

INFORMATION ON RESEARCH RESULTS

1. General information:

Project title: Assessment of the social-economic aspects and acceptance of farmer to apply biogas component on integrated VACB farming in fresh-water in Mekong Delta.

Code number: B2007-16-73

Coordinator: PhD. Nguyen Ngoc De

Implementing institution: Can Tho University

Duration: from 2007 to 2008

2. Objective(s):

General objective: to develop sustainable agriculture and protect environment in fresh water in Mekong Delta.

Specific objectives:

- Assessment of the main aspects effect to acceptance of the farmer to apply biogas component;
- Assessment of the social-economic and environment aspects to apply biogas on integrated VAC farming;
- Suggestion for technical interventions, social and political appropriately to apply biogas and sustainable integrated VAC farming.

3. Creativeness and innovativeness:

- To apply factor analysis in order to classify the causes and reasons of pressure to accept biogas farmers in integrated VAC farming system.
- To apply Binary Logistics regression analysis to analyze the causes and most important reasons affecting the adoption of bio farmers.
- To apply multivariate regression analysis to identify independent variables that affect profits per year from farmers farming systems applied in combination VACB.

4. Research results:

Results of factors analysis for aspects effect to acceptance of biogas of farmer using biogas, farmer used biogas but abandoned, farmer never apply biogas show that awareness of farmer have divided different factor groups, which have different important. Results of factors analysis for applied biogas reasons in future show that there are 12 reasons and separated into 5 main factor groups. Results of factors analysis for not applied biogas reasons in future show that there are more 11 reasons and separated into 4 main factor groups. There are two independence variables that explained reasons apply biogas but abandon of farmers in logistics analysis method. Throughout coefficient of definition B (Exp B) of independence variable for economic benefit variable, result explained 43% fluctuant duration between biogas applied and biogas applied but abandon ($p < 0,018$). Similarly, independence variable of better environment variable explained 84% fluctuant duration between biogas applied and biogas applied but abandon ($p < 0,003$). Because of regression coefficient of benefit economic variable and better for environment are higher, 0,97 and 1,00, respectively, so it explained decision of farmers practiced biogas component and abandon biogas in integrated VAC farming system. Land resources of farmers is significant (1,2-1,5 hectare) ($P < 0,05$). Economic return/year of farmer groups who applied biogas (44 million VND/year are higher than other farmer groups (37-40 million VND/year, $P < 0,05$). Economic return of pig production of farmer groups who applied biogas (16 million VND/year, $P < 0,05$) are higher than other farmer groups. Analysis of regression for economic return/year of farmer groups applied integrated VACB and independent variables show that there were 6 independent variables explained 97 % fluctuant duration of economic return/year of farmers groups who applied biogas and others independent variables. Economic return/year of household have right correlation with economic return/year of rice production (average 24,3 million VND/year/household), economic return/year of orchard production (average 1,65 million VND/year/household), economic return/year of animal production (average 12,81 million VND/year/household) and economic return/year of fish production (average 1,65 million VND/year/household). Whereas, economic return/year/household of farmers have contrary correlation with two independent variables such as pig cage area, agricultural labor of household (average 2,41 person/household) and integrated VAC farming system not have biogas component. Some solutions for development of biogas

component follow Development of livestock have ensured output of productions; improved economic return of farmer by developed support financial projects for livestock farmers with low loan interest and long term; improved biogas technology and using plastic bags based on farmer's demand (applied technology and material of plastic bag); supported fund and technology for poor farmers who raising livestock and un-applied biogas component; designed livestock cage must have the location for biogas system.

5. Products:

- Analyze the main factors affecting the adoption application in biogas farming systems combining VACB
- Training and technology transfer of biogas systems operated to apply composting plastic bag.
- Trial experiment to analyze efficient of natural resources and nitrogen (N) to participate of farmer.
- Scientific reports:
 - + Assessment of the social-economic aspects and acceptance of farmer to use Biogas on integrated VACB farming in fresh-water in Mekong Delta (submitting in scientific journals Can Tho University, in May, 2010)
 - + Poster: The main factor affecting the acceptance of biogas application in integrated VACB farming systems (presented in Workshop, Mekong Delta Development Research Institute, in September, 2007).

6. Effects, transfer alternatives of reserach results and applicability:

The results of this research study showed that the factors affecting the acceptance of biogas in integrated VAC farming system in the Mekong Delta. This result helps local authorities and scientists have policies and research on relevant to the production conditions of farmers. In addition, the results have also helped farmers more insight on the economic benefits of biogas application, environmental and social. Therefore, the farmers apply biogas component in order to use local resources, improved incomes and not affected environment, neighborhood relations are improved because of pollution in livestock.