CAMBODIAN AGRICULTURAL RESEARCH FUND (CARF) PROJECTS

Round 6

Project ID: APHEDA 193 On-Farm Assessment of Potential Low-Cost Diets For Freshwater Pond Fish Farming

Lead Organisation: Union Aid Abroad (APHEDA - Australian People for Health, Education and Development Abroad)

Project Leader:
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Collaborating Institutions:

- Kampot Provincial Department of Agriculture
- Faculty of Fisheries, Royal University of Agriculture

Project Budget: USD$ 7,500

Project Duration: May 2008 - January 2009

Project Overview:

The CARF-6 project will be based on findings of the previous APHEDA 73 CARF project: "Experimentation on High Nutrition, Low Cost, Fish Foods for Domestic Freshwater Pond Fish Farming". APHEDA 73 experimented on low-cost fish foods with potential to increase yields of small rural fish farmers at low cost. The experimentation was on 3 fish species individually - silver barb (*Barbodes gonionotus*), Indian carp (*Catla catla*) and common carp (*Cyprinus carpio*), using 4 supplemental diets and natural pond food only as a control. CARF-6 will move the experimentation to a 6-month seasonal polyculture stage using the same 3 fish species, but varying the supplemental diets based on the APHEDA 73 findings mentioned below. The polyculture experimentation will be carried out at Chhouk Fish Station (CFS), Kampot province, where APHEDA 73 was conducted, and concurrently on-farm with 12 families in Sre Chea Khang Choeung commune in Dang Tung district, Kampot province. The 12 families will be volunteers from APHEDA's Sre Chea fish farming/organic vegetable growing/rainwater harvesting project and their 12 individual family ponds will be used for the experimentation.

The polyculture experimentation will be conducted in large hapas, 7m x 5m x 1.5m, both at CFS and in Sre Chea, as it would be too difficult to catch the fingerlings, for weighing and measuring, from open ponds. One of the large hapas will be placed in each of the 12 farmer ponds which are 10m x 10m x 2.5m in size. 105 fingerlings, 35 of each of the 3 species, will be placed in each hapa/pond. At CFS 6 ponds will be used, 4 smaller ones, 15m x 20m x 2m, and 2 larger ones, 25m x 20m x 2.5m. 4 hapas will be placed in each of the large ponds and one in each of the smaller ponds. The fish in 3 of the ponds/hapas in each location will receive no supplemental feed for the 6-month period of the experimentation; the fish in 9 of the ponds/hapas in each location will receive 100% Toowoomba for months 1-3. For months

4-6, those in 3 of the ponds/hapas will receive a 70:30 combination of *Leucaena leucocephala* Toowoomba and redworm (*Eisenia foetida)*, those in a further 3 ponds will receive 100% commercial fish food, and those in the remaining 3 ponds will continue on 100% Toowoomba. At CFS, for months 4-6, the fish in the 4 hapas in each large pond will receive one of the 4 treatments, and the hapa in each of the 4 smaller ponds will receive one of the 4 treatments. Every effort will be made to prevent nutrient transfer between the 4 hapas in each large pond. The commercial fish food used will be a product from Vietnam available in Cambodia and recommended by the Faculty of Fisheries of Royal University of Agriculture. Fish will be weighed and measured each month and the results recorded. Dang Tung and Chhouk are neighbouring districts so the researcher and team who will be based at CFS will be able to work closely with the trial farmers and run workshops for them. Results will be analysed at the conclusion of the experimentation, and the CFS results compared with the Sre Chea Khang Choeung results and both will be compared with results for experiments conducted previously on the 3 species individually.

Partners in the project are APHEDA, the Faculty of Fisheries of the Royal University of Agriculture, Kampot Provincial Department of Agriculture and Prek Leap National School of Agriculture. RUA will provide technical assistance with analyses of fish foods and with technical report writing. PLNSA will monitor the project on a 2-monthly basis and supervise the researcher's project implementation.

Project findings will be analysed and disseminated to 100 APHEDA project fish farmers in 4 provinces. The extent of farmer adoption will be monitored in 2009. Findings will also be made available to the Department of Extension of the Ministry of Agriculture Forestry and Fishery, as a potential TIP (technology implementation procedure), and forwarded to the Cambodian Journal of Agriculture.

Project ID: CARDI 162 Released Rice Varieties: An Assessment of their Socio-Economic Impacts and the Adoption of Phka Rumduol and Sen Pidao Varieties

Lead Organisation: Cambodian Agricultural Research and Development Institute (CARDI)

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Collaborating Institutions:

- The University of Queensland
- Provincial Departments of Agriculture Kampong Cham and Battambang

Project Budget: USD$ 19,393

Project Duration: March 2008 - March 2010

Project Overview:

Variety is regarded as the most important factor affecting rice productivity in Cambodia. The two-year proposed project aims at conducting a socio-economic impact assessment of rice varieties released by CARDI (through the Varietal Recommendation Committee of Cambodia, VRC) generally, and the adoption of Phka Rumduol and Sen Pidao varieties particularly. The adoption of CARDI's rice varieties currently are spread over many different parts of Cambodia and are believed to provide some favourable features such as good eating quality, good grain quality and good yield. The study will mainly include two schemes: (1) to evaluate the socio-economic impacts of several rice varieties released by CARDI and (2) to make an assessment of the adoption of Phka Rumduol, premium fragrant photoperiod sensitive medium to maturity, and Sen Pidao, premium fragrant photoperiod insensitive early to maturity, varieties which are released by CARDI in 1999 and 2002, respectively.

The 'constructivism' research paradigm will be used to construct an understanding of the impacts and adoptions of both varieties based on multiple explanations of multi-disciplinary stakeholders to be involved within the context of the study. This is a paradigm which allows researcher to understand the social phenomenon as seen by the people within it. This approach aims for a depth of understanding of the issue. To response to this attempt, the participatory system approach will basically be carried out as guidelines for the study. For example, Participatory Rural Appraisal (PRA), participatory workshops and modellings will be undertaken as the main methods for the research. The methods seek to explore the spatial dimensions of realities as seen among people. The research questions set for the study are as follows:

1. What are the beliefs and practices of the farmers towards CARDI's released rice varieties?
2. What are the socio-economic impacts of CARDI's released rice varieties on the farming community?
3. What are the results from a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of both varieties, and the characteristics of the varieties that satisfy the farmers and the rest of the rice industry needs?

4. What are the socio-economic factors affecting the adoption of Phka Rumduol rice variety?
5. What are the socio-economic factors affecting the adoption of Sen Pidao rice variety?
6. How useful is the result of this project in improving the adoption of varieties released by CARDI?

The research study will be undertaken in two provinces, Kampong Cham and Battambang, which are the main rice suppliers of Cambodia. The findings from PRA and modelling components will be developed into scientific papers to be published in the Cambodian Journal of Agriculture (CJA) and research notes for CARDI. Moreover, a policy paper would also be made to improve and strengthen the Plant Breeding Division of CARDI in relation to the development of CARDI released rice varieties.

The key coordinator of the project is the Socio-Economics Division of CARDI. The project will be implemented with the collaboration from the University of Queensland (if technical advisory assistance is needed for the development of modelling), Plant Breeding Division of CARDI, Battambang and Kampong Cham Provincial Department of Agriculture, farmers, and local authorities of the study areas.

Project ID: CARDI 163 Evaluation of establishment technique and economic impact in upland area of Cambodia

Lead Organisation: Cambodian Agricultural Research and Development Institute (CARDI)

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Collaborating Institutions:

- Agricultural Engineering Department, MAFF.
- Provincial Departments of Agriculture, Takeo, Kompong Thom, Kampong Cham and Battambang
- NSW Department of Primary Industries

Project Budget: USD$ 28,000

Project Duration: June 2008 - June 2011

Project Overview:

Improvement in seeding methods can increase yields by establishing uniform crop stands and facilitates more effective crop care and harvesting. Traditional planting methods limit the area that farmer can plant their field crops at the optimum time. In small SE Asia farms, food security needs cannot be fulfilled by seeding only one crop per year in a field. The average size of land holdings in Sampaov Loun district of Battambang province is around 7.5 ha. It is varying from 4 to 6 ha for farmer in the Kamrieng and Ratanak Mondol districts of Battambang and other part in Chamka Leu and Tbong Khmum districts of Kampong Cham province. Farmers in these areas have also faced with labor shortage. time availability and inadequate agricultural equipments and machinery such as showing equipment and inadequate harvesting equipment. Hiring a machinery is not available and these led to too late and time availability

Taking these factor into consideration the Agricultural Engineering Division of CARDI proposes a project to evaluation the performance of different types of seed drill that have been distributed by ACIAR-04 and prototype multi-crop upland seeder, which can be used for planting a variety of upland crops including upland paddy. The project will be implemented in upland areas in Kampong Cham and Battambang provinces, and rainfed lowland areas in Kampong Thom and Takeo provinces. The project team will collaboration with all provincial level to identify the target area, farmer groups and need to oversee the trials, disseminate new technology to the target group. The beneficiaries will be Cambodian farmers, technical staff of CARDI and extension workers in those target areas.

Project ID: CARDI 164 Reduction of Losses of Rice Grain During Storage.

Lead Organisation: Cambodian Agricultural Research and Development Institute (CARDI)

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Collaborating Institutions:

- International Rice Research Institute (IRRI)
- Royal University of Agriculture
- Provincial Departments of Agriculture, Kampong Cham and Kandal

Project Budget: USD$ 28,970

Project Duration: March 2008 - September 2010

Project Overview:

Although rice production has met national demand of rice since 1995, due to the poor distribution system and inadequate post-harvest practices, there are still many problems that need to be overcome to produce sufficient rice quantity and quality in Cambodia. There has not been accurate study of on-farm storage losses in Cambodia, but direct observation and comments made by farmers suggest that there are 20 to 30% losses between harvest and milling. Millers are constrained by poor paddy quality, in the form of mixed varieties from farmers and/or traders and inadequate post-harvest handling. These result in low milling outputs and germination rate, high level of broken rice, milled rice of poor quality and limits entry to world markets.

Aimed at improving the livelihoods of farm families and reduce rural poverty by increasing the financial returns from rice harvests, the immediate objectives of this project are to: (1) quantify the causes and amount of the grain losses during storage, (2) conduct storage trials and compile relevant information on more effective and practical techniques and procedures on rice storage based on recent practice and published research findings, (3) Provide agricultural extension workers with simple and practical technical guidelines and options to follow and select according to the real conditions and resources available for delivering messages to farmers and grain handlers to increase their profits.

The project is implemented in two communities (25 households each) in Kampong Cham and Kandal Provinces Farmers will learn how to reduce grain losses, maintain grain quality and improve storage so that their product can have more access to good markets and the stability of farm household and their bargaining power within the markets will be increased. Secondary beneficiaries are the collaborators who are agriculture service providers and commercial millers who have a key role in helping farmers to improve their post harvest return. Those people will be trained to help farmers in addressing rice handling issues and in increasing their financial returns. Participatory approaches will be applied to encourage adaptation of the improved handling practices and technologies. Rice millers will also be encouraged to provide appropriate incentives and support to the farmers for producing high quality rice**.**

Project ID: CARDI 170 Reaching towards optimum rice yield by enhancing the adoption of improved soil nutrient management technique in rainfed lowlands

Lead Organisation: Cambodian Agricultural Research and Development Institute (CARDI)

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Collaborating Institutions:

- Provincial Departments of Agriculture, Takeo and Kampot
- District Departments of Agriculture and Extension, Tramkak and Kampot Chhouk

Project Budget: USD $27,000

Project Duration: February 2008 - January 2011

Project Overview:

Fertilizer application accounts for about 43% of the nutrients that global crop production extracts each year, and the consumption may be as high as 84%. Thus, improving the efficiency of fertilizer use is the challenge of the future. In Cambodia, the overall rate of fertilizers consumed by agriculture is the lowest compared with most top-ten rice-producing countries in the world, but about 20% of the Cambodian farmers are short of fertilizers for crop production which is partly due to fertilizer price. At present, in Cambodia, the price of fertilizers has increased substantially compared with that in 2000. Given these, applications of improved soil nutrient management techniques whilst still enhancing fertilizer use efficiency, minimizing input losses, and maintaining or increasing yield, and total production are essential. The application of N fertilizer based on crop demand is also a core element in site specific nutrient management which is now promoted as a superior practice for fertilizer use in crops compared to application at prescribed method.

The study will be undertaken to demonstrate to farmers improved soil nutrient management techniques for rainfed lowland rice production in Cambodia. The overall outcomes of this study will be delivery of improved soil nutrient management techniques that will minimize the cost of inputs, and increased adoption of such techniques for farmers in the rainfed lowland rice-based farming systems of Cambodia.

A total of 60 on-farm trials will be conducted in farmers' fields to demonstrate to farmers improved soil nutrient management techniques which will increase rice yield and production on Prateah Lang and Prey Khmer soil types on the main rice-growing soils in the rainfed lowlands of Cambodia. The selected studied provinces will be Takeo and Kampot. Farmer Field Day will be conducted in the province to open field forum for discussion on the performance of improved soil nutrient management techniques. Agronomists, extension workers, and farmers will be actively involved in this project.

Project ID: DAALI 183 Study on Production and Economics of Short Duration Maize Varieties in Rice Based Ecology

Lead Organisation: Department of Agronomy and Land Improvement (DAALI).

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Collaborating Institutions:

- National IPM Programme
- Provincial Departments of Agriculture, Takeo, Kandal, Kampong Speu
- Banteay Dek Agricultural Research Station, Kandal
- Tonle Bati Agricultural Research Station, Takeo
- Cambodian Agriculture Research and Development Institute (CARDI)
- International Corn Foundation (ICF), Korea

Project Budget: USD $ 26,052

Project Duration: December 2008 - June 2011

Project Overview:

Corn is the second most important crop after rice in Cambodia, with about 100,000 ha of cultivated area. However, yields are low, averaging less than 2 tons/ha. The demand of corn has been increasing, both domestically and for export, for use as in animal feeds, human consumption, and increasingly, industrial use. Corn production (both total production and yields) in Cambodia can be increased significantly within five years, if the available varieties are improved, and through improved cultivation techniques.

MAFF has been working hard together with concerned development agencies to find ways for improving corn production. One of the most important activities has been the collaborative work being undertaken with the International Corn Foundation (ICF) of Korea, promoting corn research and production technologies to help improving food security and poverty alleviation in Cambodia. One of the key activities in this research is to develop varieties of corn tolerant to disease, insects and drought and to breed short duration (60-day varieties) that have the potential to be planted in areas, and at times, when drought destroys the traditional rice crops. In addition, short duration corn varieties are sought to potentially allow the growing of corn crops early in the wet season, prior to the planting of the main wet-season rice crop, and, potentially as a second crop after the harvest of the main wet-season rice crops. The potential varieties are KC35, KC25 and two local varieties Sor chay and Mokul that are now available for evaluation under on-farm conditions in these varying cropping circumstances. Economists from ICF (International Corporation Foundation) have approved the two varieties KC35 and KC25 as being economically viable in Cambodias conditions because of their multipurpose end uses. Both of these varieties are suitable for both animal feed and human consumption. The two local varieties, Sor chay and Mokul have been economically evaluated as viable by economists from CARDI because of their proven high yielding performance in Cambodian agronomic conditions.

This proposed project will undertake the study of the feasibility of the short duration maize varieties, before and after the main wet-season lowland rice crops under rainfed lowland conditions. The proposed study will include an economic study of the various cropping options with the corn varieties. The project will be undertaken in collaboration with agricultural technicians and farmers, and provide 'on-the-job' training for both in undertaking the proposed studies.

The proposed project will involve a combination of study under research station and on-farm conditions, in rainfed lowland areas of the provinces of Takeo, Kampot and Kampong Speu. The project will apply a participatory approach which involves farmers in all stages of the experiments, both in the station and farmer's fields. The main areas for investigation in field studies will include (1) the evaluation of different maize varieties; (2) evaluation of different levels of bed; (3) evaluation of different land preparation methods and (4) evaluation of different water management methods. In addition to the evaluation of the potential varieties and the management aspects of production the economic effectiveness of production of short duration maize growing in rice based ecosystem will also be assessed and recorded.

Project ID: PLNSA 187 Improving Smallholder Cattle Production by Introducing Improved Forages in Kampong Speu Province

Lead Organisation: Prek Leap National School of Agriculture (PLNSA)

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Collaborating Institutions:

- International Center for Tropical Agriculture (CIAT)
- Maharishi Vedic University (MVU)
- Provincial Agriculture Department, Kampong Cham

Project Budget: USD$ 22,660

Project Duration: February 2008 - May 2011

Project Overview:

As a result of increased demand for livestock and livestock products, particularly from neighbouring Vietnam and Thailand, there has been a significant improvement in opportunities for rural Cambodians to capitalize on these market opportunities through increased livestock production. At the same time, the technology base for improving livestock productivity has become available through the introduction of introduced forages (legumes and grasses) that are able to improve livestock nutrition, improved livestock health and, to a lesser degree, improved breeds of livestock.

In collaboration with CIAT, significant advances have been made in identifying both grasses and legumes that can be promoted in Cambodia, as a basis for improved cattle nutrition. Earlier studies supported through CARF have also helped in evaluating these improved fodder species in parts of NE Cambodia, particularly Prey Veng Province by Maharishi Vedic University. The Department of Livestock and Animal Health is also playing an integral role in undertaking on-farm and community based studies, aimed at examining the potential for improving smallholder cattle productivity based on the improved forages, particularly in Kampong Cham. However, despite the recognition of the potential for improving livestock production, the program of forage evaluation and farmer adoption of improved forages, is limited relative to the potential scope of the program and its potential benefits for helping improve the economic conditions of smallholder producers in many parts of Cambodia.

This project aims to assist with the on-farm, farmer and rural community participatory evaluation of the potential for improving livestock production, based on the introduction and utilization of improved forages. The proposed project will be undertaken in Thpong district of Kampong Speu province, and will be undertaken in an area that has been identified as having potential for improved cattle production, based on improved forages. The project would be undertaken in collaboration with Maharishi Vedic University which, has been undertaking CARF supported studies since 2004 in evaluating the potential of improved forages for improving cattle production in that province. The focus of the project will be the evaluation of those forage species which have been identified in Prey Veng as having potential, under smallholder conditions in Kampong Speu. The study in Kampong Speu will be undertaken in collaboration with the livestock component within the Department of Agriculture in that province. Participation of PNSA in the proposed project is also expected to result in a strengthening of the PNSA curriculum in animal production studies.

Project ID: RUA 171 Establishment of Leucaena as forage supplementation for cattle of small scale farmer in Kandal Province

Lead Organisation: Royal University of Agriculture (RUA)

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Collaborating Institutions:

- Office of Animal Health and Production (OAHP) and Office of Agricultural Extension (OAE), Provincial Department of Agriculture, Kandal
- Forage and Livestock Systems, CIAT

Project Budget: USD$ 28,000

Project Duration: April 2008 - December 2010

Project Overview:

Cattle production play important role for the agriculture sector and country economic, since it provide draught, meat, and manure. However, the basal feed resources for ruminants available in Cambodia are only crop residues, which are low in protein and low digestibility resulting lower level of animal production. The improvement of animal production will increase farmer income and increase the animal product supply in country and for export.

The project aim to improve the feed supply for the animal by supplementation the forage of legume tree (*Leucaena leucocephala* and *Gliricidia sepium)* which is known to improve the animal performance. The project will be conducted in two districts in Kandal, namely Kandal Steng and Saang District. Two villages will be selected of each district, and 10 farmers in each village will be selected for project. The project activities will be covered: farmer selection to adopt the establishment legume tree as supplementation forage for animal, the growth rate of the tree, feeding practice for cattle by farmer with the project and not, and its effect on the animal performance. Additionally, the socio-economic constraints and potential in adopting legume tree as forage supplement will also analysed in several districts.

The beneficiaries from this project will be the university staff in term of capacity building and student to be on hand experience with applied research at farm level, officers of the department as well as farmer who gain more knowledge about potential feed supplementation to improve the animal production.

Project ID: RUA 175 Development of methods for ensuring the safety and prolonging the shelf-life stability and marketability of soya milk to increase household incomes of Cambodian farmers and small-scale processors

Lead Organisation: Royal University of Agriculture (RUA)

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Collaborating Institutions:

- Cambodia Development Resource Institute (CDRI)
- School of Land and Food, The University of Queensland
- The University of Reading, School of Food Bioscience
- University of Phoenix and American University of Health Sciences

Project Budget: USD$ 17,385

Project Duration: March 2008 - August 2010

Project Overview:

Soya bean, classified as the second most important crop in Cambodia (after rice), is an excellent health food, being richer in both protein and oil than any other legume crop. Soy milk is a very popular drink in Cambodia, whereas cow milk is still expensive and not always available. Although the product is commercially available, many Cambodian consumers still prefer locally produced soya milk as it is fresher and much cheaper than the commercial one. Nevertheless, the former tends to be more susceptible to spoilage and pathogenic contamination and thereby has to be consumed and sold on the day of processing. As a result, the profits from which home-made or small-scale soya milk processors/farmers can make depend on several factors, i.e., the number of customers and their trust, marketability and especially climatic conditions under which soya milk is produced (if it rains, fewer consumers come to buy the product). These factors may discourage them from continuing and/or expanding their business. As such, development of methods, which can be easily adopted by small-scale processors, for ensuring the safety and prolonging the shelf-life stability and marketability of soya milk would, to a greater extent, help them to sustain the business, thus generating household incomes.

The specific objective of this proposed project is, therefore, to provide technical support to small-scale soya milk processors and farmers by developing innovative methods (modifying heat treatment methods in combination with natural and safe chemical antimicrobials) to ensure the safety while also extending the quality and keepability of soya milk products. The overall objectives are: (1) to determine the combined effects of heat treatments (heat shock and double pasteurization) and natural antimicrobial lactoperoxidase system and polyphosphate on spoilage and pathogenic microorganisms present in soya milk; (2) to determine the effects of heat treatments and addition of antimicrobials on the sensory properties of the derived products; (3) to compare the chemical composition of the traditional and improved products; (4) to determine the effects of storage conditions on the quality and acceptability of the products; (5) to enlighten the attitude of consumers towards the traditional product as well as towards the improved ones; (6) to identify an appropriate marketing strategy for the improved products, including quality indicators such as label or geographic

indicators; (7) to conduct interdisciplinary research between RUA faculty and students with other experienced collaborative researchers; and (8) to disseminate the developed technologies to small-scale processors and farmers through training workshops.

The proposed project will have 5 phases of operation: (1) laboratory experimentation; (2) consumers survey; (3) training courses; (4) evaluation at producer and trader level; and (5) reporting and publication. It is expected that the project outcomes would provide useful technical and marketing support, to existing micro, small and medium scale agro-processing enterprises at the community level, specifically, and Cambodian agro-industrial sector, which is still poorly developed, on the whole.

Project ID: RUA 176 Mushroom production technology dissemination

Lead Organisation: Royal University of Agriculture (RUA)

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Collaborating Institutions:

- Veterans International Oganization , Prey Veng and Svay Rieng provinces

Project Budget: USD$ 16,000

Project Duration: June 2008 - May 2010

Project Overview:

CARF funded a previous project on "the promotion of saprophytic edible mushroom and development of sustainable spawn supply" (RUA-106). The project has been successful in meeting its objectives. The current CARF project aims to disseminate the research findings to rural communities in Cambodia. A goal of the project is to establish economic self-reliance for disabled farmers as entrepreneurs. The project will assist in strengthening the capacity of local institutions to train and prepare disabled farmers for equal participation in agricultural and economic development at the family and community levels.

Training methods will be developed to address specific needs. Appropriate construction designs will be introduced for trainees to set up their mushroom enterprise, using readily available materials, lowering set-up cost substantially. Every step involved in mushroom cultivation will be reviewed during training, including entrepreneurship and environmental protection. Motivational sessions as part of the training will contribute to personal development.

Two groups of disabled farmers will be selected from two provinces (Prey Veng and Svay Rieng) for Training of Trainer (TOT). Each province will have a coordinator (a representative of Veteran International) who will select disabled farmers, facilitate training, and follow up on the project. Students who are already involved in the project will assist in the training at RUA and in the provinces. After completing the 15-day training, each group will be subsidized with a production house for start-up business.

Provincial officials will be contacted for permission to undertake the project, and will be involved in trainee selection to the extent that they choose. Result will be submitted for publication in the magazine of Ministry of Agriculture Forestry and Fisheries (MAFF), which actively solicits submissions.

Project ID: RUA 181 Reduction of postharvest losses of fresh orange (Posat variety) in Battambang province.

Lead Organisation: Royal University of Agriculture (RUA)

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Collaborating Institutions:

- Provincial Department of Agriculture, Battambang
- AVRDC-ADB Postharvest Projects Regional Office

Project Budget: USD$ 9,950

Project Duration: March 2008 - December 2009

Project Overview:

Orange 'Posat variety' is one of the main crops that provide much profit every year to the farmers in Battambang province. The fruit is famous for its flavour but is very perishable resulting to serious losses of fruits during distribution and marketing. Causes of losses may include physical damage during handling and transport; physiological decay; water loss and inability to sell the produce especially during production peek. Reduction of this wastage would be a great significance to both growers and consumers. This project aims to identify the causes of postharvest losses, estimate such losses, and determine appropriate loss prevention methodologies to improve orange production, distribution and marketing in Battambang province.

The project will be implemented for two years by Faculty of Agro-Industry, Royal University of Agriculture in collaboration with Department of Agriculture in Battambang Province, provincial grower and local authorities using a participatory approach.

The beneficiaries from this project are orange growers, wholesalers and distributors in the province, particularly the farmer and wholesaler in the Banan and Ratanak Mondol district. The students at the Royal University of Agriculture will also benefit from this project through their involvement in survey and experimental researches. The provincial agronomy officers in Battambang Province, extension agents and Government policy makers will be involved in the project as the collaborators in form of advice in implementing the project. The collected data will be used as the sources of information to evaluate the impact of loss to postharvest produces and to develop appropriate technologies to reduce the postharvest losses.