THSIS TITLE : FARM PONDS UTILIZATION BY FARMERS UNDER THE FARMER'S PRODUCTION PLAN SUPPORTIVE PROJECT IN CHANGWAT YASOTHON

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ABSTRACT

This study was conducted to : (1) investigate some socio - economic backgrounds of the farmers joining the Farmer's Production Plan Supportive Project in Changwat Yasothon, (2) investigate the conditions of farm ponds and their agricultural utilization, (3) identify problems experienced by the farmers regarding farm pond utilization, and (4) examine the relationship between the farmers' socio-economic status and the conditions and utilization of their farm ponds.

A total of 182 farmers under the Farmers' Production Plan Supportive Project in 1992 - 1994 were selected for this study by using the multi-stage random sampling. Research data were gathered by specially deviced questionnaires. The obtained data were subsequently processed by using SPSS/PC^{+} statistical package and the results expressed as frequency, percentage, mathematic means, standard deviation and Chi-square.

The socio-economic backgrounds of the farmers and other related information as revealed by the results were as follows: 85.7 % were males; the average age was 49 years-old; the farmers had elementary level of education; the average household size was 5.2 persons; the average available on-farm family labour was 3.6 persons; the

average holding of farm land was 24.3 rai; and the average annual income was 21,351 Bahts.

In addition, the results indicated that the farmers were members of the Bank for Agriculture and Agricultural Cooperatives. Their agricultural knowledge was derived mainly from tetevision programs and sub-district agricultural extension worker whose visits were averaged of 3 times per year. They received no training in the area of farm pond utilization and none of them possessed small pumps. Water, investment costs and soil were the major factors determining their decisions towards growing crops during the dry season. Most of the farmers raised farm animals for drafting as well as for demestic consumption. These included cattles, buffaloes, pigs, ducks and chickens. The farm ponds were built at the same elevation of the paddy field in their farm lands, with an averaged distance between the houses and the ponds of 2.6 Km, and with an average capacity of 639.3 m^3 and actual storage capacity of 549.8 m^3 per year. The farm ponds did not hold water throughout the year as the soil in the area was sandy-loam in texture and moderately fertile. The farm ponds were not well-maintained but the water was suitable for agricultural use. The farmers utilized the water from the ponds for cultivation on average of 0.78 rai of upland crops, 0.57 rai of vegetables, 1.94 rai of paddy rice, and 0.09 rai of fruit trees in the area around the ponds. Further more, on average number of 3,221.4 fish per pond was raised. From the 25 factors related to utilization of the farm ponds by the farmers, the only serious problem experienced was breakage of the water ways.

Assessments made to identify the relationship between 8 socio-economic factors and farm pond utilization revealed that : while there was no significant relationship between the factors of holding of farm land area and available on-farm labour, there were significant relationships between the following factors : 1) The frequency of visit from sub-district agricultural extension workers and paddy cultivation; 2) migration of labour from the villages and cultivation of upland crops, vegetables, paddy cultivation and fish cultures; 3) annual income and vegetable growing; 4) possession of small pumps and cultivation of upland crops, vegetables and fish culture; 5) distance between the households and the farm ponds and vegetable growing and fish culture; 6) situations

where the farm ponds were built at the elevation slightly higher than the paddy fields and cultivation of vegetables, fruit trees and fish culture.

The recommendations derived from the obtained results are as follows. Firstly, the farmers should be adviced and trained so that they are enabled to maintain the farm ponds in good conditions, improve and prevent the water ways from breakages and strengthen the ridges of the ponds using concrete or cover crops. Secondly, the farmers should be regularly visited by sub-district agricultural extension workers in order to both provide them with technical advices and keep them stimulated. Thirdly, credit should be taken so that these farmers gain access to low interest loans for purchase of small pumps which will enable them to utilize their farm ponds more effectively. Finally, the farmers residing at the village throughout the year should be supported so that they have their own water pumps and the farm ponds built within the vicinity of 1 km. and same elevation or elevated slightly higher than the paddy fields for the benefits of the cultivation of field crops, vegetables, paddy rice, fruit trees and fish culture. Special attention should be given to the farmers with lower annual incomes and they should be advised to grow vegetables for both domestic consumption and as a source of additional income.

Suggestions for further studies are : 1) characteristics of farm ponds that are suitable for the farmers' area and utilization; 2) the farmers' needs for production inputs for the utilization of the farm ponds; 3) comparison of the pond elevation and its utilization; 4) effects on the farmers' activities in the paddy fields before and after pond excavation; and 5) guidelines for farmers' group formation of pond owners for delivering agricultural extension services.