Rice Production among Beneficiaries and Non-beneficiaries of the Gulf of Mottama Project, Myanmar

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Introduction

• Crop production accounts for about 80% of total agricultural income, rice occupies about 40% of the total agricultural area in the farm economy of Myanmar (MOAI 2014)
• Country average rice yield was about 4.1 tons/ha (MOAI 2010)
• Average crop production per hectare is still low due to poor soil, inadequate water supply, improper crop management and their income is very low and they have limitations to buy agricultural inputs (HELVETAS 2015)
• The Gulf of Mottama project (GOMP) is implemented by HELVETAS Swiss Intercooperation (Myanmar) with other local NGO and INGOs to conserve biodiversity and develop local communities sustainably

Objectives

• Assess socio-economic characteristics of project beneficiary and non-beneficiary households, their constraints faced in rice production and rice productivity (yield)
• Investigate the influencing factors on rice productivity

Methods

1. Households Interview
   • Study Area - 8 villages in Kyaihto, Bilin and Thaton townships
   • Sampling - purposive random sampling
   • Data collection- personal interview by structured questionnaires (n = 106, beneficiary = 59, non-beneficiary = 47)

2. Focus Group Discussion
   • Standard on Sustainable Rice Production (SRP) 1.0 (2015)
   • From each village, usually a group of beneficiaries (6-9 farmers) and a group of non-beneficiaries (6-7 farmers)
   • Total 14 FGDs

3. Key Informant Interview
   • With 10 experts from different departments and institutions that are involved in Myanmar rice production

4. Data Analysis
   • Descriptive- Microsoft Excel program, Regression - R programming

Conclusions

• Rice Production is important in Gulf of Mottama region because about 55% of their income come from rice
• Average productivity was 39 baskets/acre (about 2 tons/ha) → Lower than the country average yield (4.1 tons/ha)
• Being project beneficiary households may help the farmers to get more yield and reducing the number of tillage
• Farmers have limited knowledge in using inputs in the best way and it is hard to be sustainable rice production
• Extension workers really need to work and there is a gap between extension agents and researcher
• It can be concluded that the support of government institutions plays a very important role to improve rice production

Results

1. Socio-economic Characteristics of the Interviewed Households
   • Average age of household heads (HH) = 53 years (t test, p-value = 0.248)
   • Average experience in rice farming of HH = 27 years (t test, p-value = 0.373)
   • Average farm size = 17 acres (t test, p-value = 0.768)
   • Average family size = 5 (t test, p-value = 0.104)

2. Determinants on Yield in 2017 Monsoon Rice Production
   • Significant influence of being project non-beneficiaries on yield (p= 0.00596)
   • Land preparation time also influenced negatively and significantly on yield at 5% level (p= 0.048)

3. Sustainable Rice production and Role of Institutions
   • One-third of the project farmers attended training
   • Poor drainage (flooding and erosion)
   • No soil test, apply fertilizers by observing plant and depending on financial situation
   • Some non-beneficiary farmers still use legally banned chemicals that are used for control of wild ducks
   • Not possible to harvest on time (labour and combine harvester problems), kept rice on the bunds and dried for 3 to 4 days without covering it at night
   • Price of rice is low at harvest (no storage space and to repay bank loan)
   • No government farm that provides seeds for rice production in study area
   • Extension agents visit field 2-3 times/month and meet with key farmers
   • No collaborations among government departments
   • Inspectors for chemicals shops usually check the small retailers but never go to the large wholesalers, farmers can buy non-registered chemicals easily

References


Figure 1: Household interview at Gao Phyu Gona Village

Figure 2: Focus Group Discussion at Boyargyi Village

Figure 3: Key Informant Interview at Department of Agriculture

Figure 4: Distribution of education level among household households of beneficiaries and non-beneficiaries (p-value = 0.009, Fisher’s exact test)

Figure 5: Percentage of beneficiary and non-beneficiary households who faced problems concerning with seeds (p-value = 5.69e-06, Pearson’s chi square test)

Figure 6: Damage of drainage canal due to erosion