

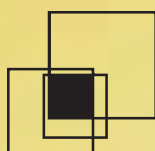


International  
Labour  
Office



# Linking farmers to growing markets: Excerpts from a field officer's journal in Siem Reap, Cambodia

William J. Dalton



Informal Economy, Poverty and Employment

**Cambodia Series** | Number 5



**Informal Economy, Poverty and Employment**

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*Linking Farmers to Growing Markets:  
Excerpts from a Field Officer's Journal  
in Siem Reap, Cambodia*  
Bangkok, International Labour Office, 2006

ISBN 92-2-119286-5 and 978-92-2-119286-2 (print)  
ISBN 92-2-119287-3 and 978-92-2-119287-9 (web pdf)

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Printed in Thailand



## Foreword

Cambodia has recently emerged from a period of political and economic turmoil and is now in the process of integrating into the international marketplace. Although Cambodia has improved its fiscal growth directed by tourism and construction, high levels of poverty and accessibility to basic social services continue to restrict its economic potential. Siem Reap is a noteworthy example. Home to the famed Angkor Wat Archaeological Park, Siem Reap is host to a rapidly growing tourism industry which, undoubtedly, has driven the development of infrastructure and opened new opportunities for advancement. Nevertheless, this progress has hardly benefited the rural community of the Province which constitutes the majority of the population.

Encouragingly, Cambodia's ample land, human capital and other resources afford valuable opportunities for agricultural enterprise, and the increased tourism in Siem Reap has created a new demand by hotels and restaurants for produce. However, much of the produce used by the hospitality industry is imported from neighbouring countries as hotels and restaurants have been unable to access enough quality produce locally on a regular basis.

Following the mandate of ILO Recommendation 189, outlining guidelines for the promoting small and medium-sized enterprises (SMEs), the International Labour Organisation (ILO), in collaboration with several local organizations and the Department of Agriculture, Forestry and Fisheries (DAFF; now renamed Provincial Department of Agriculture) in Siem Reap Province, supported the Smallholder Vegetable Production Project (SVPP). Aiming to foster skills development and enhance their market access, the SVPP assisted rural farmers through the training and support of non-traditional vegetable production.

In line with the ILO's principles of Decent Work, the SVPP sought to reduce poverty by endorsing lasting, productive income-generating activities based on quality production methods, safe working environments, and access to markets. From November 2004 to March 2006, the SVPP documented progress in the livelihood of many smallholder farmers. In its first 16 months, SVPP farmers were able to establish a support chain and learn essential marketing skills, benefiting their monthly income significantly. This was welcomed by the hospitality industry which preferred to source produce locally if reliable supply was available. In this way, the SVPP contributed to the Siem Reap hospitality industry through local, sustainable practices, not only setting an example for others to follow, but demonstrating the feasibility for future initiatives.

The SVPP might not have been realised if it were not for the pioneering efforts of Mr. Ngin Bunrith, Director of HURREDO, and the HURREDO staff, whose commitment and hard work comprises the basis of this report. Playing a key role in coordinating and guiding the initiative, volunteer agronomist Mr. Bill Dalton shared his team's experience by recording detailed journals throughout the SVPP's project duration. Published with the support of the ILO's Informal Economy, Poverty and Employment Project (IEP), the following journals methodically chart the course of the SVPP's development.

The SVPP was supported by the Informal Economy, Poverty and Employment Project, funded by the UK's Department of International Development (DFID). Many thanks go to Mr. Tun Sophorn, National Project Coordinator for Cambodia, for catalysing partnerships that sustained SVPP and for quickly responding to evolving needs and interventions. Ms. Sandra O. Yu, Chief Technical Advisor of the Informal Economy, Poverty and Employment Project, closely advised the project while Ms. Ginette Forgues, Senior Specialist on Local Strategies for Decent Work, provided overall technical backstopping. Mr. Matthew Hengesbaugh and Ms. Achara Poinchaika are credited with the editing and layout of this publication. Ms. Srey March and Paveena Eakthanakit are owed thanks for their valuable administrative support.



Jiyuan Wang  
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# Acknowledgment

Firstly, I would like to thank Ms. Sandra Yu and Mr. Tun Sophorn of ILO/IEP for the opportunity to undertake this great assignment, and for the assistance and direction they provided throughout the project. I also thank them for bringing this experience to a wider audience, as well as Mr. Matthew Hengesbaugh, for working on my informally written journal notes and modelling them into a chronological progression of a development project from inception to completion.

I acknowledge the foresight displayed by SME Cambodia and the great contribution made by Australian Business Volunteers (ABV) and especially to the ABV country representative Mr. Bruce Todd. I would like to extend my gratitude to Mr. Tat Bun Chhoeun, Director—Provincial Department of Agriculture, Siem Reap for his support of the project by providing key assets and staff and of course his valuable support.

I express my appreciation to Mr. Ngim Bunrith, Director of HURREDO, and Mr. Un Buntha and Dr. Un Youry, Directors of AGRIKHMER. Without their support, efforts and vision this project would not have eventuated. Finally, I would like to acknowledge the great efforts made by the dedicated staff of the SVPP who ensured that outcomes were delivered.







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## List of abbreviations

ABV	Australian Business Volunteers
AGRIKHMER	Agriculture Khmer
DAFF	Department of Agriculture, Forestry and Fisheries, Cambodia
HURREDO	Human Resource and Rural Economic Development Organisation
IEP	Informal Economy, Poverty and Employment Project
ILO	International Labour Organisation
INFS	Integrated Natural Farming System
NGO	non-government organisation
PADEK	Partnership for Development in Kampuchea
PDA	Provincial Department of Agriculture
SME Cambodia	Small & Medium Enterprise Cambodia
SVPP	Smallholder Vegetable Production Project

# 1

## Background

### Key players

I came upon this project because Small & Medium Enterprise Cambodia (SME Cambodia) requested the input of a volunteer through Australian Business Volunteers (ABV) in order to assist the capacity building of several projects that they are involved with in Cambodia.

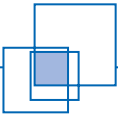
SME Cambodia is a Cambodian non-government organisation (NGO) specifically focusing on developing the human capital, enterprise capacity and the institutions necessary to create a competitive private sector in the new Cambodian market economy. SME Cambodia provides small and medium sized enterprises in rural provinces and regions of Cambodia with business development services.

The main task and objective at hand is to assist the Human Resource and Rural Economic Development Organisation (HURREDO) with capacity building, skills transfer and training in expanding farm and local farmer production to meet market demand.

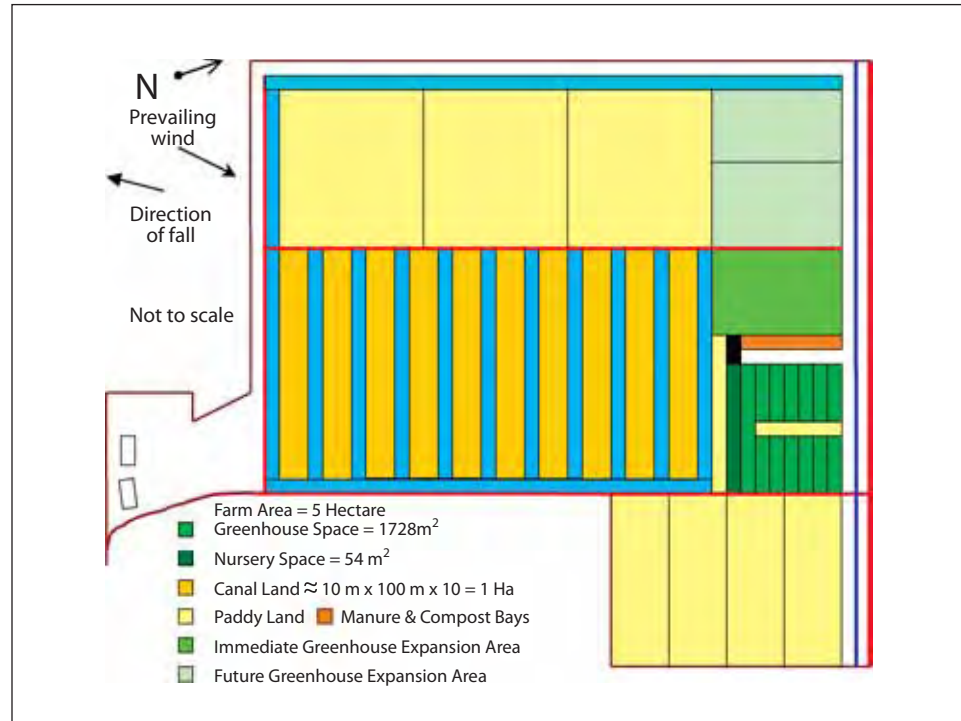
HURREDO is a Cambodian NGO established and registered in 2000 by a group of Cambodian agricultural and rural development specialists. HURREDO's objectives are to improve the living conditions of the disabled and poor farmers through training and application of modern agriculture as well as through community cooperative methods.

### Farm Design

The farm which HURREDO maintains is a five-hectare block leased from the Cambodian government at no cost for a period of ten years. It is meant to be used for research and pilot growing of non-traditional, organic vegetable crops for the emerging local market. Since the project began in January 2003 HURREDO's management has achieved a great deal in developing the farm, given the lack of technical support or working model to follow. My comments in this journal are in no way a criticism of the project. This report is an appraisal as outlined in my terms of reference for suggesting ways to improve the farm's production by strengthening the capacity of management and staff through coaching, mentoring and training.



*A simple farm plan showing the layout of HURREDO farm*



I would like to thank ABV for the opportunity of the assignment and to acknowledge my employer the Queensland Department of Primary Industries and Fisheries (Australia) for allowing me the time off to undertake this assignment.



*The ABV Advisor on his trusty transport at the HURREDO farm*

# 2

## Getting Started

August 2004

### Initial Observations

The farm has little in the way of any farm planning tools such as a farm map, planting and activity diaries. Greenhouses and field blocks are not marked in any way for identification or planning purposes. The nursery layout is difficult to comprehend while harvesting and marketing records are non-existent. If a main goal of HURREDO farm is to serve as a demonstration and training center for local farmers, this is not evolving due to the lack of human, physical, and monetary resources.

**Greenhouses.** Upon my arrival, the farm has 12 greenhouses made from steel framing each with around 144 m<sup>2</sup> under cover and one nursery greenhouse (for seedling production) of around 300 m<sup>2</sup>. The opaque plastic material used to cover the greenhouse framing is a very low grade and is not UV stable. The plastic is fastened to the framing by bamboo strips and thin wire that quickly tears the plastic when windy.

The use of steel framing and some of the design features of the greenhouse structures is questionable. Such a prototype should be assembled with materials and practices that are readily available and within budget of the local smallholder farmers. A design using more cost-effective, local and readily accessible materials is a more favourable option.

Greenhouse space is of utmost value because of the setup and maintenance costs involved. The use of this premium resource must be maximised. Unfortunately the production area under each greenhouse consists of only 12 beds with three beds set across the width of the greenhouse (and each bed measuring 5 x 1 metres), yielding very low production area efficiency.

We were able to increase the cultivated area by reducing the footpath in between the beds. An extra bed was added (from three to four beds across the width of the greenhouse) and each bed size was furthermore expanded to 1.2 by 5.5 metres. This gave us an immediate gain of some 30 percent in production area, greatly enhancing production efficiency and requiring no additional capital investment.

Open for discussion is the option of building additional greenhouses from local material (bamboo and timber posts) or with poly pipe, steel pickets and wire.



*Three-bed configuration showing a poor production-area-to-roof-area ratio*



*Four-bed configuration providing an immediate 25 percent increase in production area per greenhouse*

This could be set up for around US\$3000. Doing so would effectively yield up to another 1000m<sup>2</sup> of greenhouse production area with very little in the way of an increased labour force.

**Scheduling.** It is important to have a planting schedule that maximises production by minimising the turnover time between harvests and replanting. The greenhouses are not currently planted to full capacity and there is a lapse between cycles. These high vacancies are partially the result of a poorly designed and operated nursery, but can also be attributed to HURREDO's understaffed and under-managed work force. Many practices and techniques used on the farm seem to be inefficient and this tends to limit an already overstretched, poorly structured workforce. Staff are often left to complete tasks without appropriate supervision leading to mistakes or tasks not completed in a timely manner nor to an acceptable standard.

The soil throughout the greenhouses is poor, without body, and currently there is not nearly enough manure being used to finish the crop. The lettuce is struggling to reach an ideal size; the leaves are exhibiting a yellow colour with pale veins which is commonly associated with nutrient deficiency. This not only slows production but results in a less attractive product to the market place. It may be that a compromise is needed to allow the appropriate use of synthetic fertiliser while still avoiding chemical pesticides.

**Supply chain.** Agricultural funding agencies and service providers often concentrate on capacity building at the executive level while overlooking the critical need for grassroots skills development. One critical part of the supply chain is thus often ignored. More needs to be done to strengthen the capacity of the farmers on the ground.



*Examples of seed and pesticides sold at the local market in Siem Reap*

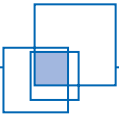
**Nursery.** The plant nursery is the engine room for the whole greenhouse operation. The nursery provides the constant supply of strong, healthy plants to the greenhouses in predetermined amounts to meet market demands. Initially the farm nursery was not set up to achieve this outcome. Seed trays were on the ground along with seedbeds. This exposed delicate seedlings to the elements and made them susceptible to diseases. It was also backbreaking work for the staff as it was necessary to squat down for long period when tending to the seedlings. The construction of seedling tables from cost-effective local materials will improve production efficiency.



*Nursery at the commencement of of the ABV advisor input*



*Changes in the nursery taking effect*



**Seeds.** Another problem is the attrition rate of seedlings. Closer observation showed that seedlings are being hand watered by a large volume billycan which flattens the seedlings such that if they are not set right again they subsequently rot away. A micro sprinkler system is now being designed for the tables to prevent this damage. In time, a designated and trained nursery staff will ensure that such losses are controlled.

Seed stock and production have been haphazardly coordinated. Seed is germinated without much thought about where the eventual seedlings would be planted on the farm. A planting record will need to be maintained for planning purposes so that seedlings are matched to both the greenhouse planting plan and market demand, guaranteeing a continuous supply. Sound record keeping in intensive agricultural production systems is critical.

**Field.** The field component of the farm has two main sections that have been dug out in a canal formation 100 metres long to a depth of approximately one metre, with the canals being roughly five metres wide and the beds some ten metres across. The soil on the site is an inferior, sandy grade. Compounding the problem is that the digging of the canals has deposited the poorest subsoil from the very bottom of the canals as the topsoil of the garden beds. Large amounts of manure and compost is now required to bring this soil to a healthier standard and the careful use of synthetic fertiliser may need to be considered for some crops. There needs to be remedial work to prevent further erosion.



*Canal block beds showing signs of erosion*



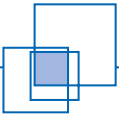
## HURREDO: Areas for improvement

**Opportunity for market linkages.** HURREDO faces a huge opportunity to link farmers with Siem Reap's tourist economy. There is an ever-expanding tourist and hotel market in Siem Reap and a corresponding growing demand for produce. The economy boasts of a burgeoning middle-class, many of whom purchase their vegetables within Siem Reap, and HURREDO is strategically positioned close to this emerging market. The potential for value adding, such as marketing ready-to-use salad products, organic goods, and other specialty vegetables, is enormous. Indeed, the market is far larger than HURREDO farm can supply by a considerable volume. Supply is not a limitation, it is the production.

**Strengthen supply relationship.** This is clearly illustrated by the strong relationship that has developed between HURREDO and the Siem Reap Chef's Association. The Chefs are willing to support local produce but are concerned with the low level and sporadic delivery of quality supply. Some buyers have expressed that they would be more willing to purchase local produce if it was regulated by a quality assurance based tracking system. The supply chain in its current form is poorly conveyed between smallholder vegetable growers and the end-user; the smallholder vegetable grower tends to be the 'price taker' and is vulnerable to the lower prices offered by 'middlemen' buyers. To help prevent this from happening, the development of a software programme that allows the tracking of production information in the greenhouses is now in the works. Such a programme will also expedite farm production as well.

**Product consistency: Key to market linkages.** HURREDO marketing and delivery is a little disorganised and *ad hoc*. Due to the high demand for fresh produce and the reluctance for farm management to reject orders when available, management has tended to harvest produce before it is fully grown. It would seem that hotels ring through small orders for immediate use and this creates a flurry of activity resulting in several kilograms of lettuce being dispatched by the farm vehicle for delivery. Because the lettuce is not fully grown, a lot more lettuce has to be harvested to make up a kilogram of produce, quickly depleting the beds -- a very poor and costly marketing strategy indeed. The farm has laboured to produce seedlings and prepare beds, and if it hopes to be successful it must ensure finished product is at optimal size prior to harvesting. Once production increases and continuity of supply can be guaranteed to the client, orders should be filled in a clearly-defined and professional manner.

**Strengthen negotiation strategy.** Likewise, HURREDO's negotiation strategy can be improved. Some of the local growers recruited by HURREDO hold the high expectation that the farm will supply seeds and materials and will buy the harvested produce at a pre-determined price. Some of these farmers are reluctant to remove root, stem, and unmarketable leaf as this reduces weight and therefore



their sales revenues. HURREDO finds itself in a difficult position: obliged to buy lettuce at a pre-set price, it also must go through the tedious process of sorting the produce suitable for sale, resulting in a lot of stock being lost to spoil. This time-consuming exercise reduces efficiency on the HURREDO farm at a time when resources are already stretched thin. HURREDO's revenue fails to cover overhead expenses, causing it to operate at a loss.

**Management issues.** There needs to be a clearly defined structure within the organisation itself and staff need to be able to easily recognise where they fit within this structure. HURREDO appears highly unregimented. The supervisors at the farm seem to resist change, electing to follow previous practices instead of embracing new concepts. Farm staff is poorly supervised yet completely dependent on management for directions on every task. Moreover, there are no clear cut objectives: at best the day-to-day operations seem to be improvised, with management tending to be more reactive than practical in their approach. As a model for local growers the farm is far from ready. Growers need to see a good example so they can learn best practice.

### Summary

A number of prospects and issues were identified during this initial assessment:

- There is a very high demand for freshly grown vegetable production in Siem Reap.
- Vegetables supplied to local hotels and restaurants are mostly imported from outside the province and often outside the country.
- Local farmers are not producing enough vegetables to meet local demand.
- HURREDO farm is producing far less vegetables than anticipated.
- HURREDO farm planning and record keeping processes need to be strengthened and maintained.
- The training of smallholder farmers has not progressed as anticipated.

Despite the challenges, HURREDO farm is close to becoming a profitable vegetable enterprise in Cambodia. It has not been entirely easy but a lot of hard work has been done over the past four years to develop nontraditional farm products. All stakeholders need to come together to table their concerns and reach an agreement in order to progress the project. Once there is a consensus on HURREDO's future, a logical decision making process must develop that engages all stakeholders to plan through strategic issues.

This project has come too far to be abandoned on account of its challenges and weaknesses. In a country that has seen far too many failed projects, this would not be considered a satisfactory option. There have been mistakes made and other issues that need to be addressed. I believe that if these can be satisfactorily resolved then a good workable NGO will be strengthened to the point of setting an

example for other projects--providing training and other valuable services—which will ultimately improve the standard of living for smallholder growers throughout the Siem Reap Province.



*Some locals involved at the Phsar Leur market in Siem Reap*



# 3

## New Developments

August-September 2004

### Important Visitors

This month the HURREDO farm was honoured by a visit from His Excellency Mr. Keat Chhun, Cambodian Finance Minister, and Mr. Son Kunthor, Director General of the Rural Development Bank of Cambodia. His Excellency expressed his approval for an operation of this nature in Cambodia and remarked that he would mention the project in Parliament as an exemplar for other Cambodian businesses. This type of support by a senior Minister is important when developing a business like the farm.



Mr. Bunrith explains the nursery to His Excellency Mr. Keat Chhun and Mr. Son Kunthor



Article in the 'Rasmei Kampuchea Daily' national newspaper

In addition, representatives from Cambodian National Defence Force visited HURREDO farm to learn more about vegetable production—part of a programme to train soldiers as a duty of service and for post-military career development. I am impressed with this initiative by Senior Command and personally would only be too happy to support this type of programme.



*The Military visits HURREDO farm for training*

### Meeting with DAFF

It is concerning to note that an effective farm extension service, within a country so reliant on the rural economy, is virtually non-existent or ineffective. My limited experience visiting smallholder farms has revealed that farmers lacked basic skills and knowledge but displayed a keen willingness to learn.

A meeting with Mr. Tat-Bun Chhoeun, Director of Siem Reap Province's Department of Agriculture, Forestry and Fisheries (DAFF), proved to be very informative. Siem Reap has around 70,000 farmers and 30 extension officers. Mr. Chhoeun was the first to admit that limited resources and the low salaries paid to government staff meant that keeping staff was difficult. Just through visiting farmers in the region it is obvious that the basic services are not being delivered to the farmers. The most basic of mistakes are being made because of a lack of practical skills that can be easily and quickly fixed by such an auxiliary. This would do more to alleviate rural poverty than many of the existing programmes taking place in Cambodia.

### Greenhouse Improvement and Expansion Strategy

Work on improving the farm is progressing, albeit slowly due to heavy rains. The farm has decided to go ahead with plans to expand the greenhouse area, and a draft to construct eight new units is currently in the works. Alternatively, many beds in the existing greenhouse section are experiencing subsidence and waterlogging. The soil quality within these greenhouses is very poor: much of it was brought in some two years ago, and there has been substantial loss due to erosion. As a result the beds are not raised as high as they need to be in places leading to problems of oversaturation. This means that production between the beds within greenhouses is highly variable and inconsistent. A new plan has been implemented to import fresh soil and peat into the greenhouses—this will minimize variations and level out the beds to a standard height.



*Soil and peat being placed into the greenhouses to raise and even the beds*



*The second bed from the left has subsided and shows signs of water logging*



*Close up showing waterlogging problems*

Finding good quality soil to fill the greenhouse expansion area has been a challenge. It is the middle of the wet season so access to good soil is extremely limited. Our usual soil supplier could not deliver black soil so the contract was terminated and another supplier was engaged. The wet season is also delaying delivery. These arrangements must be made during the dry season to avoid issues like this in the future.

At the moment the frequency between harvest and replanting is far too long. Each greenhouse needs to be turned around within four to five days after harvest to ensure a cropping cycle of at least once every six weeks. The nursery is the main culprit for much of the farm inefficiency with seedling production not timed to meet planting and market requirement. The Nursery Supervisor and the Marketing Manager must learn how to coordinate a system between them which best synchronises the planting and harvesting schedule with market demand.





# 4

## End of the Wet Season

September-October 2004

### Technical Progress

Work is continuing to improve while expansion is steadily progressing. All existing greenhouses are in full production and micro-irrigation systems have been installed. The nursery also has an overhead irrigation system installed and has been upgraded with seedling tables and herb beds. A demountable steel and clip greenhouse frame supplied by the German embassy has been erected adding an additional 360m<sup>2</sup> of greenhouse area. The construction of the new greenhouses is now well under way and with the end of the wet season construction can progress without further delay. Upon completion, the eight new greenhouses will provide another 1440m<sup>2</sup> in production area. It should be mentioned that the construction of the greenhouses has diverted labour away from the main farm activities resulting in some neglect.



*The new German funded greenhouse being constructed beside the nursery (this is a demountable steel design secured by spring steel clips)*



*Construction of the new greenhouse complex with all locally-produced materials (timber and bamboo) in contrast to previously used steel bars*



*The nursery seedling being watered by an overhead micro droplet irrigation system*

### Planting

The end of the wet season has also meant that the outside fields can be planted, which is quite fortuitous as the upcoming dry winter months—high production season—coincides with high tourist season in Siem Reap. The fields will not only dramatically increase the production area but will allow the existing greenhouses to be rotated so that other crops besides lettuce can be grown. It is very difficult to use crop rotation practices when 90 percent of the crop grown is lettuce and greenhouse space is limited during the wet season.



*The end of the wet season and cooler months coinciding with the peak tourist season means that the outside fields can now be planted with lettuce and other vegetables*

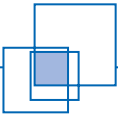
### 90-Day Review of Baray Toek Thlar Farm

The past three months have seen big improvements in farm practices and efficiencies. This is a credit to all involved. Change is often difficult to manage and to adjust for at all levels. Management and staff have shown a willingness to adopt new practices even though they may not have fully understood where the changes are heading. Regular staff meetings have kept the staff informed of these changing practices as well as provided the staff a sense of belonging and accountability in decision making.

The wet season hampered progress as the construction of the new greenhouses were delayed by several months. This has affected the profitability of the farm in the short term with profits falling well below forecasts for this time. All in all however everyone should be proud of what has been achieved in often difficult circumstances. When I arrived, the farm was struggling financially and did not have the cash flow to increase production to the next level. There was simply not enough production area to generate sufficient income and provide a positive gross margin. Efficiencies at the farm were very low with existing greenhouses having a below 50 percent production efficiency. This has since been increased to above 70 percent.



*The farm has dedicated staff willing to work the long hours to get the job done*



**Nursery: August 2004**

*Construction of seedling tables out of low-cost, local materials improved work posture, exposure to elements and diseases and overall productivity*



**Nursery: October 2004**



**Greenhouse 11: August 2004**

*Four-bed configuration with narrower footpath provided 25 percent increase in production area*



**Greenhouse 11: October 2004**



**New Greenhouse site: August 2004**

*Use of locally available materials made greenhouses more cost-efficient and replicable in villages*



**New Greenhouse site: October 2004**

In spite of a few setbacks, the farm is fast becoming a venture that all stakeholders can be proud of. It has not shown a profit yet and it is understandable that some are becoming increasingly concerned by this. I personally believe that the farm will soon make a substantial profit-- but its real value is being a working demonstration model farm that all Cambodians may see and observe, inspiring confidence that commercial agriculture can succeed in Cambodia.

# 5

## A New Season

November 2004

### Positive Growth

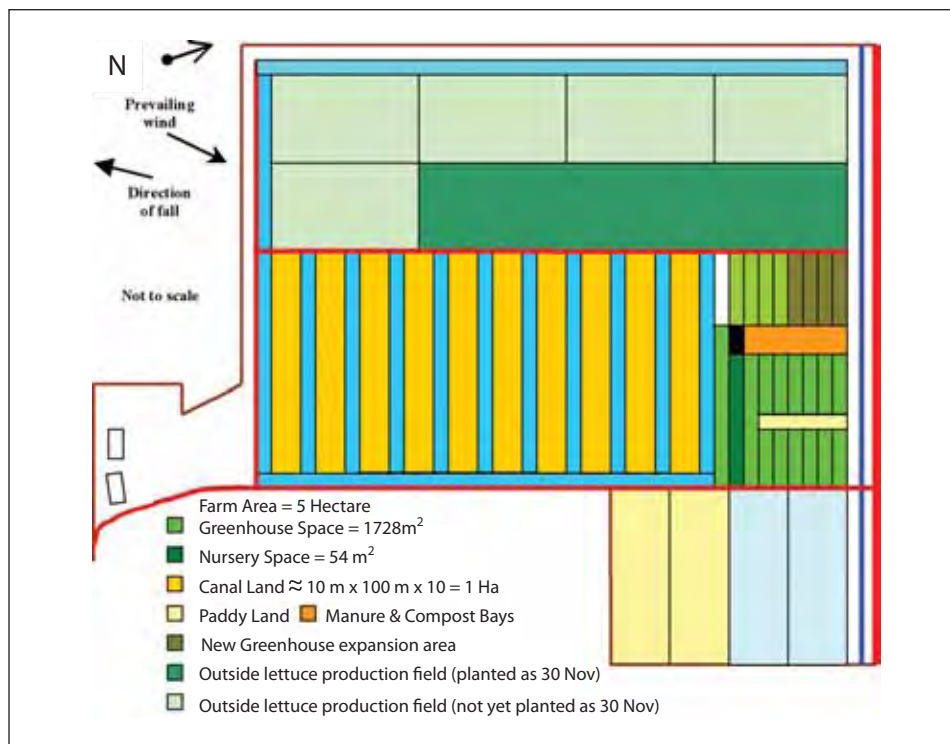
The soil in the greenhouses has been treated with ash, lime, peat and manure to improve its properties. Meanwhile planting of lettuce in the outside fields has continued throughout the month. At the end of November, approximately 500 beds were planted. Harvesting has now commenced with some 100 kilogram of lettuce being harvested daily.



*Lettuce in the outside fields at HURREDO farm*

Revenue estimates for November based on the new planting area show a very good return on investment, proving that commercial vegetable production is possible in the drier, colder months. Around 5,000 m<sup>2</sup> of production area is still available in the outside fields for planting and this additional area should be planted as soon as possible. It is recommended that other field crops like cherry tomatoes, sweet pepper and papaya be grown in these outside fields to protect against oversupply, fluctuating prices and other unforeseen problems.

A simple farm plan showing the layout of the farm and expansion area



### Smallholder Vegetable Production Project

This month also marks the commencement of an International Labour Organisation sponsored initiative, the Smallholder Vegetable Production Project (SVPP). The objectives of this project are to extend better methods and technology to farmers, following the practices tried and tested in the Touk Vil demonstration farm. It may be recalled that the primary intent of the collaboration between DAFF and HURREDO on the Baray Toek Thlar farm was to develop and test technologies to be transferred to the farmers. HURREDO's partnership with the ILO marks the beginning of the expansion of HURREDO's work with farming communities.

HURREDO first submitted a funding proposal to the ILO in June 2004 after Mr. Tun Sophorn, National Project Coordinator of the Informal Economy, Poverty and Employment Project, expressed an interest in supporting the training of farmers and linking them to markets. Last month Mr. Tun Sophorn and Ms. Sandra Yu, Chief Technical Advisor of the IEP, paid a visit to both Baray Toek Thlar farm, as well as HURREDO's second property, a five-hectare block in Banteay Srey district (purchased in early 2004). Following this productive meeting the ILO indicated that another local NGO, Partnership for Development in Kampuchea (PADEK), had proposed a related project which involved capacity building of farmers in managing their community shops. ILO inquired whether the two NGOs would consider a collaboration.

After some deliberation between the two NGOs, it was decided that HURREDO would concentrate on skills development and training while PADEK would link HURREDO with their farmer associations and also concentrate on developing community sales. This agreement was approved and subsequently finalised by the ILO, resulting in the presently-funded SVPP. I was offered an external collaborator contract by the ILO for the duration of one month to assist HURREDO with developing and implementing the Project. Officially commencing on the 15 November, the ILO-funded and HURREDO-managed SVPP will direct the following actions:

- Research the production and sale of local, organically-grown produce to the hospitality industry in Siem Reap.
- Recruit specialist project staff to conduct surveys and monitoring evaluations of smallholder farms “on the ground”.
- Initiate contact with target groups and formalise a training process in sustainable agriculture.
- Conduct follow-up training and extension support.
- Develop market strategies and encourage farmer marketing groups for greater self-sufficiency.

The SVPP is progressing well thus far. Names of those farming communes in the area who wish to participate in the Project have been registered:

- Prey Kroch Village, Pouk District
- Krasang Village, Pouk District
- Plung Village, Angkor Thom District
- Samrong Village, Angkor Thom District

Further, all project staff has been recruited, with three men and two women comprising the SVPP team. A baseline survey has been designed and tested, with initial surveys distributed. The newly assembled SVPP marketing team is assisting HURREDO by developing new networks and increasing marketing opportunities throughout the Province. It is important to remember with this transition that good supply chain networks need time to develop and establish mutual trust.

*Strategic planning meeting with staff of ILO funded SVPP. From left to right:*  
 Mr. Tun Sophorn – ILO IEP  
 Dr. Youry - HURREDO  
 Mr. Ponlok – Marketing Coordinat  
 Ms. Chakara – Accountant  
 Ms. Roeun –Field Trainer  
 Mr. Yuthha – Training & Extension Coordinator







# 6

## SVPP Opportunities and Challenges

February - March 2005

### Successes

A short sabbatical from the farm has prevented me from monitoring day-to-day progress, but there appears to have been enough activity generated in the SVPP over the last three months to keep the enthusiasm of participating farmers.

Developing a long-term strategy for marketing smallholder village produce to the hospitality industry has been an involved and difficult proposition, but advancements have been made. Since November the SVPP has identified and engaged participating farmers from three communes in Siem Reap Province, with model gardens being established in four villages. Initial surveys have been completed by all 65 participants involved. The distribution of seed is also now well underway. Farmers have been provided vegetable seed and are in the process of cultivating their own gardens. Testimony to the Project's success so far is that village farmers have requested SVPP assistance with constructing nurseries in each of the three communes.

### Obstacles

**Negotiating with middlemen.** While the primary task of mobilising farmers has been completed, there are some issues with product promotion. SVPP farmers face a number of obstacles with respect to market access. Vegetable wholesalers in Siem Reap are a loose cartel and are very protective of their market. It has come to our attention that there is a tricky wholesaler supplying seeds of questionable quality to farmers. This alleged wholesaler takes advantage of certain farmers by buying their produce for a very low price. As the farmers 'wise up' and start asking for a more equitable share for their work the wholesaler abandons them and moves to a new group of farmers. This unfair arrangement provides little ongoing assistance to the farmer beyond the immediate income they gain from selling their produce. Consequently these farmers fail to learn how to locate seed inputs or how to effectively market their produce. One of the main objectives of the SVPP is to help avoid situations like this by educating farmers on how to become better negotiators in the marketplace.

**Seed supply.** Seed supply is a matter that requires further attention. The project is now focusing on ways to ensure that there is a reliable source of seed available to the farmers. Future plans involve experimenting with seed inputs brought from Australia. Discussions with seed companies have determined that there is an abiding interest in establishing a presence in Cambodia, so developing reliable retailing outlets will be the next step. HURREDO is considering taking on such a role by purchasing seed from the companies and retailing it to farmers.

**Marketing.** Marketing is not being adequately coordinated at the present time and is not keeping pace with training activities. Some production has failed to reach the market. For instance, some of the lettuce planted by the farmers was not harvested at the appropriate time due to carelessness and as a result 'bolted' to seed. Moreover, there was the unrealistic expectation of some farmers that HURREDO would harvest, process and market the produce for them. (A group of farmers did ultimately direct themselves to market. While receiving a very low price for their produce, it avoided unnecessary spoilage; this is indeed a start.)

*An example of lettuce in a village garden that has 'bolted' and spoilt. A village coordinated marketing system will assist farmers to better market their own produce in a timely & profitable manner.*



While there is an overwhelming tendency for organisations to market on behalf of farmers, doing so is counterproductive. The SVPP must resist the trappings of this 'quick fix' mentality: it will inevitably create a cycle of dependency and the opportunity to learn valuable skills will be lost.

A village marketing system needs to be established so farmers can control the marketing of their own produce. Assisting the farmers to develop a group marketing approach will create a reliable supply of quality produce that both wholesalers and end-users-- hotels and restaurants-- will continue to demand. At the present time farmers are receiving from middlemen between 1,000 to 3,000 riel / kilogram for their lettuce while hotels and restaurants are routinely buying lettuce for between 5,000 to 8,000 riel / kilogram from wholesalers. This basically means that the farmers are getting paid the same for their six weeks' work of growing their lettuce as the wholesaler is getting for their six hours' work. By assembling as a communal marketing group, village farmers will be able to draw

from a collective volume of supply to facilitate better outcomes for their products. Doing so will empower farmers to evolve from their role as 'price taker' to that of valued partner.



*Mr. Ponlok, SVPP Marketing Coordinator, and Mr. Sroy, SVPP Field Trainer, coordinate and assist farmers in developing a durable effective supply chain that will allow them to sell their produce to wholesalers or directly to the market*



# 7

## Moving Forward

March - April 2005

### Contacts and New Opportunities

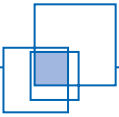
Last month a productive visit was made to Bangkok; I met with Mr. Akihiko of Sakata Siam Seeds to discuss supplying inputs for our smallholder farmers in Siem Reap. Below are examples of SAKATA seed packaging. The quantity is suitable for smallholders to buy at an affordable price.



*Small pocket sized seed packets of 5 to 10 grams*

SAKATA has also agreed to provide some equipment to the participating farmers of the SVPP. This is a kind and most welcomed gesture.

The trip provided the opportunity to speak with Mr. Wim Damsteegt of Rijk Zwaan Seeds and Mr. Bert Van Der Velts of East West Seeds as well. Both are involved with hydroponic growing systems in Thailand. They can be useful contacts as HURREDO is exploring the option of setting up a pilot hydroponic farm at the Toek Vil Agricultural Centre, for which Mr. Tat Bun Chhoeun of the DAFF has offered additional land. It is an attractive location for both the envisaged "HURREDO Agricultural General Store" and "Hydroponics Farm" which are currently in development.



*Hydroponic farming in Thailand: a system similar to this one is being proposed for the demonstration farm*

### SVPP End-of-Quarter Progress Report

The end of March marked four and a half months of SVPP's operation. To date, the SVPP has made significant strides towards achieving its objectives. Sixty-five farmers have been engaged and are currently participating at various levels of interest with the SVPP. Three of the four training modules designed by SVPP staff have been conducted with a group comprising nine villages. Collective nurseries and a model garden have been established in four of these villages as well as in two communes.

The construction of these village-based nurseries has been one of the biggest success of the Project so far. SVPP supplied the materials and the participating farmers built the structures. Not only have these nurseries become focal points for training activities, they have also provided a hub where farmers learned together, coordinated production within their villages, and worked towards a communal marketing solution. The SVPP has also been providing follow-up nursery training to ensure that these skills are maintained and practiced.



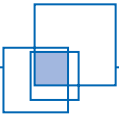
*ILO-sponsored village nursery being constructed by the farmers of Plung Village, Angkor Thom District*



*Farmers at Plung village, Angkor Thom District participating in a SVPP training session in the completed village nursery*

This being said, the SVPP has not proceeded without encountering some problems.

- One of the biggest difficulties at this time has been that of getting farmers into the mindset of immediately replacing stock in the nursery once seedlings have been removed for replanting in the field. This has left huge gaps in production.
- There have also been a number of complications with both securing and utilising seed. There is a clearly identifiable need to develop a reliable seed supply that smallholder farmers can access. The SVPP is planning to open an agricultural store to make these provisions more locally available to farmers. In doing so, the SVPP must counteract the tendency among farmers to germinate seed of the same variety all at once. This makes it very difficult to supply hotels and restaurants requiring an uninterrupted supply of assorted vegetables.
- Accordingly, uneven production and supply has been a major impediment to finding a workable, long-term solution to village marketing. Among the 65 collaborating farmers, competing priorities for their time—such as cultivating food staples like rice—has prevented some farmers from growing vegetables continuously. Given this, the SVPP needs to increase the number of farmers participating in the Project to encourage greater production and competition in the market place. Once again, building a wholesale store at Toek Vil Agricultural Centre will serve this end by providing farmers (both inside and outside the SVPP) the opportunity to sell their produce.



*Mr. Bunrith, Director of HURREDO, outlines germination techniques used at the ILO/SVPP sponsored village nursery at Plung Village, Leang Dei Commune, to Ms. Christine Evans-Klock, Director of ILO Sub-regional Office for East Asia, Bangkok*

### Field visit by ILO Bangkok

On 25 March, both SVPP and the smallholder village farmers from Plung Village were honoured to receive a visit from Ms. Christine Evans-Klock, Director of the ILO Sub-regional Office for East Asia based in Bangkok, Thailand. These visits go a long way towards bridging the divide of understanding between decision makers and people in the villages. We all sincerely thank Ms. Christine Evans-Klock for taking the time and interest to visit Plung village and the SVPP team.



*Ms. Evans-Klock finds time during her busy schedule to visit the SVPP team at Plung Village, Leang Dei Commune, Angkor Thom District. ILO officials, Mr. Sophorn of the IE Project and Ms. Suradee, ILO Programme Officer for Cambodia, are seen in the photo.*



# 8

## Return of the Dry Season

April - June 2005

### Slowing Productivity

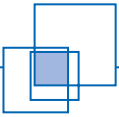
A persisting drought over the last several months has severely impacted vegetable growing in Siem Reap Province. Although recent rain has made some activity possible, the season's dry spell has rendered SVPP training and marketing difficult.

Seed supply is a critical concern right now— the SVPP's reserves are at dangerously low levels. Farmers do not have money to pay up front for seeds so contracts have to be drawn up between HURREDO and the individual smallholders. HURREDO must first purchase the seed but, with funds currently limited, this will be difficult to do.

Productivity has slowed, which means profits are down. Limited water supply has forced many farmers within the SVPP to stop growing vegetables. Currently less than 50 percent of farmers are participating in the Project. It should be noted that the dry weather has given competitive advantage to those who continued to grow lettuce -- the average market value of lettuce is nearly US\$3.00 a kilogram!



*A small lake at Samrong village and adjacent smallholder garden February 2005*



*The drought has drastically affected vegetable production in many communes. May 2005 finds the small lake (shown in previous photo) all dried up and the same vegetable garden (also shown earlier) abandoned in this photo at Samrong Village, Angkor Thom District.*

### Field Visit by Mr. Shinichi Hasegawa, ILO Regional Director

This month the SVPP staff and farmers at Plung village, Angkor Thom District were privileged to receive another visit by a number of senior officials from ILO offices in Bangkok and Geneva. Visitors included Mr. Shinichi Hasegawa, ILO Regional Director for Asia-Pacific, Ms. Chris Evans-Klock, ILO Director of Sub-regional Office for East Asia, Ms Anne Trebilcock, Deputy Director of ILO INTEGRATION in Geneva, and several other high-level staff.

Once again, the SVPP values these visits as they are a positive indication that important multilateral organisations are taking an interest in our efforts and achievements. We look forward to more such visits in the future.

# 9

## Summer

May 2005

### Addressing the Threat to Seedlings

The second quarter of the year saw a very dry period that impacted negatively on vegetable production in the SVPP project areas. Lakes that have not dried up for many years have dried up. Water from canals and creeks also stopped flowing. Many farmers were left without irrigation water. With farming activities effectively delayed, much of the month was spent working on SVPP administrative duties and formulating a future corporate plan for HURREDO.

Due to the scarcity of synthetic and natural fertilisers in the region, another major risk to the sustainability of Siem Reap's smallholder vegetable industry is the nutrition deficiency of its seedlings. Having identified this as a threat, the ILO IEP will fund the participation of DAFF, HURREDO and PADEK at the Training of Trainers (ToT) seminar on Effective Micro-organism in Saraburi, Thailand, in June. The ILO has indicated that it will continue this support, and the development of a training programme for the farmers of Siem Reap is now underway.

### June 2005 Hiatus

The Deputy Director General of Communities of the Queensland State Government asked that I return to Australia for period of six weeks to coordinate a Land & Sea Management programme within a remote Aboriginal community in Northern Australia. This request was made based on my knowledge of the region and the fact that I am well known and trusted by the local community.

I requested and was granted a break in my ILO contract for June and early July, and it has been agreed that my contract will be extended an additional six weeks to make up for this leave of absence. My contract due to finish on the 15 July will now terminate on the 31 August 2005. I thank the ILO for their flexibility and understanding in granting this leave of absence.



# 10

## Rain

July 2005

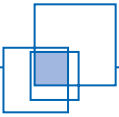
### Delays

Heavy rain in July has compelled many farmers to halt vegetable production as their land is too wet to continue. Many are now concentrating on growing the traditional wet season rice crop.

Farmers need to be strongly encouraged by the SVPP staff to become responsible for the upkeep of their village assets. A small levy needs to be collected towards purchasing replacement plastic for greenhouses that have been damaged by the elements.



*Greenhouse damaged by heavy rains. Village farmers need to put money aside to maintain shared assets.*



### SVPP Cash Flow and Quarterly Progress Payments

A lack of cash flow in the last month has constrained operations. As money has run out, productivity has also lost some momentum: this has been expected. The budget looks fine on paper right now, but it is in fact very tight with little room for error. There have been many supplementary expenses over the past month. If these costs are not reckoned with, they will accumulate and undermine productivity in ways that cannot be anticipated. The SVPP budget needs to remain flexible to take into account those extra expenses that can lead to unpredictable outcomes.

For example, one of the SVPP's biggest budget shortfalls is petrol used for motor bikes. SVPP relies on keeping trainers in the field, requiring that individual farmers are visited on a regular basis. The extended distances travelled by motorbike each day are often over rough terrain. A recent petrol price hike will increase the cost of transport; the use of motor bikes must now be carefully monitored so the additional spending does not catch us by surprise.

### Tropeang Svay Village

Tropeang Svay is the latest village to join SVPP training. Preliminary training was commenced in early June. PADEK was involved with helping Tropeang Village on matters of food security prior to the SVPP collaboration, and the farmers showed a keen willingness to participate in the programme. We welcome their addition to the Project.



*Mr. Sroy training farmers at Trapeang Svey village how to build a seedling nursery*



*Farmer at Trapeang Svey village being trained how to germinate vegetable seed using the paper & tray method*

# 11

## Return of the Wet Season

August 2005

### “Separating the Wheat from the Chaff”

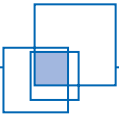
August marks the beginning of the wet season that has resulted in the predicted shift away from vegetable production to traditional rice cultivation. Many of the participating farmers are unable to grow vegetables now as their land is low and covered in water. As would be expected, an observable learning curve is developing among SVPP farmers. While skilled farmers have become more self-reliant, less interested farmers have gradually begun to opt out of the programme.

### Marketing Issues

One major concern is that, in spite of repeated attempts by HURREDO to coordinate village marketing workshops, some farmers are still reluctant to engage in activities that further prepare farm products for the market such as cutting and cleaning of lettuce (which also adds value to their produce). It is hoped that in time participating farmers will learn to take on these tasks as well. The SVPP staff is designing a strategy which will accustom farmers to this procedure. In the meantime, SVPP production remains low. HURREDO is considering the possibility of integrating another three groups of farmers into the programme to help increase product volume.

### Supply Issues

Locating a stable supply of quality seed remains a recurring problem because of the variety of lettuce grown. Seed is difficult to purchase from an exclusive source as one supplier may be strong in a certain type of lettuce but not in another. Some seeds have shown to be unsuited to the Cambodian environment, either failing to mature properly or being susceptible to disease. The photo below shows kang kong (*ipomoea aquatica*) afflicted with ‘white rust,’ a common pathogen prevalent during the wet season when conditions favour its spread. A more systematised selection of inputs will help to prevent future outbreaks by favouring only the most resilient seed types.



*Kang Kong (Ipomoea aquatica) with the fungal disease ('white rust')*

### HURREDO Outreach

HURREDO is now exploring ways to improve its outreach capacity. For example, HURREDO has been researching market trends and advising farmers on the types of lettuce that are in demand so that they can adjust their supply accordingly. HURREDO's next objective is to develop a reliable system of seed supply and establish a retail outlet where farmers can purchase equipment and merchandise.

### Farming Profiles as of August 2005

- **Prey Kroch Village, Pouk District:** Vegetable production at Prey Kroch Village has stopped altogether with all 17 farmers in the programme choosing not to participate in vegetable production activities at this time. This area is very low lying, with limited space in which to grow vegetables. It is open to question whether this village should have been included in the SVPP programme in the first place since rice production in lowland areas is more viable.
- **Krasang Village, Pouk District:** While this village has shown great achievement and demonstrates a high level of self-sufficiency, only seven of a total of 17 farmers are currently participating in vegetable production. The land is currently flooded, with the majority of farmers cultivating rice.



*Vegetable production at Krasang village. Note the practice of setting high beds for the wet season.*





*This Krasang farmer, seen here applying dried manure to the lettuce, has been with the HURREDO programme for the longest period starting about two years ago. She is now a very expert lettuce farmer. It takes time and ongoing coaching for these skills to develop.*

- **Plung Village, Angkor Thom District:** This village also has 17 growers of which only seven are currently actively participating. It is interesting to note that five farmers admitted that they did not undertake vegetable production after the training because they felt that it “took too long to earn an income”. It may be said that the programme should concentrate on expanding to villages farther away from Siem Reap where farmers do not have better options to work elsewhere.
- **Samrong Village, Angkor Thom District:** This village has very wet and difficult soil, and vegetables are not easily developed. While there are some good farmers in Samrong, currently only five of 14 are growing vegetables.
- **Trapeang Srey Village, Angkor Thom District:** Although being the last village to join the Project, training at Trapeang Sray village is progressing well. The farmers are proving to be active participants who are eager to learn the skills. Currently six out of the nine farmers joining the programme are growing vegetables with the other three growing only rice.



*Training of new group at Trapeang Sray village, Leang Dei Commune. This village is making made good progress.*



*Group nursery training at Trapeang Svey village in an SVPP-supported communal nursery*

- **Baray Thlar Farm:** Vegetable production at Baray Toek Thlar Farm has stopped and there is now no activity at the farm. The general consensus of all those involved is that this is now a failed venture since a decision was taken to commercialise the farm's core business away from training and research. Further discussions are to follow. With the infrastructure already in place, HURREDO is now investigating ways of converting the farm into a seed production unit and training facility for smallholder village farmers.



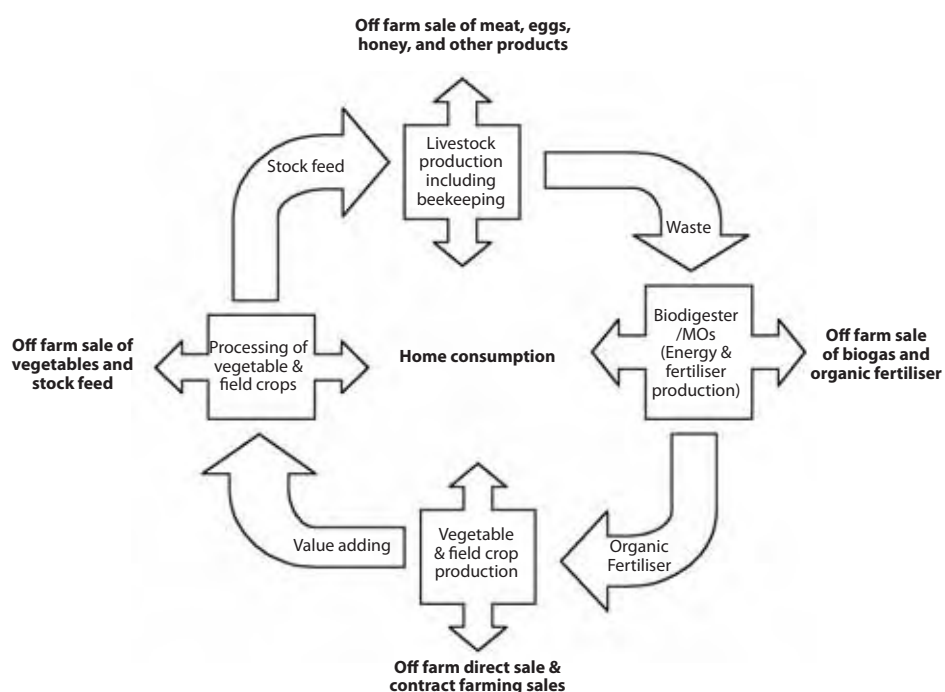
*Baray Toek Thlar farm -- all activities have now stopped*

## Integrated Natural Farming Systems Proposal

The resumption of traditional rice cultivation for the wet season highlights that many smallholders' farming methods have changed little over time. Cambodian smallholders generally practice subsistence agriculture, and do not have a clear cropping or business plan for their harvests beyond immediate consumption. This complicates the introduction of profitable farming schemes. High costs of imported inputs like seed, synthetic fertilisers and pesticides make local production non-competitive in the marketplace. Moreover, single cropping systems (such as that proposed in the pilot stage of the SVPP) use on-farm resources inefficiently by leaving farmers vulnerable to market forces, pestilence, and natural anomalies.

It is becoming increasingly clear that concentrating training on the monocropping of non-traditional vegetables may not bring a balanced approach to smallholder village farming. An INFS (Integrated Natural Farming Systems) approach may provide new answers. Smallholder farmers tend to practice a home-based, mixed-farming strategy that depends on immediate inputs from the villages' local ecology. INFS maximises the recycling of energy and other farm resources by combining home consumption and income production. In this way, introducing INFS to the Project makes sense: it creates more value-adding opportunities for smallholder farmers by affording them choices between home consumption and off-farm sale. Because INFS links all familiar production systems together in a synergistic way, it works dynamically, with new inputs continually generating new market options. Farm resources are sustained and unnecessary wastes are kept to a minimum. With adequate training and encouragement in this type of farming, farmers are able to increase their farm returns and improve their livelihood, becoming more self-sufficient in the process.

### Basic Integrated Natural Farming Systems Model





*The “Buy Cambodian Product Fair” included site visits to the farmers participating in the SVPP*



*Ms. Ginette Forgues and Mr. Max Iacono from the ILO Sub-regional Office for East Asia, Bangkok, participate in the “Buy Cambodian Product Fair” in Siem Reap*

### **“Buy Cambodia Product Fair” in Siem Reap**

The “Buy Cambodia Product Fair” held in Siem Reap on 13–14 August 2005 was an outstanding success. HURREDO set up a booth which showcased organic farm products from the trained farmers. Site visits were also organised to show the producers and work processes behind the products on display. International and local visitors joined these field visits. Attendance far exceeded expectation, emphasising the strong support for local products within Cambodia. It is our hope that this can be an annual event to promote awareness of local produce.

# 12

## Fresh Insights

September 2005

### Capacity building of DAFF

One other task to be carried out within the partnership among SVPP, DAFF (now renamed Provincial Department of Agriculture or PDA) and ILO has been to assess the needs of DAFF regional staff in view of developing capacities for promoting profitable agricultural industries in Cambodia. The objectives of this initiative were:

- to ensure that skills levels, knowledge systems and technical standards of staff in projects addressing sustainable farming systems issues are of a high standard.
- to identify, create and facilitate opportunities to a range of farming systems, utilising the skills and knowledge of all relevant stakeholders in the Province through productive partnerships and effective service delivery strategies.

The broader objective is to link local farming activities to domestic demand for animal products and fruits and vegetables, including the tourism sector. The underlying premise is that growth in the agricultural sector will improve food security and the incomes of the rural poor and help stem the rural-urban drift.

The focus is on how new and emerging agricultural commodities may be adopted by farmers to better take advantage of the expanding opportunities taking place in Siem Reap Province driven by the tourist industry and growing urban population.

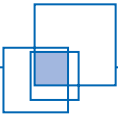
To achieve these outcomes, there is a strong need for DAFF staff to understand the requirements for promoting profitable agricultural industries for Cambodia through expanded market access, export and trade opportunities and through adopting smart technologies.

### Training Needs Assessment

A training needs assessment process was developed through a participatory consultation process among HURREDO, ILO and PDA and was done in August 2005.

The aim of this training assessment was to create or expand opportunities available:

- To improve the livelihood of rural families
- To increase income and employment for smallholder farmers



- To enhance value creation and capture greater value addition within the organic rice sector with strong emphasis on the production of high quality organic rice
- To improve livestock husbandry techniques and practices
- To maximise the efficiency of farm assets and resources
- To encourage and support efforts to maintain and improve soil fertility through rotation with suitable non-rice organic produce
- To establish supply side capacities (i.e. production, marketing, certification, etc.)

### Revisiting Cambodia's agricultural sector

The agricultural sector represents the main source of income for 85 percent of the rural population of Cambodia.

- Siem Reap Province has one of the lowest livelihood indicator rates amongst the rural poor in Cambodia and has some 70,000 smallholder farming households.
- The agricultural sector has great export potential and presents opportunity for socio-economic growth that can contribute directly to the well-being of the rural communities and the country's long-term poverty reduction strategy.
- Siem Reap Province is a net importer of fresh fruits and vegetables mainly from Thailand and Vietnam.
- The present supply capacity is inadequate to meet either local demand or any potential export of fruits and vegetables.
- Demand for livestock production is increasing rapidly and outstrips local supply.
- The overall quality of the output of the agricultural sector is insufficient and needs to be upgraded to meet buyer or consumer demands.
- DAFF in Siem Reap has around 30 field staff.
- Infrastructure and transport are among the principal constraints to meeting the required speed and regularity of delivery.
- Siem Reap Province has soils typically characterised by limited fertility for most vegetable crops.
- Siem Reap Province is situated around 13 degrees north of the equator and has a distinctive wet / dry monsoonal climate often resulting in too much water in the wet season and too little water in the dry season.
- Siem Reap Province has a mixture of lowlands and upland areas spread over 12 districts. Lowland agriculture is found closer to the Tonle Sap Lake and upland agriculture away from the Lake. Rice production is the staple throughout most of the province.
- Smallholder farmers around Siem Reap City typically have small plots of land on which to farm.

### *Methodology*

A structured questionnaire was designed and administered with key PDA staff. This is followed by a participatory focus group meeting. The questionnaire was circulated to key staff of PDA without asking for their names to ensure anonymity. After completion and collation of the questionnaire, the responses were sent to the working group for discussion and comments. A SWOT (strengths, weaknesses,

opportunities, threats) analysis for the provincial agricultural sector was also developed by the work group as a part of the participatory input. (See results of SWOT analysis below.)

### SWOT Analysis of the Agricultural Sector in Siem Reap Province

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>■ Large and productive arable land with low population density</li> <li>■ Road infrastructure is steadily improving that links rural areas with markets</li> <li>■ Extensive under-utilised capacity to add value (i.e. organic produces, preserving and processing)</li> <li>■ Limited direct competition within Cambodia</li> <li>■ Limited amounts of pesticides and/or chemical fertilisers being used in agriculture and horticulture in Siem Reap Province, making conversion to organic farming relatively obtainable</li> <li>■ Strong willingness among local hotels and restaurants to support locally-grown produce</li> <li>■ Strong willingness among donors and funding agencies to support the sector</li> </ul>	<ul style="list-style-type: none"> <li>■ Low level of human resource development and low skills base resulting in poor productivity and higher-than-necessary costs</li> <li>■ Agriculture projects have 'soft' funding, are limited in duration and are narrowly-focused, resulting in the lack of enduring demonstration facilities and working examples of production systems</li> <li>■ Lack of synergy among international aid agencies to directly assist provincial development of the local agricultural sector</li> <li>■ No local seed nursery / seed production (except for limited rice seed); this is especially relevant in the non-traditional vegetable industry</li> <li>■ Poor quality produce due to generally inadequate farming experience and pest / disease control</li> <li>■ Limited commercial pricing incentives to improve the quality for the domestic market (i.e. in the horticulture sector)</li> <li>■ Lack of property rights and poorly defined and surveyed property boundaries, leading to land theft and neighbourhood disputes</li> <li>■ Inadequate/improper handling of crops and poor post-harvest processing techniques</li> <li>■ Remote and poor transportation infrastructure</li> <li>■ Lack of inter-industry/inter-sectoral linkages and few agro-processing facilities, including storage facilities (silos, cold rooms)</li> <li>■ Urgent need to develop and rehabilitate/modernise irrigation systems</li> <li>■ Inadequate, cumbersome and expensive credit facilities available for farmers (limited short, intermediate, and long term facilities)</li> <li>■ Poor market information and facilities</li> <li>■ Lack of clarity regarding leadership and coordination (within the public/private/donors) within the agricultural sector.</li> <li>■ High cost of energy (electric, petroleum) and other utilities</li> </ul>

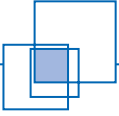
Opportunities	Threats
<ul style="list-style-type: none"> <li>■ Large expanding tourism-driven local market</li> <li>■ Local production of seed to increase the development of the horticulture industry enough to meet increased local demand.</li> <li>■ Environmental/health concerns to stimulate local and tourist demand for organic products</li> <li>■ Improved synergy among international aid agencies to directly assist the provincial development of the local agricultural sector</li> <li>■ Potential to enhance the productivity of the rural labour force through training and better human resource practices</li> <li>■ Development of irrigation systems and improved water use efficiency, leading to improved production</li> <li>■ Rural infrastructure will continue to expand opportunities</li> <li>■ An expanding middle-class consumer base in Cambodia</li> </ul>	<ul style="list-style-type: none"> <li>■ Insufficient income among smallholder farmers is likely to undermine the move to upgrade quality of products for domestic consumption</li> <li>■ Indifferent policing of existing laws and regulations undermines the drive towards value addition and value retention.</li> <li>■ Threat of food-related incidents prompting tourists to avoid local produce e.g. local eggs contaminated with salmonella due to sitting on soiled ground without timely collection or not being washed correctly and without refrigeration</li> <li>■ Allowing import supply chains to become established and entrenched</li> <li>■ Lack of quality seeds and other agricultural products</li> </ul>

### *Summary of Recommendations*

- PDA needs technical leadership at a senior level to facilitate and enable a better understanding of plant/soil/climate interactions in the context of the agricultural sector viability. This understanding would be used to develop management options that would improve the viability and sustainability of agricultural enterprises. Priority areas include:
  - Crop nutrition
  - Animal nutrition
  - Managing sustainable crop horticultural/agronomy practices under seasonal variability
  - Enhancing the integration of cropping, livestock, agro forestry enterprises (mixed farming systems) at a whole of farm to landscape level
  - Organic systems
  - Post harvest technologies
  - Marketing supply chain processes and access.
- New projects need to be initiated based on the research priorities identified by communities, industry and government, and proposals developed for presentation to funding bodies.



- Rapid adoption of research outcomes must be ensured by implementing appropriate adult education processes (e.g. participatory action learning). This approach needs to be factored into any delivery process. There is a need to continually evaluate the technical rigour of project processes (design, conduct, interpretation, communication and impact assessment) to ensure international standing of farming systems projects.
- Nearly all the respondents strongly advocated for further technical training of trainers courses in the areas of livestock husbandry, organic production systems including further training in Effective Micro-organism technology, vegetable production systems and other production systems technology. This was supported by the widespread feeling that technical knowledge is limited throughout the department.
- The major limiting factors to planning delivery were funding and lack of farmer participation. While it is generally recognised that funding is a major problem to service delivery, it may be that the department as a whole needs to be more proactive in attracting funding. This can be done by encouraging staff to design, develop and submit applications to funding bodies. Department heads need to ensure that these submissions are aligned with department and government priorities.
- Further investigation is required to understand better the lack of farmer participation. Is it due a lack of faith in, or credibility of, the department? Or is it influenced by other factors? It may be that service delivery is not based on farmer needs. It is important for department staff to work closely with community and industry groups when developing a planning strategy for practical change.
- Most respondents favoured study tours as a way of improving staff capacity within PDA. While it is agreed that study tours are a strong and proven method of bringing ideas back into an organisation, study tours need to be focused and planned to meet specific requirements. Otherwise, they can become little more than a 'holiday' with little professional use and a drain on limited resources. Study tours and other observation learning activities should ideally spin off from planned activities where there is a formalised activity schedule like training, seminars, etc.
- PDA staff needs to be encouraged in keeping up with national and international advances in plant/soil/climate interaction and with efficient, sustainable farming systems. This can be achieved through participation in workshops and seminars and also through an internal program where staff members present what they have learned to other PDA staff.
- There is strong support for training PDA staff to promote farmer associations based on commodity or geographical grouping. ILO has recently conducted training of trainers course in developing associations. There is now an urgent need to identify and implement training packages for farmers on association building.



- A number of respondents did comment that promoting Cambodian products like the recent 'Buy Cambodian Products' fair should be implemented.
- There was limited support for continuing the demonstration farm concept at Touk Vil Agricultural Centre. Further discussions have suggested that, while the PDA staff was reasonably happy to have a demonstration farm, it was perceived as something outside of PDA and therefore the staff does not feel ownership of the resource.
- While it is recognised that Touk Vil has the advantage of proximity to town and facilities, smaller demonstration models can be developed in most districts to showcase new technologies or practices.

This training needs assessment was restricted to only a few senior staff of the Department. The major limitation of this process is that senior staff members tend to be mainly administrators that have limited time in the field. To better analyze training needs of smallholder farmers throughout the 12 districts of Siem Reap Province, it may be better to engage with PDA field staff and community leaders.

# 13

## Emerging Obstacles

December 2005

### Surplus

The rainy season has abated and vegetable production was back on track. Output has increased enormously causing an oversupply in the limited portion of the market where the local products compete. This glut is driving prices down. SVPP, in the meantime, is overwhelmed with farmers bringing their stock and, thus, a lot of resources have been diverted towards marketing.

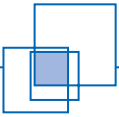
### Advances Made

In the past several months the SVPP has made considerable progress towards achieving its objectives. An operational supply chain has been built which has afforded many participating farmers the opportunity to directly sell their produce. Two new groups in the villages of Preak Dak and Tatrei, Bantaey Srey District, have been established. In addition, 43 farmers from Leang Dei Commune expressed interest in growing vegetables. It is obvious that nearly every farmer surveyed has benefited from SVPP training in real terms through improved household income. The SVPP's agricultural network has expanded as well. We have developed a close relationship to a newly formed NGO, Agriculture Khmer (AGRIKHMER), which has assisted SVPP participants with the marketing and promotion of their produce.

### Competition

These improvements are significant, but the SVPP has a long way to go before participating farmers are fully integrated into the local economy. It is estimated that over 90 percent of the salad purchased by large hotels still comes from outside of Siem Reap and outside the country. SVPP, AGRIKHMER & HURREDO supply only five major hotels out of more than 80 in Siem Reap.

Moreover, the cool season has brought with it an influx of strong, low-priced stock from Vietnam: wholesalers are currently buying lettuce from Vietnam for around US\$1.20/kilogram. It may be that Vietnam, with its higher altitude and better soil, has a comparative advantage over Cambodia. Nevertheless, despite hotel claims to the contrary, price selection has become a major issue in buying. The SVPP is finding it difficult to compete because both local and Vietnamese wholesalers have a supply chain firmly entrenched in the Siem Reap economy. A disconcerting emerging practice is the alleged kickbacks and commissions being paid to hotel purchasing staff by wholesalers importing from Vietnam.



As this network becomes more sophisticated it will become increasingly more difficult for local production to displace foreign supply.

### End-of-Year Market Report

With many agricultural NGOs around the vicinity on the rise, the price and supply of vegetables are fluctuating. Justifiably many local hotels are frustrated that the market has been erratic; some have lost patience with NGO suppliers. This highlights the need for a steady and reliable supply of lettuce all year round or local industry will not be able to reclaim the market from foreign competition. Additionally, it underlines how the SVPP needs to train farmers from the cooler districts to extend the season and balance supply.

In spite of these hurdles, local farmers have managed to establish a small foothold in the market. It is important to note that farmers have become far more market savvy because of the ongoing work of the SVPP. Many farmers are independently coordinating their own marketing with wholesalers who have been buying from areas serviced by the SVPP. If the price is not acceptable, the farmers have the confidence to bring their stock to AGRIKHMER or another wholesaler.



*This Samrong farmer regularly brings his stock by bicycle to sell in town (a distance of 19km)*

Some local farmers have become exceedingly manipulative. While it is evident that some have been hoarding seed given to them during SVPP training, a larger problem being faced is the disloyalty of smallholders who, in exchange for seed, fail to sell their produce back to AGRIKHMER. In this scenario it appears that opportunistic wholesalers buy out the farmer's stock as soon as they harvest their produce—good for the farmers in the short-term, but disastrous for our marketing strategy in the long run as we are left without stock to meet the demands of our loyal clients. We cannot demand that farmers sell to us but we can withhold seed supply if it is discovered that they are sneaking around like this.

All the same, it is important that the SVPP remains carefully selective of stock, as opposed to indiscriminately buying anything the farmers have to offer. Twice this month we refused to purchase stock of shoddy quality that could not be sold to hotels. Obviously this did not please the farmers who felt we had an obligation to purchase their lettuce. Despite our good intentions, we must remember that misguided and compassion-driven purchases create an artificial market that ultimately hurts farmers more than helps them.

# 14

## New Concerns

January 2006

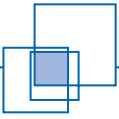
### New Considerations: Market

This month saw a massive oversupply of lettuce during the first three weeks, which was then followed by a shortfall as seed became scarce and distribution became more limited. Currently only ten hotels (out of 80) purchase locally grown vegetables. Research indicates that all others order directly from Vietnam through wholesalers or Vietnamese brokers. The SVPP marketing team sold a total of 1123 kilogram of lettuce in January of which 564 kilogram was purchased from the SVPP farmers with the remaining grown at the demonstration farm. Although this is a decent yield, over 400 kilograms of lettuce were spoiled because of oversupply in the first half of the month. Much of this waste can be attributed to leaf spot disease and adverse storage conditions.

After subtracting costs, a net profit of US\$541 was made by the SVPP from the sale of vegetables for the month of December. Taking into account that the marketing officer, delivery staff and seed are all subsidized by the training budget, the profit in real terms is less than US\$300. Following the similar experience of HURREDO, this figure demonstrates that the Project is not profitable as it stands. While a project as comprehensive as this one takes time, there are several recurring issues that are inhibiting the SVPP from earning a profit.

The unavailability of seed is always a concern. At this point in the Project, the SVPP has managed to produce a wide array of vegetables for sale such as lettuce, tomato, cucumber, cabbage, basil, and eggplant, but obtaining the seeds for these crops on a month-to-month basis has been problematic. Aggravating matters is the complete unavailability of a farmer's market where farmers can come into town and sell their produce. Existing Siem Reap markets are not very conducive to selling produce—they are difficult to navigate and the vendors are aggressive. As such, these markets do not create a positive selling environment for farmers.

Smaller Siem Reap establishments such as restaurateurs and guesthouse operators (another potential target group) could benefit from a farmers' produce market to meet their needs. A farmers market would help farmers build solidarity, make contacts, and exchange ideas. They would also quickly develop a better understanding of the market. There is a clear need for government, donors, local NGOs and enterprising entrepreneurs to discover a solution by developing a farmers' market in Siem Reap.



### New Considerations: Supply

On the supply side, there is an increasing trend of farmers cutting lettuce too small. It might be that farmers are not using enough manure to finish the crop so lettuce takes longer than it should to finish, but what is clear is that farmers get impatient and cut the lettuce prematurely to gain immediate income. The irony here is that lettuce is traded by the kilogram; so the heavier the lettuce, the more profit will be made for the farmer! Regardless, it needs to be made clear to these farmers that hotels do not like their lettuce cut small and that doing so is a wasteful exercise—it misspends seed, labour, time and ultimately money.

It has been continually suggested in collaborative staff meetings that AGRIKHMER enter into a formal contract arrangement with farmers. Such an agreement, it has been proposed, might involve the NGO supplying seed and technical support and then buying produce from farmers at a pre-determined price. However compelling, such a prospect is difficult to achieve for a number of key reasons.

- Many hotels require that their vegetable suppliers provide them with their stock all at once. At present the Vietnamese supply chain can meet this need but local NGOs do not have the capacity.
- Hotels do not pay suppliers on time, and smallholder farmers are often in the position where they require immediate payment. A contract arrangement would be very taxing financially for a small business-oriented NGO like AGRIKHMER or HURREDO.
- Experience has shown that some farmers, even when supplied seed, are tempted to sell their harvest themselves at the local market or to other wholesalers.

In due time—with trust established and better infrastructure in place—contractual farming arrangements between smallholder farmers and local NGOs will become more possible.

# 15

## Making it Work

February 2006

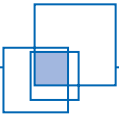
### Seed Shortages

Seed is continuing to be distributed to SVPP farmers for a token price. Imported lettuce seed in particular is expensive and this month the budget prohibited us from supplying all farmers. Consequently we set aside some of the capital costs so that there was no exclusion and the Project could proceed. A large unexpected storm during the middle of the month caused local flooding at Prey Krouch and Krasang and spoiled over 200 kilogram of salad grown in these low lying areas, which was unfortunate. Towards the end of the month it became noticeable that a number of farmers were growing less salad: this is an indication that weather conditions are starting to warm up and local water supplies are diminishing.

### Gathering Enthusiasm

A pilot SVPP training course was conducted at the AGRIKHMER / HURREDO Beekeeping Centre and demonstration farm at Srayang Commune, Koulén District, Preah Vihear Province earlier this month. Ecologically the area is very fertile and could be utilised well in cultivating non-traditional vegetables. The course was well-received by the Commune leaders who praised the ILO and AGRIKHMER for this initiative. It was interesting to note that of the 12 participants attending the training, around 50 percent had recently moved into the Commune from other Provinces. This is further evidence that the Commune is rapidly growing and that more people will be attracted to explore farming opportunities on land that is still reasonably priced.

The market supply chain is developing within the region given a small vegetable shop located in the village where villagers can buy and sell produce. Already there is a steady two-way movement of produce between Siem Reap and Srayang via the taxi trucks operating between the two centers. The demonstration farm has attracted a lot of visitors since operations began a few months ago. It is hoped that the demonstration farm will continue to encourage local farmers to grow vegetables, as the farm is proving that lettuce grows well in Srayang's fertile soil and cooler climate.



*Lettuce grows well at Srayang giving smallholder farmers another option*

### SVPP Closing Stages

It was a major disappointment to learn that ILO funding for the SVPP will end next month. This was not a big budget project and deserved a little longer to cement outcomes. Fly in and fly out projects simply do not have enough time and opportunity to deliver real change on the ground.

The project will train another 26 farmers at Kandaol village, Angkor Thom District, in March and continue to support the farmers previously trained. AGRIKHMER is also now actively seeking a funding agency to continue SVPP.



# 16

## Project Finale

March 2006

### Final Conclusions

This month saw the SVPP draw to a close with the completion of all training activities. While a lot was achieved during the 16 months of operation, the SVPP needed more time to deliver lasting and effective outcomes.

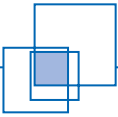
Achievements included the following:

- 136 farmers receiving vegetable production training during the 16 months that the project was supported.
- The demonstration and training farm at Touk Vil Agricultural Centre financially resurrected and successfully operating.
- Seed and nursery materials supplied to all smallholder farmers participating in the Project.
- Farmers proactively marketing their own produce and participating in group marketing initiatives to improve price for produce.
- Provision of an effective, ongoing extension support for smallholder farmers.
- New vegetable seeds field-tested on behalf of plant breeders.
- A functional marketing supply chain developed for participating farmers.
- Direct link to large hotels established to benefit smallholder farmers.
- Sales of produce to hotels and restaurants doubled during the last four months of the project.
- A vegetable farm established at Srayang Commune, Koulén District, Preah Vihear Province.

### Smallholder Vegetable Production Project Impact Assessment

50 farmers were surveyed to assess the impact of the SVPP project. Some of the key points that emerged are listed below:

- More than 50 percent of the farmers participating in the project were rice and vegetable growers prior to joining the project.
- 26 percent of the farmers receiving the SVPP training have changed their primary occupation to vegetable farming since joining the project.
- All farmers interviewed admitted to changing their farming practices since joining the project.



- Most farmers considered that changing their technical practices is the biggest benefit of the project.
- Nearly all farmers considered that they were earning more money since joining the SVPP.
- Greater than 50 percent claimed to be earning US\$10-\$30 a month more.
- The average total earnings of all interviewed farmers was US\$30 a month.
- A majority of those participating in the project grew vegetables for more than six months of the year.
- SVPP assistance, which includes marketing and technical training, were the factors that most farmers liked about joining the SVPP.
- Inadequate seed delivery and lack of marketing assistance were the least liked features of vegetable growing.
- Improving the supply of reliable high quality seed was the most frequent comment about how the project may be improved.
- Lack of water was the most common reason for farmers to stop growing vegetables after training.
- All but one farmer would recommend the SVPP training to other farmers.
- Over half the farmers interviewed considered that the project needed to run for one to two years longer for them to get the full benefits.



# Linking farmers to growing markets: Excerpts from a field officer's journal in Siem Reap, Cambodia

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William J. Dalton

Despite being a major tourist destination, Siem Reap remains the second poorest province in Cambodia. Many of its residents are rural farmers who have yet to achieve food security. Those who are poised to service the market do not have access to profitable opportunities despite the proximity of a vibrant tourist economy. In November 2004, the International Labour Organization (ILO) initiated the Smallholder Vegetable Production Project with the goal of linking farmers to Siem Reap's growing industries. Farmers were oriented in improved agricultural methods so that they could meet local demand at the right quantity, quality and cost. They were also encouraged to market their produce to Siem Reap's hotels, restaurants and local markets.

This journal traces the capacity building process through its 16 months of implementation. It records successes and setbacks while, through it all, emphasising the importance of stimulating local industries amid challenging conditions. This journal illustrates that, progressively and through joint action, decent work is within reach for the rural labour force in Cambodia.

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This is part of a series of papers being published by the Informal Economy, Poverty and Employment Project, implemented by the ILO Subregional Office for East Asia, Bangkok, Thailand. This project is funded by the UK's Department for International Development (DFID).

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**ISBN 92-2-119286-5**  
**978-92-2-119286-2**