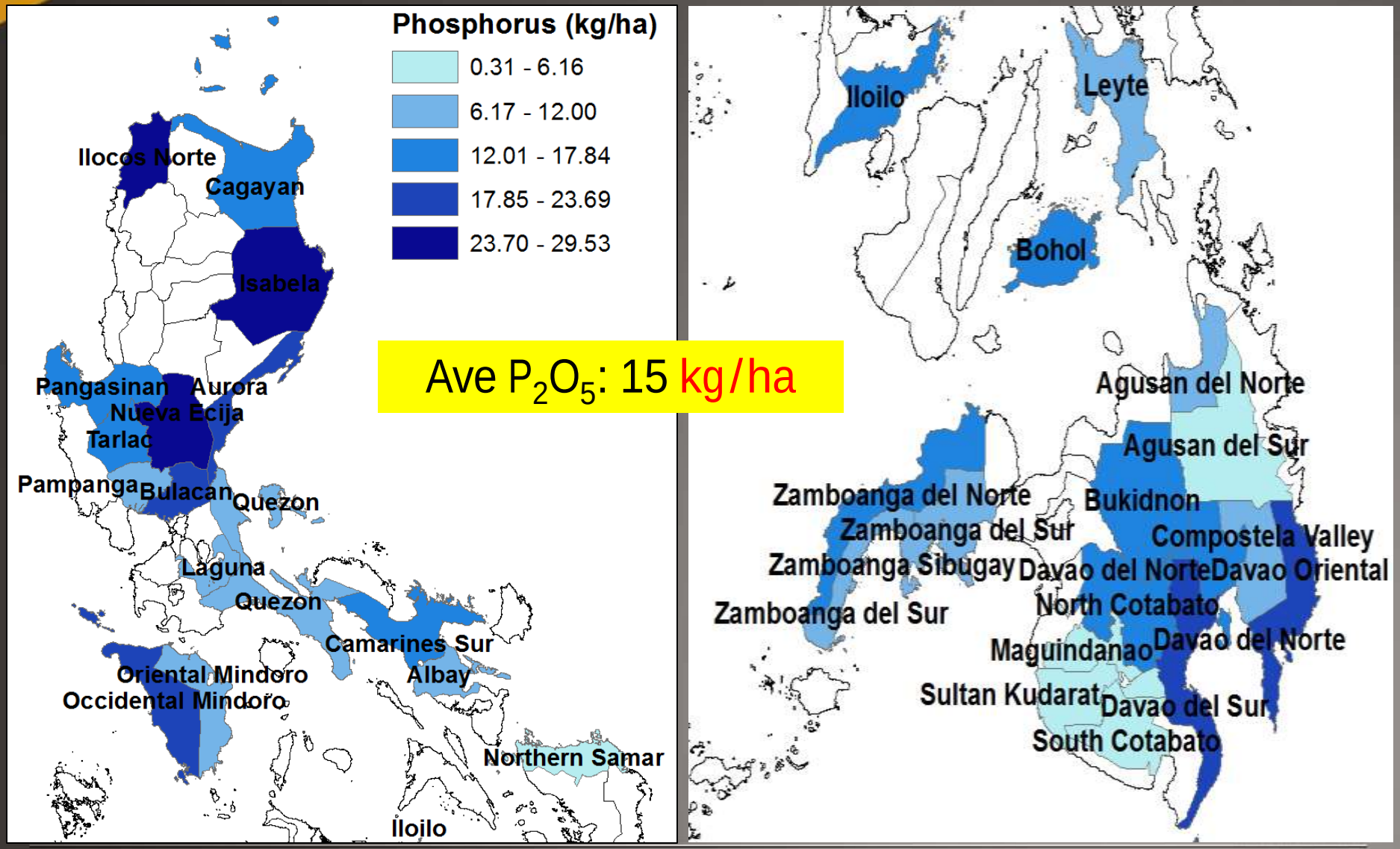


The higher N application, the higher yield is (significant yield difference between categories)
Incremental yield is becoming smaller

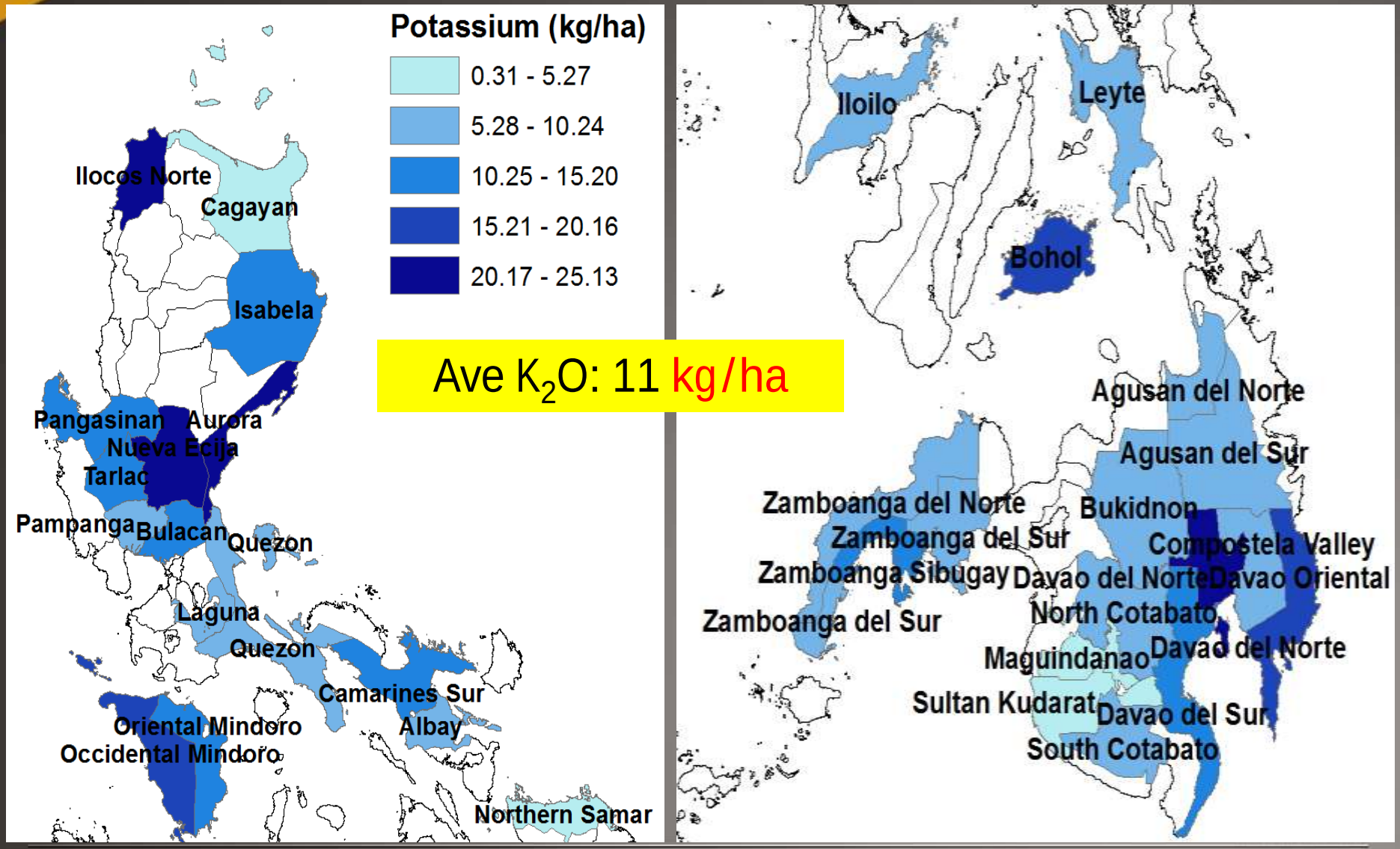
Nitrogen Use, 2011 WS



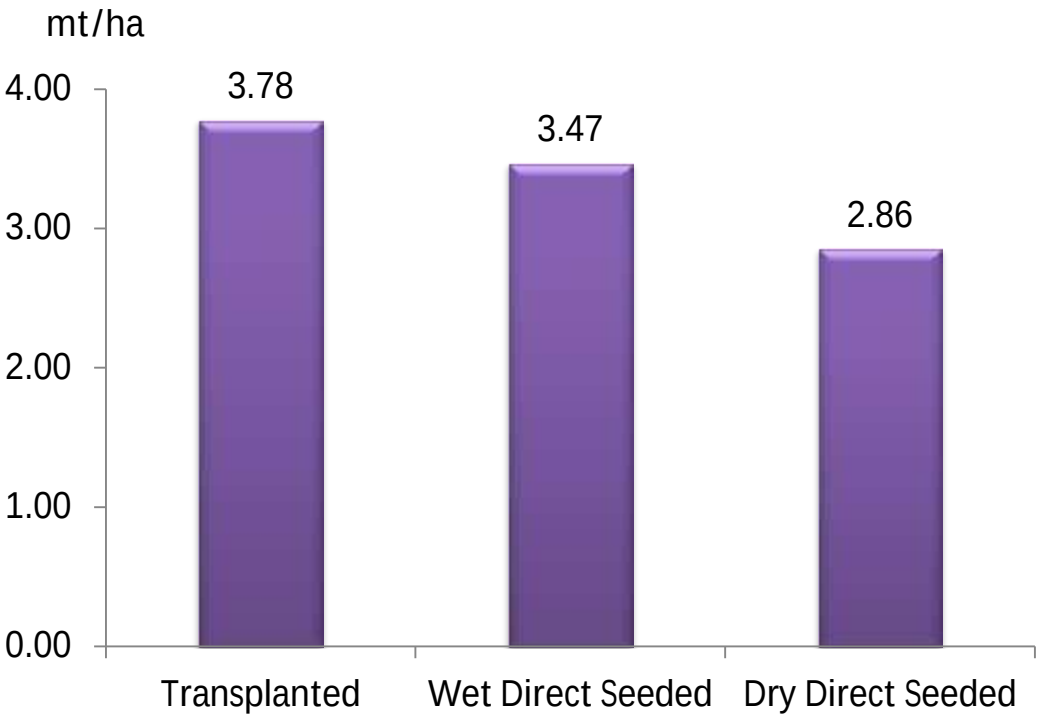
Phosphate (P_2O_5) Use, 2011 WS



Potassium Oxide (K_2O) Use, 2011 WS

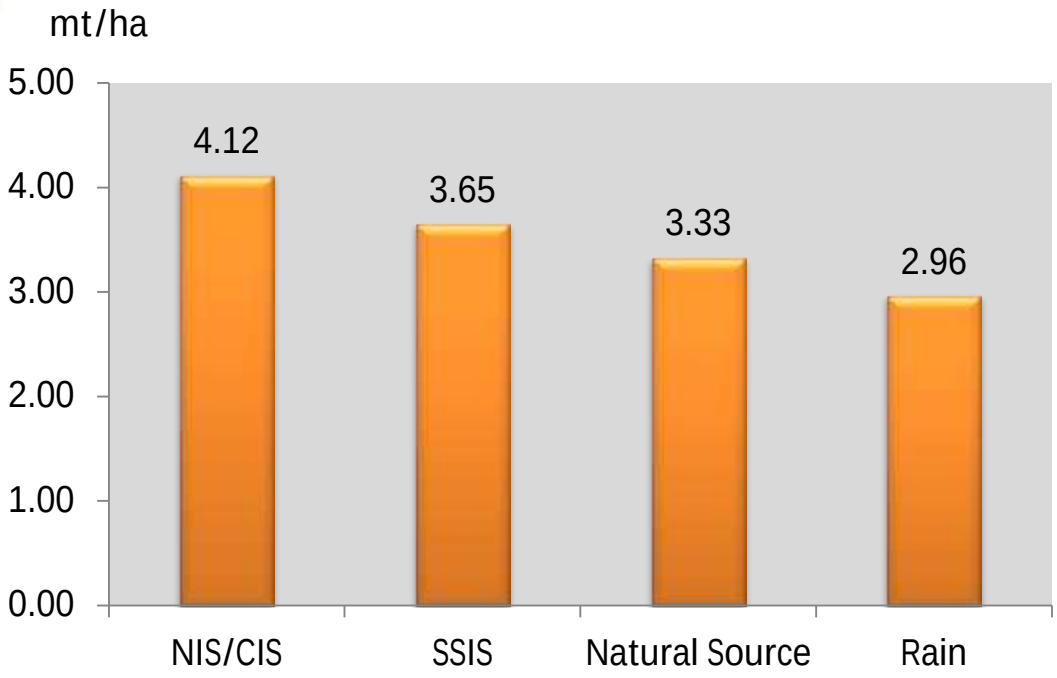


Yield by Crop Establishment



Transplanted rice has significantly ↑ yield than WDSR or DDSR
Wet direct seeded rice has significantly ↑ yield than DDSR

Yield by Water Source



NIS/CIS – National/Communal Irrigation Systems,
SSIS - STW/SWIP/SFR/ Open Well
Natural Source – Stream, Spring, Free-flowing
Rain – Rain only

NIS/CIS yield is significantly ↑ than SSIS, Natural Source, and Rain

SSIS yield is significantly ↑ than Natural Source, and Rain

Natural Source is significantly ↑ than Rain

Yield by Training

Yield of farmers with training is significantly ↑ than farmers who don't have training

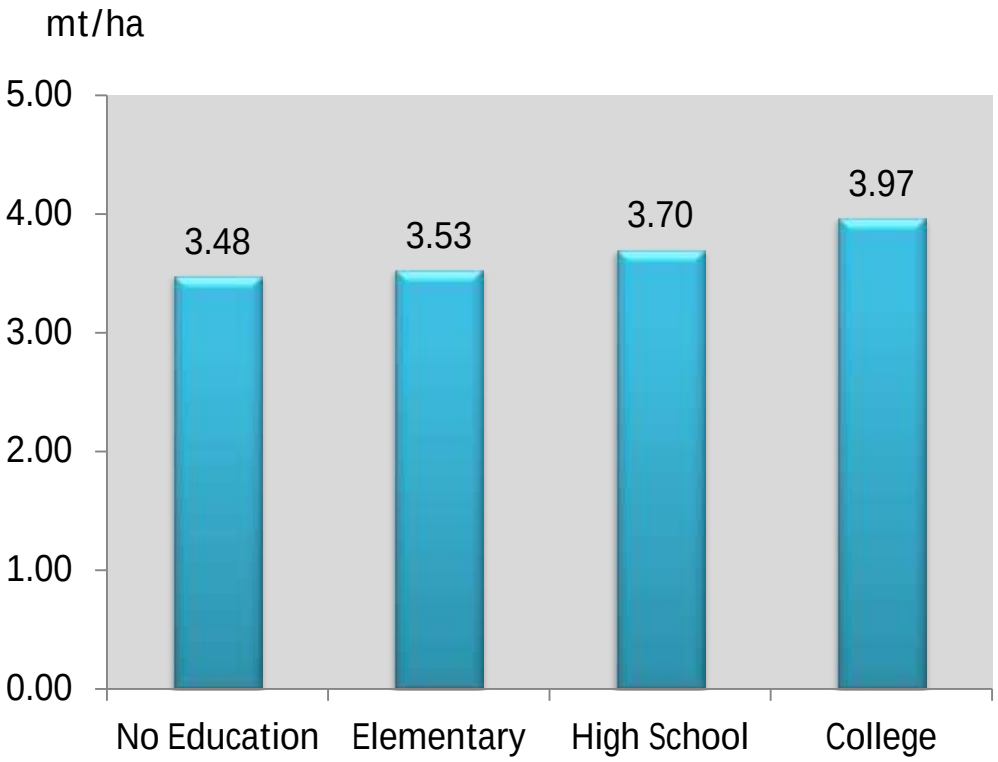
With Training – has attended rice production-related training since 2008

Yield by Education

College farmers have significantly ↑ yield than HS, Elem, and NEd

HS farmers have significantly ↑ yield than Elem farmers

No significant yield difference between Elem and NE farmers

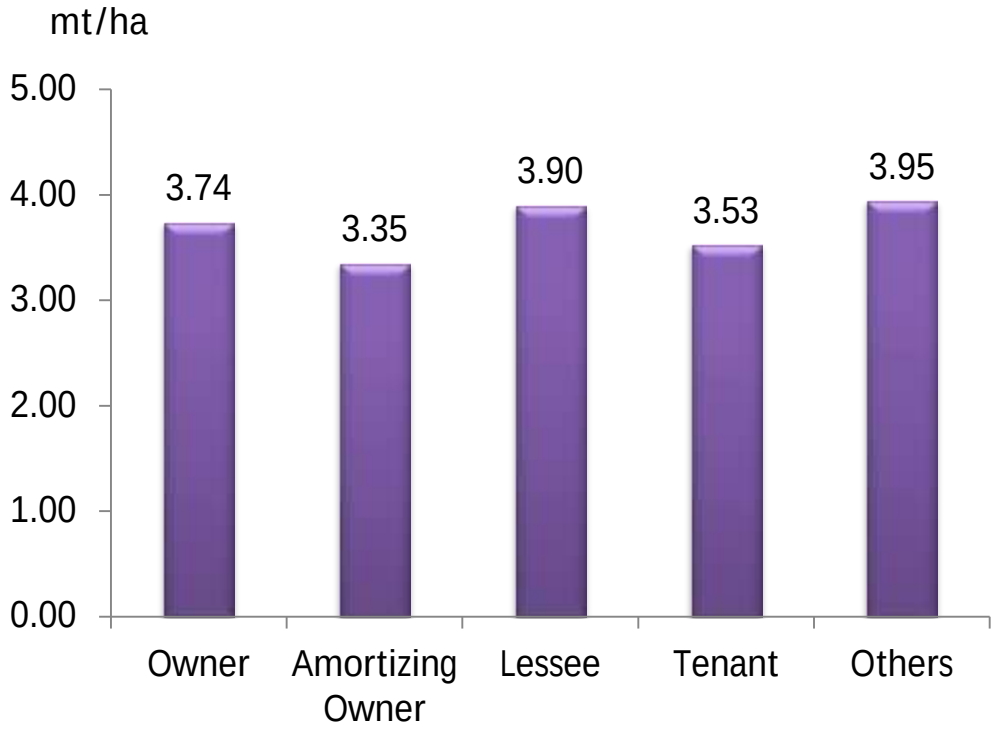


College – College level and graduates
HS – High school level and graduates
Elem – Elementary level and graduates
NEd – No education

Yield by Tenure Status

Owners, lessees, and other tenure have yield levels that are not significantly different

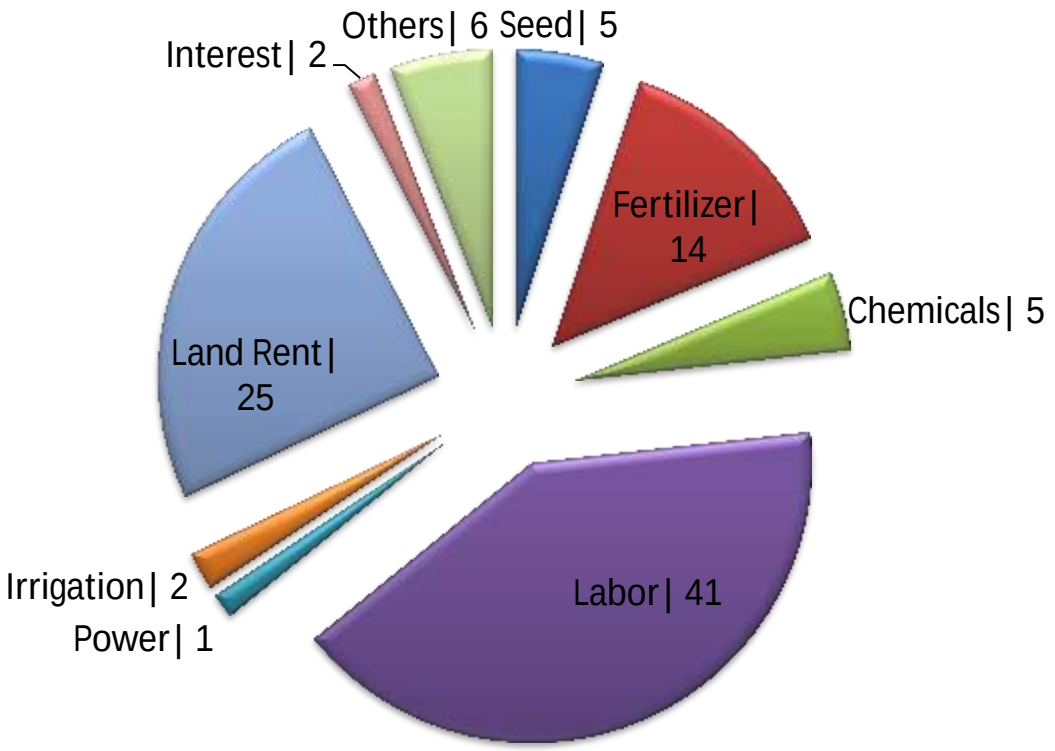
Yield of owners, lessees, and other tenure is significantly ↑ than amortizing owner and tenant



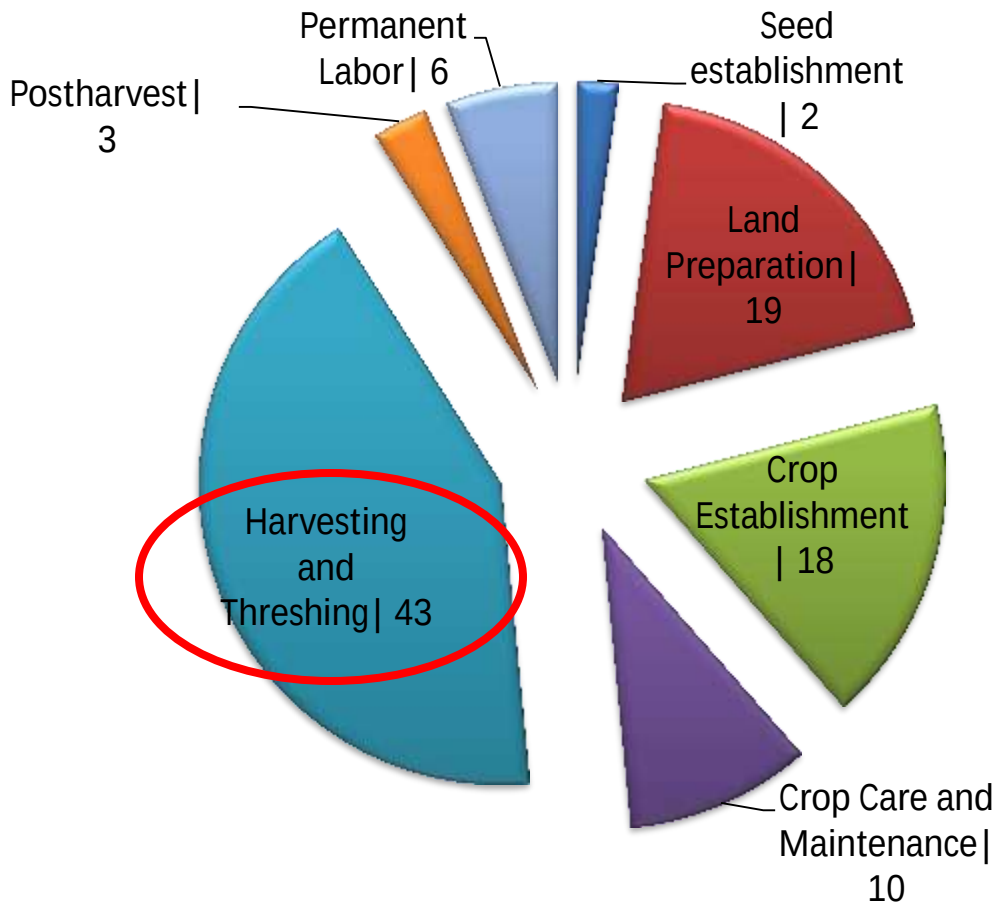
Others – include mortgage owners

Cost of Rice Production

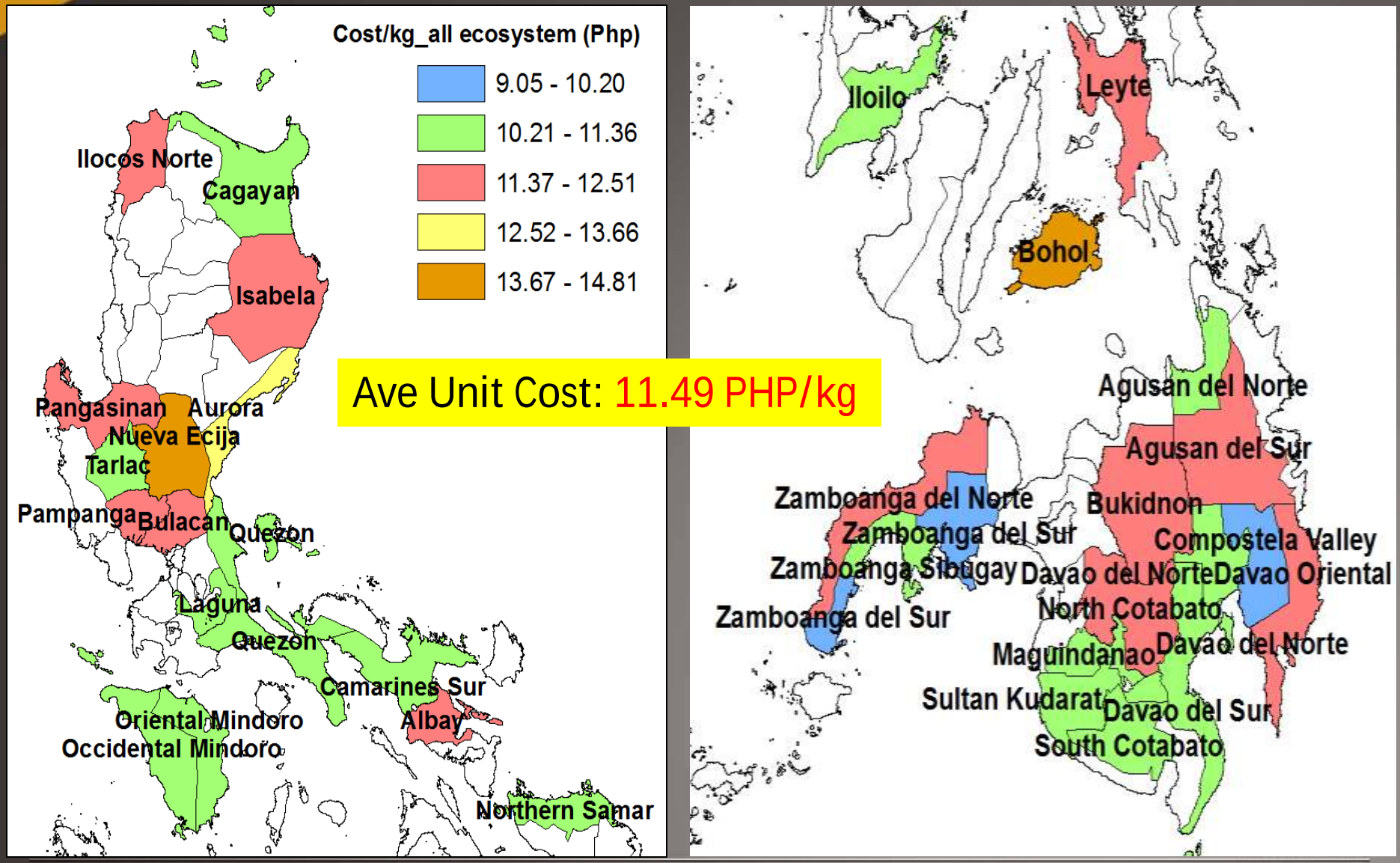
Item	PHP/ha
Seed	2,140
Fertilizer	5,735
Chemical Pesticides	1,932
Hired labor	13,926
Operator, Family and Exchange Labor	3,355
Food	1,123
Power	622
Irrigation	946
Transportation	270
Land Tax	377
Land Rent	10,351
Other Input	723
Interest on Capital	702
Total Production Cost	42,201



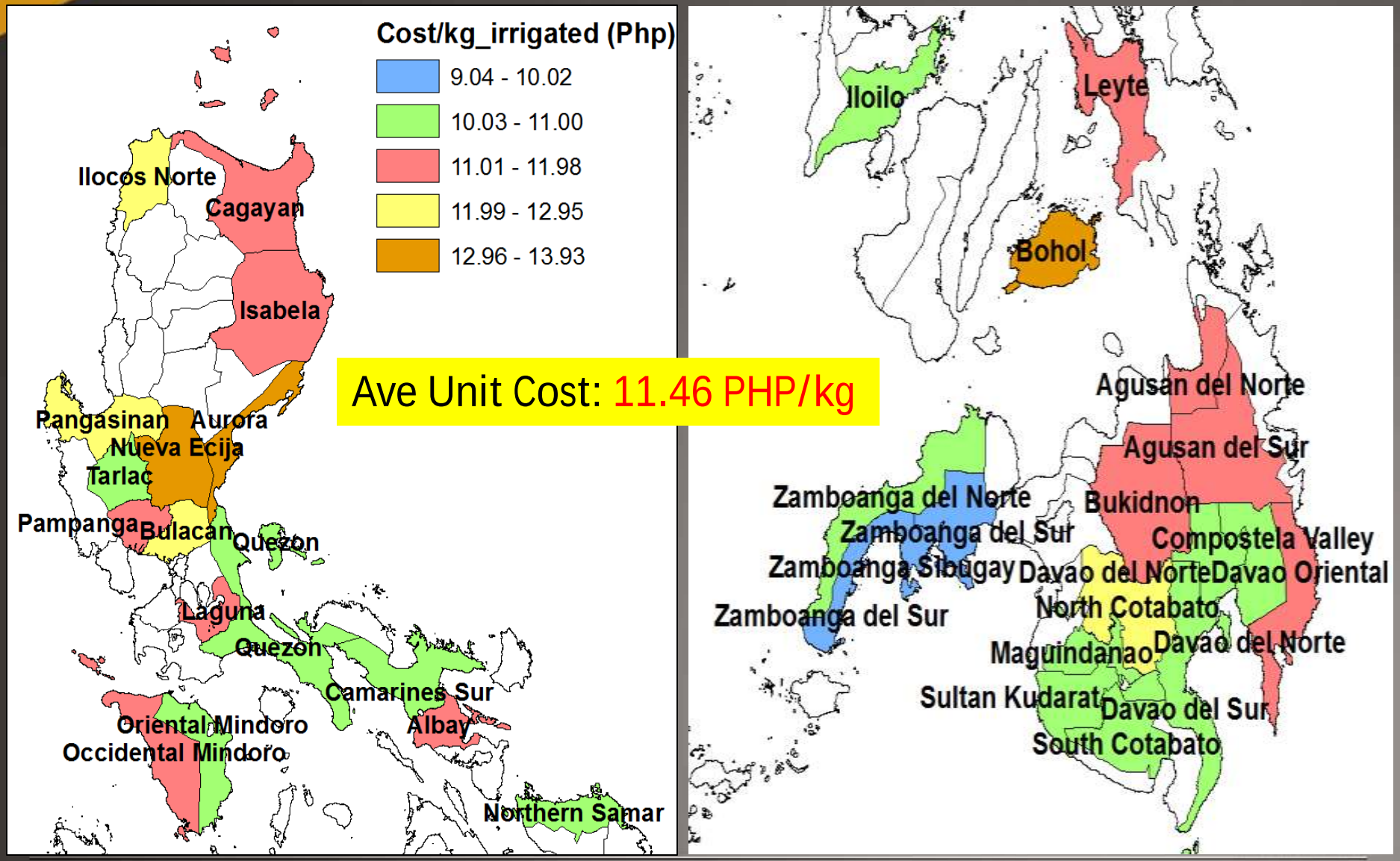
Labor Cost of Rice Production



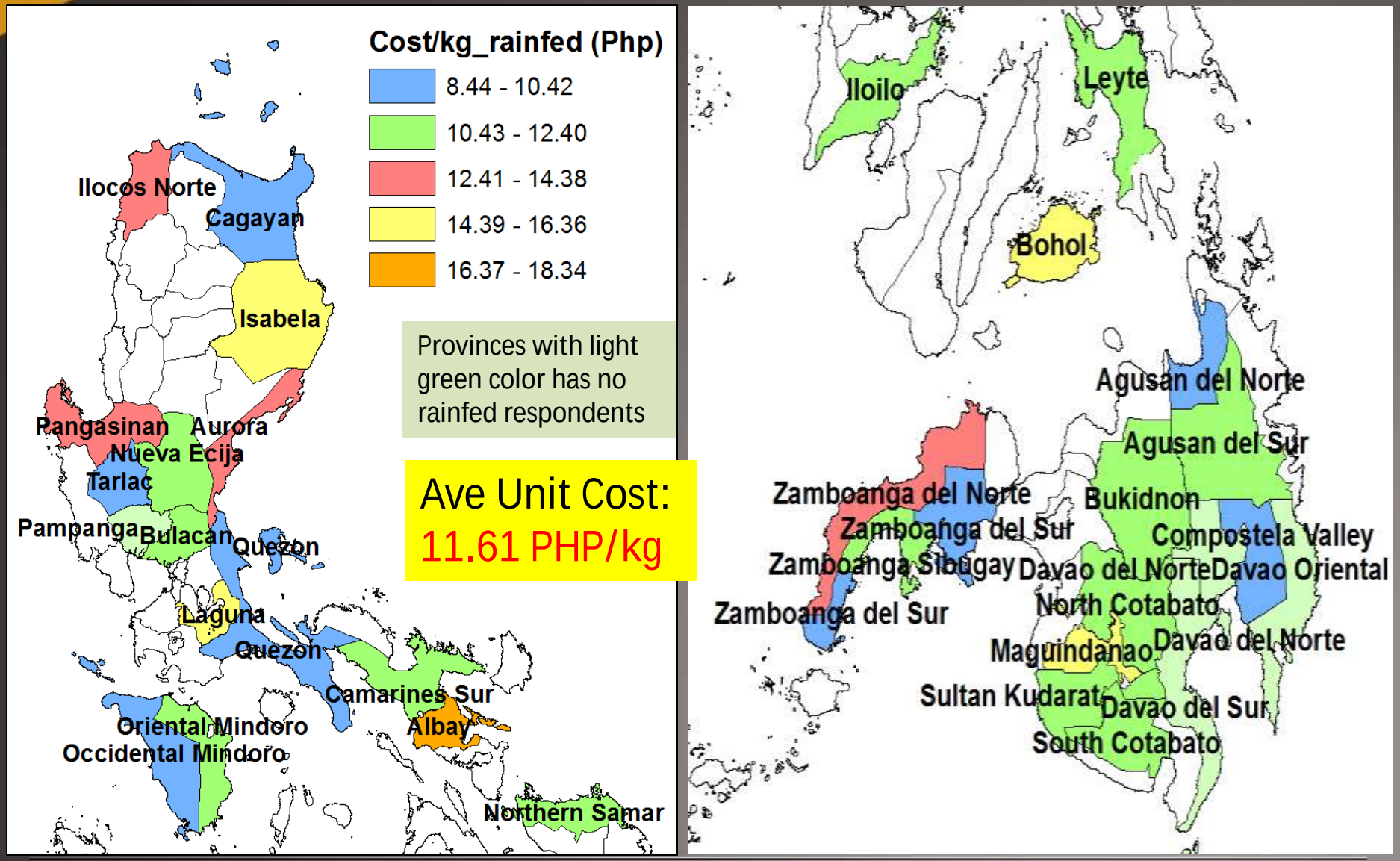
Average Unit Cost per Province, All Ecosystems 2011 WS



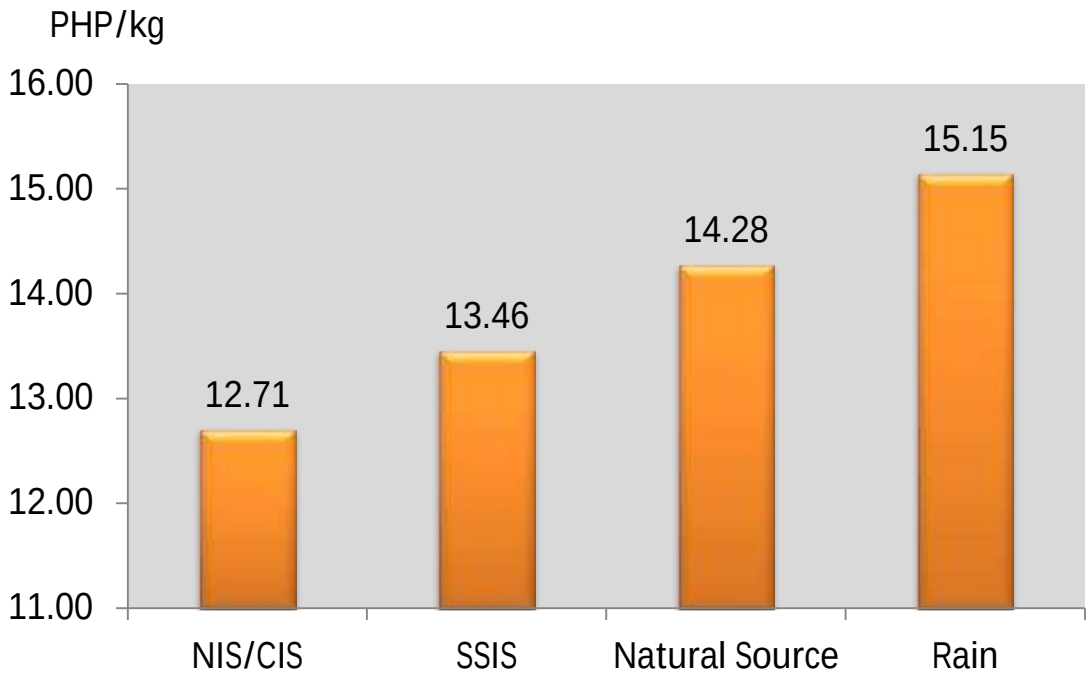
Average Unit Cost per Province, Irrigated Ecosystems 2011 WS



Average Unit Cost per Province, Rainfed Ecosystems 2011 WS



Unit Cost by Water Source



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SSIS unit cost is significantly ↓ than Rain

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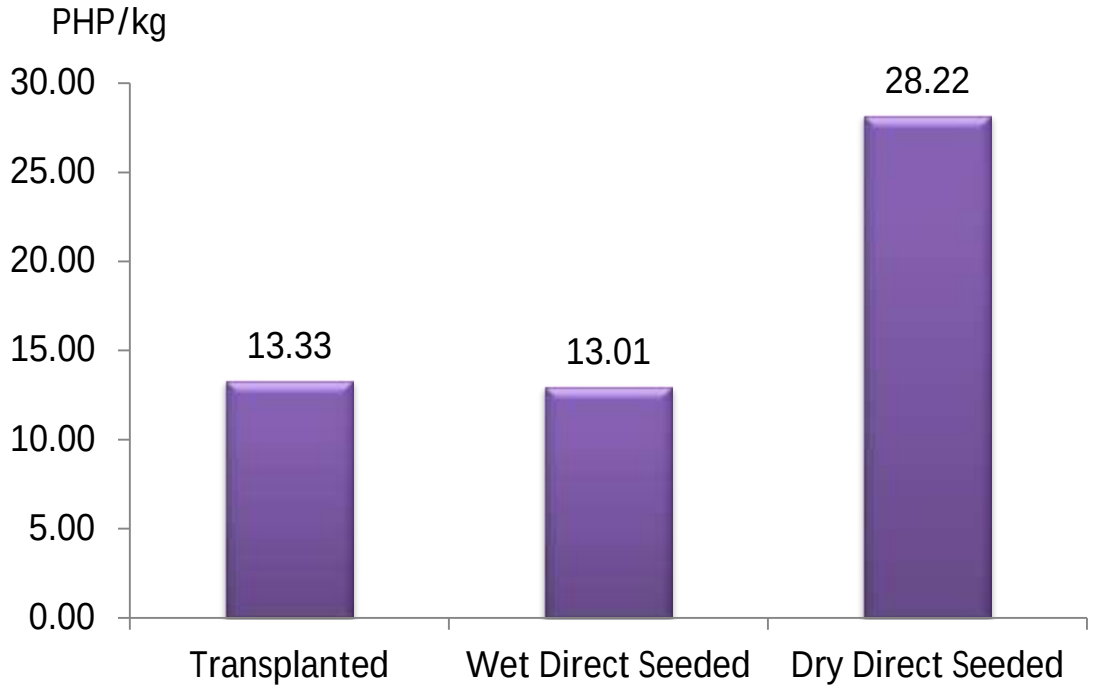
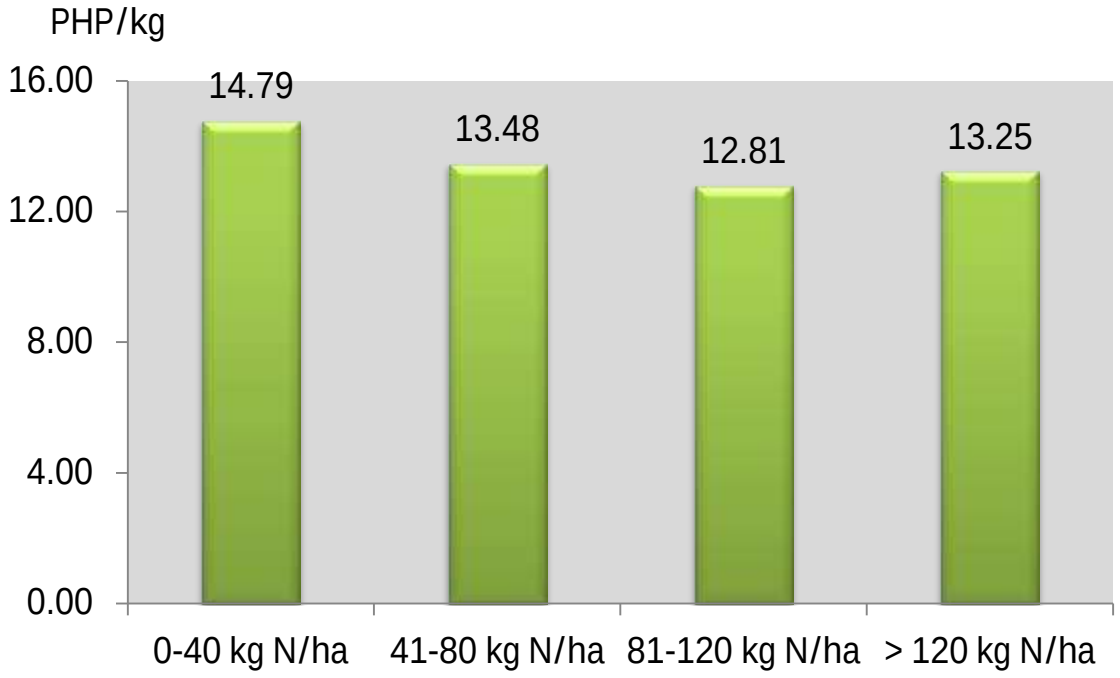
Unit Cost by Crop Establishment



No significant difference between cost of TpR and WDSR

TpR and WDSR have significantly ↓ cost than DDSR

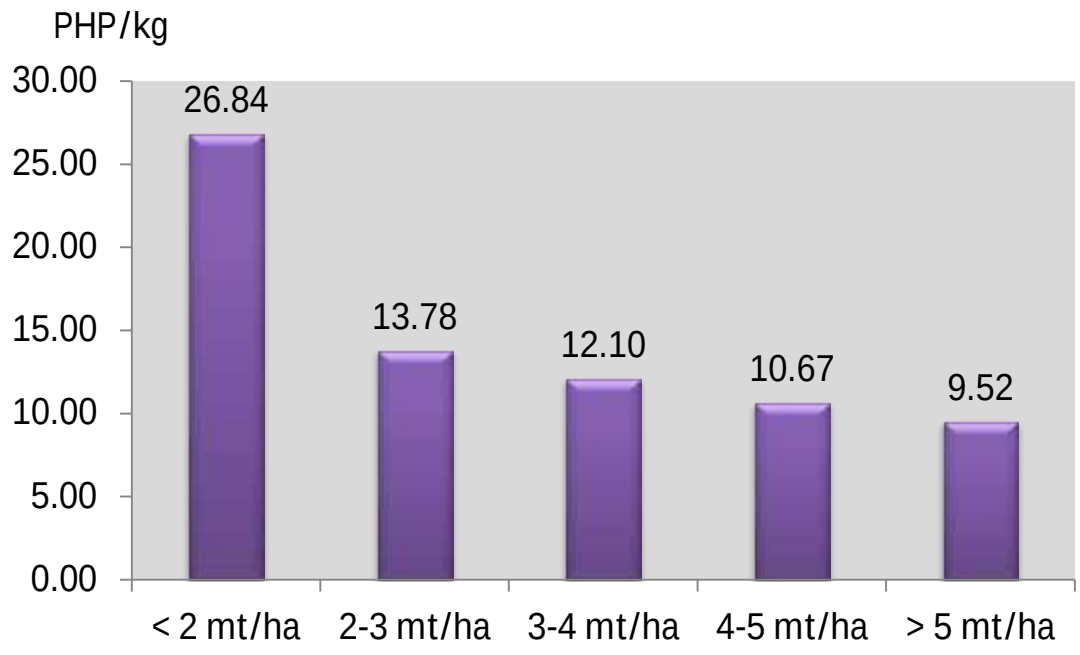
Unit Cost by Nitrogen Application



No significant difference between unit cost of N application from 40 to >120 kg/ha

Unit cost of farmers applying < 40 kg N/ha is significantly ↑ than the other groups

Unit Cost by Yield Level



Unit cost decreases as yield increases

Unit cost is significantly ↓ under higher yield category

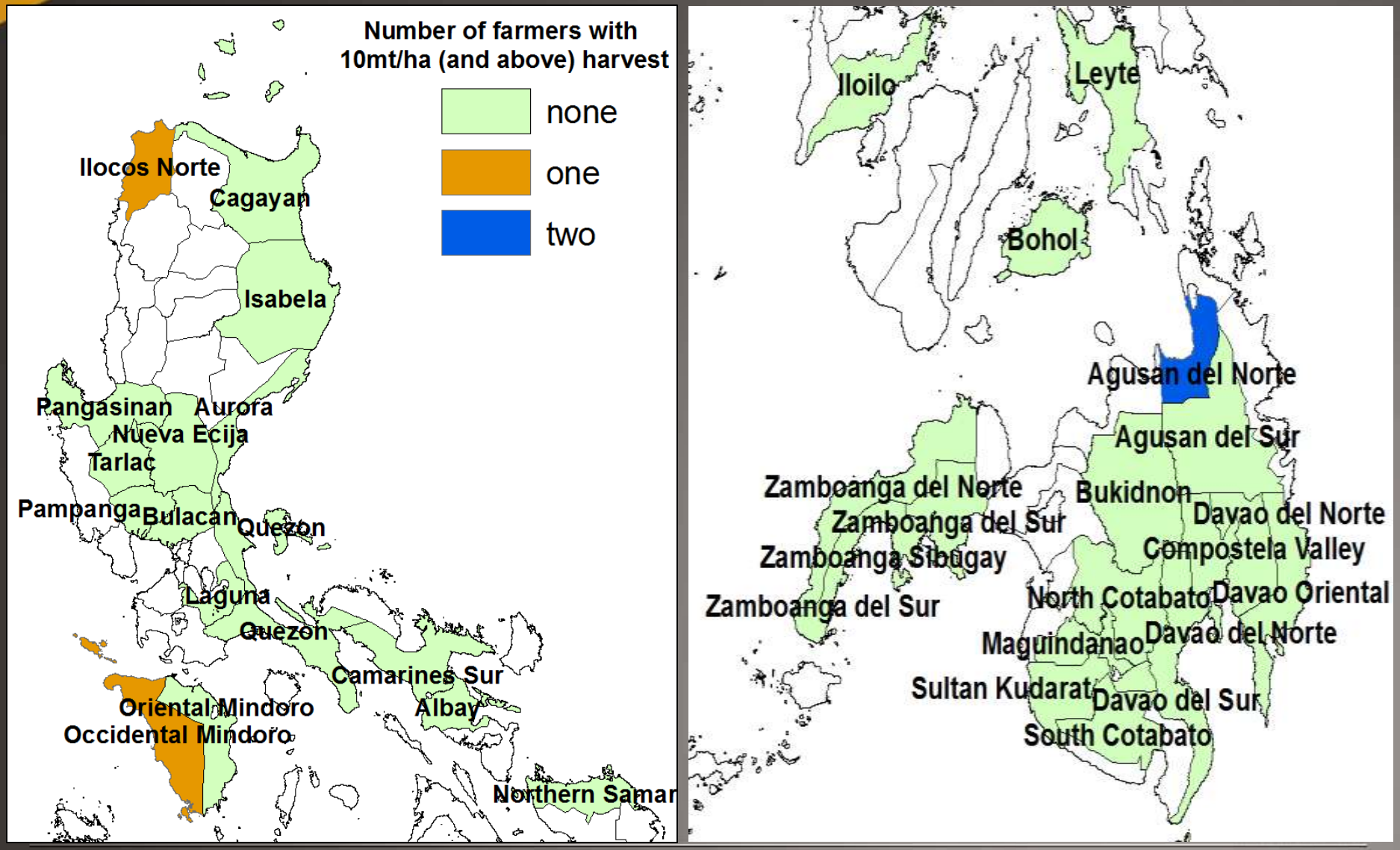
Only unit cost between 4-5 mt/ha and >5mt/ha are not significantly different

Returns from Rice Production

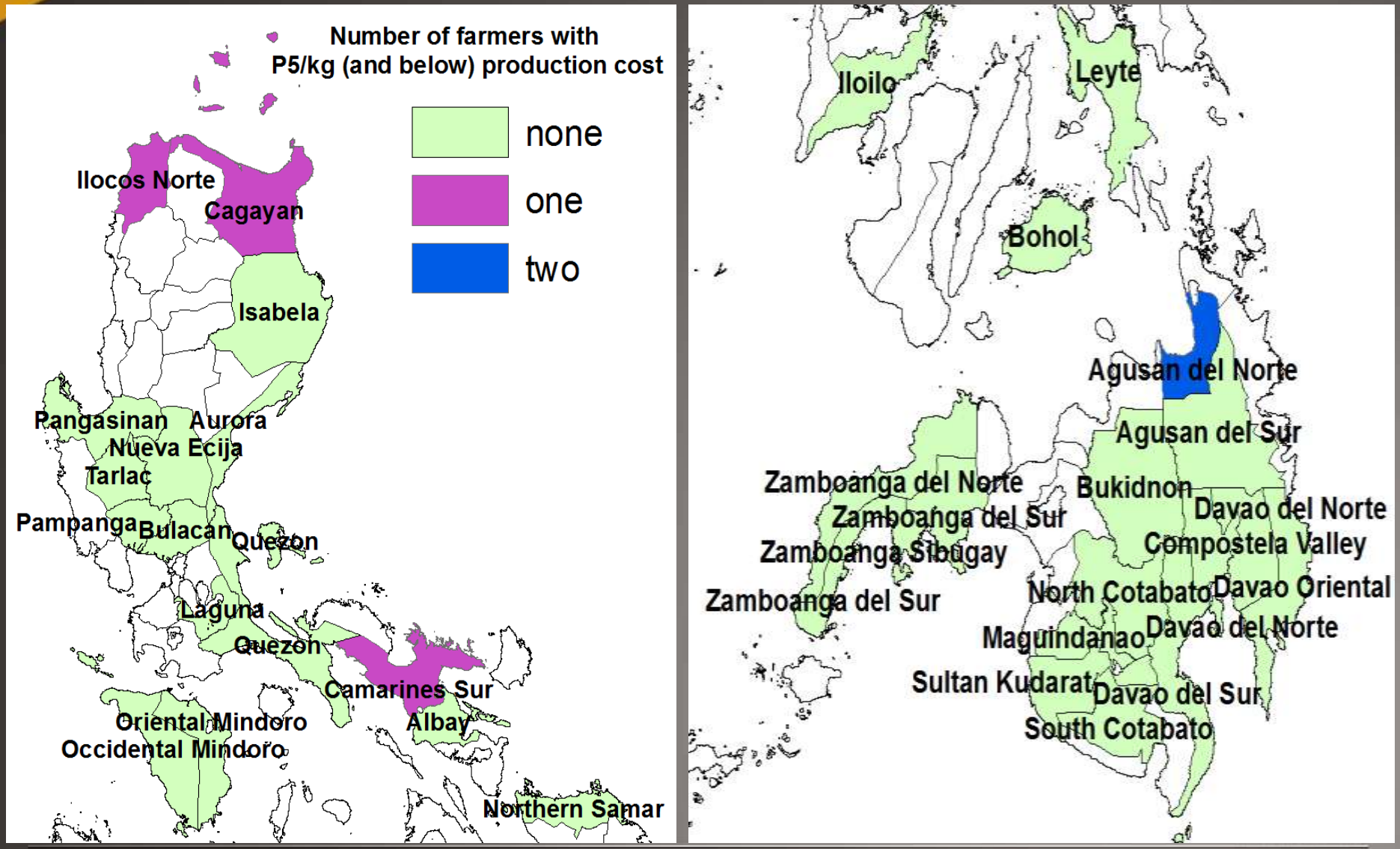
Item	Value
Yield (kg/ha)	3,673
Price per kg (PHP/kg)	13.23
Gross Revenue (PHP/ha)	48,582
Total Production Cost (PHP/ha)	42,201
Net profit from Rice Farming (PHP/ha)	6,381
Net Profit from Rice Farming + Returns to Own Labor (PHP/ha)	9,735
Net Profit from Rice Farming + Returns to Own Labor and Land (PHP/ha)	20,086
Net Profit from Rice Farming + Returns to Own Labor, Land, and Capital (PHP/ha)	20,788

Has anyone achieved 10-5 during 2011 WS?

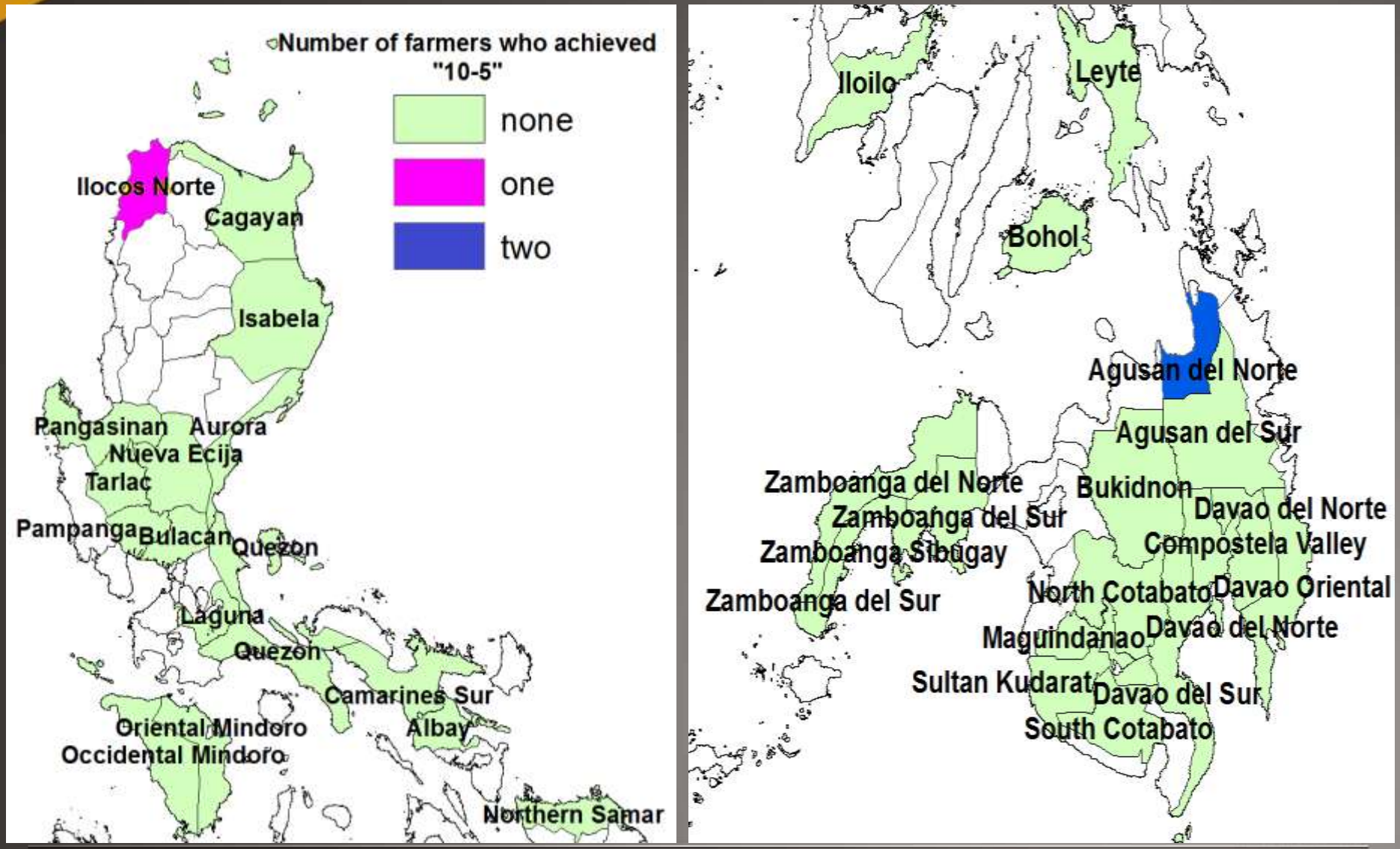
Farmers who got ≥10 mt/ha



Farmers who got ≤5 PHP/kg



Farmers who achieved 10-5



Insights

10-5 is feasible at the farm level but only few farmers have achieved it during 2011 WS

Wet season yield can still be improved further through use of high quality seed, and better nutrient management

Access to water and farmer's knowledge are other factors that can improve the yield

Increasing the yield is a good strategy to reduce cost

Reducing labor cost, particularly harvesting and threshing, can lead to lower unit cost

Thank You