UTILIZATION OF SMALL FARM RESERVOIR TECHNOLOGY AMONG FARMERS IN MUÑOZ, NUEVA ECIJA: AN ASSESSMENT

LUSUBILO WITSON MWAMAKAMBA

A masteral thesis submitted to the faculty of the Institute of Graduate Studies, Central Luzon State University Muñoz, Nueva Ecija, Philippines in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE
(Rural Development)

APRIL 1999

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

ABSTRACT

MWAMAKAMBA, LUSUBILO, W., Institute of Graduate Studies, Central Luzon State University, Munoz, Nueva Ecija, Philippines, April 1999, UTILIZATION OF SMALL FARM RESERVOIR TECHNOLOGY AMONG FARMERS IN MUNOZ NUEVA ECIJA: AN ASSESSMENT.

Adviser: Dr. Aurora S. Paderes

The study sought to identify the factors associated with the utilization of the SFR technology as well as assess the effects of utilizing the technology. Complete enumeration or a total of 84 SFR owners in Munoz, Nueva Ecija whose SFRs were constructed between 1991-1996 comprised the respondents of the study.

Data needed for the study were gathered using an interview schedule as guide. Analysis of these data was done using descriptive statistics, Pearson's Product Moment Correlation Analysis and the t-test. The level of significance was set at .05 probability.

Results showed that half (50%) of the farmer-respondents were considered high utilizers of the SFR technology and the other half (50%) as low utilizers. A number among the low utilizers had engaged in the technology for crop and aquaculture production whereas, among the high utilizers, 21.6 percent had utilized it simultaneously for crop, aquaculture and animal production.

Generally, the respondents were literate having reached/completed high school. Over half had short farming experiences and had attended trainings related to SFR technology. Majority were members to some organizations.

Amortizing owners formed a greater number of the respondents and likewise had small farm size ($\bar{x}$ = 2.64 hectares). Over half of the respondents had farms which were far from the markets.

Majority of the respondents were in contact with extension workers often. However, they very seldom acquired information from their fellow farmers. They also revealed that they did not have the opportunity to participate in the observation/field tour to pilot SFR sites.

Respondents revealed that information about the SFR technology was seldom disseminated over the television and radio. Newsletters and pamphlets very seldom served as sources of information. The respondents likewise revealed to be only a little bit influenced by these information sources. Majority considered the SFR technology to be socio-culturally acceptable, economically feasible, technically feasible and ecologically sound.

A greater majority of the SFRs had only one source of water inflow. The shallowest reported was 1m and the deepest was 7m. Furthermore, they availed of water for only 5 months. Amount spent by majority of respondents in the construction of their SFRs was minimal ($\bar{x}$ = P949.40). The two main offices to have assisted in the SFR construction were CLSU's Research, Extension and Training (RET) and the Department of Agriculture.

Majority of the respondents reported that the SFR could not adequately provide water for their whole farms, that is, their SFRs could only provide water to a service area of not more than half (.50) a hectare. A few had the capability of supplying water needs of farms other than their own. Most could support as many as two farmers and irrigate as much as 2 hectares of their fellow farmers' fields.

The common problems met by the respondents included the shallow reservoirs, and inability of the reservoirs to store up to its maximum capacity (38.1%). This could be attributed to the insufficient amount of rain during certain periods of the year. The solutions given to these problems ranged from requesting institutional and technical assistance in reexcavating the SFRs to the acquisition of shallow water groundwater pump to use it with the SFR.

Pearson Product moment correlation analysis revealed that none of the socio-economic, communication related variables as well as perceived attributes of the technology was significantly related to the level of SFR utilization. Comparisons done before and after the utilization of the technology on the socio-economic aspects of the users revealed that there were improvements among the respondents as indicated by the increase in the means. T- test results, as well showed that the utilization of the SFR technology had highly significant effects on the socio-economic status of the users.

LITERATURE CITED

ALCOBER, D.L. 1978. Innovative performance of coconut farmers in Leyte and Southern Leyte, Philippines. Unpublished Ph.D Dissertation, UPLB, College, Laguna.

BHUIYAN, I.S and R.S. ZEIGLER. 1994. On farm reservoir water storage and conservation system for drought alleviation. Issues and Challenges. IRRI.

BRIONES, B.S. 1989. Factors associated with the adoption of burley tobacco technology among farmers in selected areas of Pangasinan. Unpublished M.S. Thesis. CLSU, Munoz, Nueva Ecija.

CHUA, L.A. 1975. Development scheme for lowland rice farmers of Bukidnon: Strategy of change. Unpublished Ph.D. Dissertation, UPLB, College Laguna.

CHU, E. C. 1973. High yielding rice-varieties at the crossroads; Three post-trial alternative decisions among farmers. Unpublished. M.S. Thesis. UPCA, College Laguna.

CORALES, A. 1996. Factors influencing the utilization of organic fertilizers. Unpublished M.S. Thesis. CLSU, Munoz, Nueva Ecija

DA-BUREAU of SOILS and WATER MANAGEMENT. 1977. Field Information Manual on El Nino.

DAFT, R. L. 1983. Organization theory and design. International edition. West Publishing, Co. Paul, Minnesota, USA.

DE LEON, C.E. 1991. Factors related with adoption of corn technology and its effects to farmers in selected areas of Cagayan. Unpublished Ph.D. Dissertation, CLSU, Munoz, Nueva Ecija.

EALLA, R.C. and BENUZA, B.E. 1986. Technology impact assessment. Paper presented during the Region III Seminar-Workshop on technology impact assessment held at San Fernando, Pampanga Nov, 19-21, 1986.

FALLA, J.S. 1991. Development of indicators for the adoption and eventual use of rice post harvest technology. Unpublished Ph.D. Dissertation, UP Diliman, Quezon City.

FAO, 1984. Agricultural Extension: A reference manual.

GABRIEL, L. 1988. Adoption of burley tobacco technology as performance indicators of PTRTC in collaboration with PVTA.

GOMEZ, E.D. et al. 1979. Communication patterns of coop and livestock technology in selected provinces in the Philippines. UPLB, College, Laguna PCARR.

GUERRA, et. al. 1994. Hydrological storage systems for improving rice land productivity in eastern India: Opportunities and Challenges. IRRI

HARTONO, S. 1994. A management analysis of the nucleus estate and small holders (NES) program in Rian, Sumatra, Indonesia. Ph.D. Dissertation, CLSU, Munoz, Nueva Ecija.

HARVEY, S.F. and D.R. BROWN. 1988. An experiential approach to organizational development. Prentice Hall Englewood Cliffs, New Jersey. USA.

ISLAM T. Md et al. 1994. On farm reservoir-for drought alleviation in the rainfed rice lands of the Barind area of Bangladesh.

JUAEZ F. and PATHNOPAS. 1983. Comparative analysis of thresher adoption and use in Thailand and the Philippines. Consequences of small farm mechanization. IRRI.

KARNA, KAMESH L. 1985. The adoption of high yielding varieties and fertilizer application among rice farmers in Tarai, Nepal. Unpublished M.S. thesis, CLSU, Munoz, Nueva Ecija.

KONGSIN, CHAMNONG. 1985. Utilization of rubber technology among farmers of Rayong,Thailand. Unpublished M.S. Thesis, CLSU, Munoz, Nueva Ecija.

KUNCZIK, MICHEL. 1985. Communication and social change. A summary of theories, policies and experiences for media practitioners in the third world. Bonn Printed by Braunschweig-druck Brunjwick.

LIBRERO FELIX. 1988. Communication and training consideration of policy issues associated with technology transfer in RD. Institute of Development Communication, UPLB, College Laguna.

LUIS V.M. 1979. Analysis of technology transfer through the Philippine Recommends. M.S. Thesis, UPLB, College Laguna.

MAGLINAO R.A. et al. 1994. Philippine national program on small farm reservoirs: Organization, experiences and challenges. IRRI.

MOYA B.T. et al. 1994. Potential of on-farm reservoir use for increasing productivity of rainfed rice areas. The Philippine Case. IRRI.

OGBUREKE, O. 1994. Alternative Credit Assistance Program (ARCAP) of Nueva Ecija- based non- government organizations (NGOs): An Assessment. Unpublished Ph.D. Dissertation, CLSU Munoz, Nueva Ecija.

OCAMPO, A. 1991. Utilization of the recommended fishpond culture technology among the Bureau of Fisheries and Aquatic Resources (BFAR) farmer-cooperators in Nueva Ecija. Unpublished M. S. Thesis, CLSU Munoz Nueva Ecija.

PAL et al. 1994. On-farm rain water storage systems for improving rice land productivity in eastern India: Opportunities and challenges.

PCARRD 1991. Vol.19(5).

PRABOWO, NITROPRANITO. 1977. The educational effects on farmers of the pilot extension program on direct seeding of rainfed rice in Bulacan province, Philippines, Los Banos, Laguna. UPLB.

RAMIREZ, L. J. 1990. Factors affecting post-production technology utilization in groundnut farms. PNC of the 13th ASEAN Seminar on Grain post harvest technology ED by J.O. Naebanji, Brunei Darussalam.

RAWAL, TILAK. 1979. Analysis of factors affecting adoption of modern varieties in southern belt of Kosi zone, Nepal. Unpublished M.S. Thesis UPLB.

ROGUEL and REYES. 1994. Socio-economic evaluation and policy analysis of the national program on SFR. Highlights, CLSU, Munoz, Nueva ECIja.

SANGLE, G.K. 1984. Technological growth and rural change. Metropolitan Book Co. New Delhi.

SUH, WAN JOO. 1976. Factors affecting the rate of adoption of tongil rice variety in selected locations of Korea. Unpublished M.S. Thesis. UPLB.

SYAMSIAH, et. al. 1994. Collecting and conserving rainwater to alleviate drought in rainfed rice lands of Indonesia. IRRI.

TAGARINO F.P. and H.A. ABLES. 1977. Attitudes and practices related to abaca production in the Bicol region. Abstract Bibliography. PCARRD.

THAPA, K.K. BAHADUR. 1991. Technology utilization among wheat farmers of Palpa district. Unpublished M.S. thesis, CLSU, Munoz, Nueva Ecija.

UDDIN, SABAJAL M.D. 1988. Adoption and productivity of the technology generated by cropping systems program in 2 districts of Bangladesh. Unpublished Ph.D Dissertation, CLSU, Munoz Nueva Ecija.

UNDAN, et al.1994. Design and management of on-farm reservoirs for drought alleviation in the Philippines. IRRI

VALDEZ P. 1994. Adoption of integrated pest management by rice farmers in Nueva Ecija . Unpublished M.S. Thesis. CLSU, Munoz, Nueva Ecija.

WANNAPRASERT, CAVEUAN. 1991. Rubber technology adoption among Thai-Muslim rubber small holders in Pattani, Thailand: Its correlates and contribution. Unpublished Ph.D. Dissertation, CLSU, Nueva Ecija.