



## **A Development Strategy to Empower Rural Farmers and Prevent HIV**

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## **FOREWORD**

Agriculture is the foundation of South East Asian culture and livelihood. The economic globalisation has triggered an increasing exodus of rural farmers into the cities. Rural youth are particularly at risk of abandoning farming to make “quick cash.”

In an effort to mainstream HIV resilience building in the agricultural sector, UNDP South East Asia HIV and Development Project, in collaboration with the Food and Agricultural Organization of the United Nations and the Integrated Pest Management (IPM) programme, has pioneered an experiment called the Farmer Life Schools.

Through the Farmer field schools, IPM farmers have learned to acknowledge plant ecology and interaction using beneficial versus harmful pests. The innovative FLS approach translates farmer’s analytical thinking from plant ecosystem-base into analysing an individual’s life as a human ecosystem – with factors that strengthen or weaken his/her resilience to adversities, which includes HIV.

This report documents the process as it gives input to rural farmers and recommends future refinement in documenting and sharing this innovative approach for HIV resilience building in the South East Asia agriculture sector. It is hoped this model could be used to strengthen South-South collaboration within the agriculture sector and to further strengthen the HIV resilience of farm communities in generations to come.



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## INTRODUCTION

With rural populations representing between 70 and 80 percent of the total population in some South East Asian countries, it is clear that the future of national HIV epidemics will largely be determined through rural-urban linkages and inside rural areas. Because agriculture, in particular rice farming, is still the foundation of the economy in much of the region, it is critical to build HIV resilience at the grassroots level of rural, farm communities to avert potential, explosive HIV epidemics. Building this resilience can be achieved through development strategies if they are designed to reduce the HIV vulnerability in the populations that these strategies are intended to serve<sup>1</sup>. Within such a challenging context, the search for effective strategies ensuring that development results also in HIV prevention is under way.

This is why the UNDP South East Asia HIV and Development Project (UNDP-SEAHIV) initiated a pilot collaboration with Food and Agriculture Organisation of the United Nations (FAO) -Cambodia<sup>2</sup>. The objective was to introduce development in such a way that it would also actively contribute to HIV prevention in Cambodia's rice farming communities. The objective is achieved through initiating a process of farmer empowerment through Farmer Life Schools (FLS.) The goal is that the farmers will effectively protect themselves, their families and communities from HIV infection<sup>3</sup>.

The central idea lies in promoting a *holistic* development strategy, rather than a narrow sector based one e.g. agriculture based. In this holistic development approach, farmers examine their life context and situation instead of just increasing the yields of their rice fields. Without development and due to their constraints, farmers tend to adopt a day to day, hand to mouth crisis management strategy of survival in which there is little room for concern about HIV prevention. However, once farmers understand they can have a *future* and even shape their own future to some extent, investing in the future becomes meaningful. As the farmers' world view evolves and they build future-oriented strategies, preventing HIV, along with other risks that threaten their lives and survival, falls naturally into place.

We will first examine why a holistic development strategy is important in rural Cambodia where resources are scarce. It is useful to have a general idea of the context in which the FLS are established. The second section presents the tools to empower farmers. The third section examines how the empowerment of farmers results in their becoming concerned about *HIV prevention from a holistic development perspective*.

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<sup>1</sup> For a specific discussion on the South East Asian context, see: Jacques du Guerny, James Chamberlain, Lee-Nah Hsu, *From AIDS Epidemics to an AIDS Pandemic: Is an HIV/AIDS Hub Building in South East Asia?* South East Asia HIV and Development Project, August 2000, ISBN: 974-380-172-4.

<http://www.hiv-development.org/publications/EPIDEMICS%20PANDEMIC.asp> For a more general discussion, see: Daphne Topouzis and Jacques du Guerny, *Sustainable Agricultural/Rural Development and Vulnerability to the AIDS Epidemic*, FAO and UNAIDS Joint Publication, UNAIDS Best Practice Collection, December 1999.

<sup>2</sup> *Mobilisation and Empowerment of Rural Communities along the Asian Highway (Route 5) in Cambodia to Reduce HIV Vulnerability - Fact sheet*. UNDP-SEAHIV and FAO-IPM.

<sup>3</sup> This project has been reviewed from an administrative and institutional perspective: *Review Mission of Project: UNDP-FAO Mobilisation and Empowerment of Rural Communities Along the Asian Highway (Route 5) in Cambodia to Reduce HIV Vulnerability*, <http://www.hiv-development.org/publications/review-route5.asp>. The two former papers complement each other.

## **I. A development based strategy against HIV in rural Cambodia: Setting the stage for Farmer Life Schools**

Cambodia has been through very difficult times and still faces formidable challenges. Under such circumstances, farmers have to find, mostly within their own resources, the resolve to face challenges and overcome obstacles.

### ***A turbulent past***

Although the situation is rapidly evolving in Cambodia, its past continues to exert a strong influence. For example, the population pyramid by sex and age representing the 11.5 million enumerated in the 1998 census shows a deficit of adults due to civil strife in the 1970s. There is a noticeable deficit of males among the adult population. One notes also a high proportion of population under age 20 due to the baby boom started in 1980<sup>4</sup>. Heuveline's 1998 estimate of 2.52 million excess deaths from 1970 to 1979 is plausible<sup>5</sup>. In addition to these mortality figures, one should not forget that since the 1940s there have been periods of hardship that resulted in large numbers of displaced people and family destruction.

Decades of varying degrees of conflict have left Cambodia with depleted human, financial and infrastructure resources. As a consequence, Cambodia did not take part in the South East Asia development boom. Besides the poverty indicators of the Ministry of Planning<sup>6</sup>, it is important to note that in 1998, 84 percent of the population was rural. Therefore, any change in HIV prevalence in rural areas has an immediate impact on the national level of HIV prevalence.



Photo: Jacques du Guerny

Under these circumstances, it is a challenge to catch up in social-economic development. For example, there are massive population movements of various natures, e.g. resettlement, seasonal migration and international migration. According to entrenched stereotypes, many people tend to view rural populations as solely sedentary. The 1998 census shows that 26 percent of the rural population are migrants.

Due to rural-urban linkages, over 80 percent of urban residents aged 20 and above are migrants from outside the city. With an increasing number of young people entering the labour market, continuing rural-urban migration and rapid population growth in the urban population are inevitable in view of the large rural-urban gaps reflected in all the development indicators.

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<sup>4</sup> Jerrold Huguet, Aphichat Chamratrithirong, Not Rama Rao and San Sy Than, *Results of the 1998 Population Census in Cambodia*, Asia-Pacific Population Journal, Vol. 15, No. 3, September 2000.

<sup>5</sup> Ibid.

<sup>6</sup> Ministry of Planning, Phnom Penh, *Cambodia Poverty Assessment*, December 1999.

According to the *Cambodia Poverty Assessment* report, rural poverty accounts for nearly 90 percent of total poverty. The incidence of poverty in rural areas is more than three times that of Phnom Penh. Rural poverty is characterised by low incomes, lack of physical and human capital assets and lack of food security. It is estimated that one in five rural inhabitants is unable to secure enough food to meet a nutritional norm of 2100 calories a day<sup>7</sup>.



Photo by: Lee-Nah Hsu

The significant income differences within the rural population are as important as the income difference between rural and urban areas. These income gaps are important factors for the geographical and intra-community spread of HIV. The *Cambodian Poverty Assessment Report* stresses that “raising rural incomes, ensuring food security, and improving access to education and health services need to figure prominently in Cambodia’s efforts to reduce rural poverty.”

The shadows of the past, the present rapid rate of change and the challenges for future development combine to create a situation of considerable vulnerability to HIV diffusion in rural Cambodia.

Development risk factors combined with behavioural risk factors, identified by the 4<sup>th</sup> Behavioural Surveillance Survey (BSS-4) 2000,<sup>8</sup> form a synergy in HIV epidemics. The BSS-4 provides important data on the behaviour of rural males i.e. average rice farmers. For example, 19 percent of rural men had more than one sex partner in the past year and 6 percent had sexual relations with commercial sex workers (CSWs) in the past month. The possible synergy of HIV vulnerability occurring is enhanced by the fact that 26 percent of rural men had engaged in commercial sex while away from home in the past year.

On the other hand, the BSS-4 also shows that 37 percent of rural men know someone with AIDS and that a high percentage of men, especially young men, always use condoms with CSWs. The level of condom use and HIV knowledge, hopefully, will be important in countering the HIV vulnerabilities highlighted. It would be useful if one could obtain similar data on rural women’s behaviour.

### ***Future challenges***

The majority of farmers have limited resources. For example, health providers are often not within easy reach of the rural population. The average distance to nearest commune clinic



Photo by: Jacques du Guerny

<sup>7</sup> Ibid.

<sup>8</sup> National Center for HIV/AIDS, Dermatology and Sexually Transmitted Diseases; 4<sup>th</sup> Behavioural Surveillance Survey 2000; Phnom Penh, Cambodia, 2001.

is 4.8 kilometres, 11.5 kilometres to a private clinic, 9.4 kilometres to a pharmacy or drug vendor. To the nearest doctor, the average distance is 18.7 kilometres<sup>9</sup>. The state of roads, especially during the rainy season, as well as the mode and availability of transport further compounds difficulty accessing necessary health services. If these obstacles can be overcome, there still remains the obstacle of affordable services, which are often beyond the means of the poor. Covering the cost of services can result in the ruin of a family, leading to future survival problems.

Under the present circumstances, one cannot expect rapid changes in availability of services. For example, it requires time to create a large pool of students ready to be trained as health care providers. The size of the rural population and the distance of many villages to service providers makes it a real challenge to reach rural farmers and their families at a point in the HIV epidemic where prevention is exceptionally crucial. Despite such challenges, the potential price to pay by the country and its people for not meeting the challenge of HIV prevention in rural Cambodia today could be disastrous. One already sees such devastation in many African countries. In view of the limited public capacity, rural farmers must find their own solutions within their limited resources.

### *Is there hope?*

Another challenge is that in addition to the obstacles farmers already face, there are other less visible ones. Development requires hope of a better future. Otherwise it is unlikely to mobilise resources, whether human or financial. After years of strife in Cambodia, rural farmers do not have strong confidence in the future. Such confidence needs to be restored. If confidence in the future is a necessary ingredient for successful development, it is also a prerequisite for successful HIV prevention. When assessing other over-riding concerns for day-to-day survival, a distant sickness and death due to AIDS may be an acceptable risk to farmers and their families. For example, according to the Cambodia Poverty Assessment report, the 1997 *per capita* consumption per day in Phnom Penh was more than double that of rural areas. A simple indicator of poverty is the quasi-absence of garbage in villages because everything is being recycled. This ingenious creativity of villagers to maximize limited resources demonstrates the pool of talent available for rural development. It is understandable that when rural populations become aware of such conspicuous differences, they may be tempted to accept high risks in order to attempt to grasp some of the urban material wealth.

Paradoxically, the situation is not hopeless. Farmers need tools and a catalyst to kick-start the process of development of the farm-households and villages and thus create a future for themselves and their families. One such tool and catalyst, Farmer Life Schools, is presented in the following section.

## **II. Farmer Life Schools: An empowering development tool**

For farmers<sup>10</sup> to be motivated to invest in development instead of focusing on day to day survival, they need access to intellectual tools to analyse their situation and find solutions that they can implement by themselves. For this to happen, farmers need an enabling and supportive environment.

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<sup>9</sup> Ministry of Planning, Phnom Penh *Cambodia Poverty Assessment*, December 1999.

<sup>10</sup> The term « farmer » is used here for both male and female farmers, as there are roughly as many men as women attending the Farmer Field Schools and the Farmer Life Schools.

Development strategies should be designed to enable a farmer to integrate these strategies in his/her view of the world. Once they are internalised, farmers can start a process of change under their own control.

### *The farmers' world*

It would be presumptuous to pretend that one could present such a vast and complex subject in a few lines, yet it is essential to highlight certain points:

- The farmer's world is built around agricultural production. This is especially true for rice farming. Rice is not just a crop or a staple. Rice has contributed to shaping civilisations representing half of the world's population. Farmers and their household members are brought up to observe and control all the factors related to production on the farm: rice, vegetables, fruits and animals. Just like investors, farmers diversify their portfolio. Farmers have learned through the ages how to use, circumvent or mitigate the forces they do not control e.g. the use of irrigation techniques to control the irregular supply of water.
- Farmers' power of observation of their fields is well developed. They can spot the first sign of fungus attack, pest invasion or abnormal leaf colours. They know how slight changes in humidity or temperature can reduce the yield. They initiate early interventions on the basis of early warning signals. When they discuss with other farmers about the weather, it is in relation to the timing of planting they developed personally, the need to weed or the threat of pests multiplying. Farmers' knowledge is acquired through experience, practice and guidelines provided by village wisdom, popular sayings and advice from their parents.
- Farmers are essentially entrepreneurs running complex firms in a difficult natural environment. They have to take into account multiple factors ranging from the weather to seed selection to the health of their buffalo. They must juggle as best they can changing rice prices on the market and the interest rates of money lenders. In each of these areas, they must continually assess risks and make decisions based on available information.
- City dwellers often perceive farmers as an amorphous group who are conservative or adverse to change. These views are based on misunderstandings. In reality, small rice farmers constantly take risks by adapting and changing while minimising the effects of miscalculations or bad luck. On one hand, their margins for winning are extremely narrow. The penalty for mistakes can be hunger, sale of assets or loss of land. It is no surprise that farmers must be cautious about their crops and land.
- When outsiders want to introduce changes in agricultural practices or aspects of village life, they often run into resistance. The reason is that farmers do not adopt a change without weighing the potential benefits and trade-offs to their total environment. In addition, farmer's knowledge is empirically based and difficult for outsiders to understand. Farmers perceive these academic disciplines as disjointed fragments of the world surrounding them. This contrasts with formal education, which is based on abstract thinking applied to predetermined classifications by 'development specialists' such as economists or sociologists.

It is critical to recognize, respect and adapt to the farmers' modes of operation. This requires more than communication, packaging or marketing. Farmers must be given control of the change processes. They will then be able and motivated to integrate external inputs, on their own terms, into their world view and environment.

In such a context, how would farmers view HIV/AIDS? More fundamentally, what are the conditions under which HIV becomes significant in a farmer's world view? How can HIV/AIDS be taken into account in the daily decision-making process of the farmer among other competing emergencies?

### ***From plant ecology to human ecology***

#### *(1) The first building block: Rice ecosystem analysis*

To a rice farmer, the world evolves around ensuring the well being of the rice field. Rice is so central to farmers that it shapes their beliefs, culture, calendar and language. In some villages, training has been conducted so farmers adopt a pest management strategy to protect their rice fields from pest attacks without using pesticides. The trainings are conducted in Cambodia through field training. Without going into details on pest management<sup>11</sup>, it is important to stress that the training initiates an empowerment process for the farmers resulting in improved understanding and control over the production process. It sets the foundation to build the farmer's capacity to manage his life and the life of his family.

Sixteen weeks of training corresponds with a full rice crop production season. Farmers (all volunteers) learn to see their rice fields through Agro-EcoSystems Analysis (AESA) (see Figure 1) as an ecological system where various factors, which increase or decrease their rice yield, interact. The farmers convert their rice plots into experimental classrooms. They note how insect populations change, interact (which pests keep other pests under control) and when to take action with certain pests as they become detrimental to crops. Farmers also learn to balance the advantages and weaknesses of biological control versus the costs and effects of using pesticides. Farmers are thus able to conduct experiments involving complex systems.

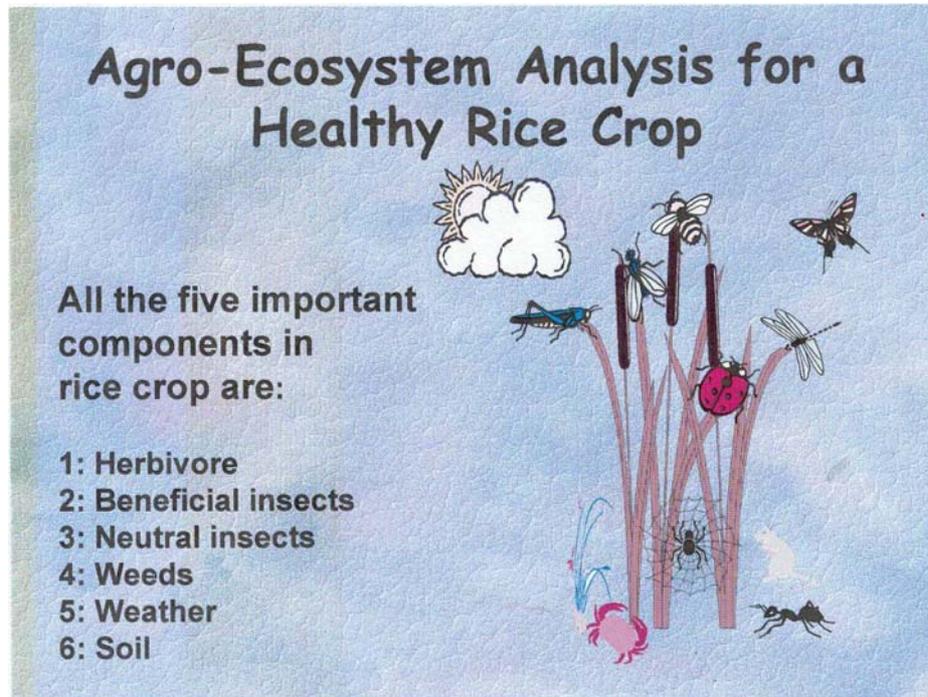
This learning process is possible because of the farmers' existing empirical knowledge. The training helps farmers put various bits and pieces of their knowledge together, to explicitly work through the dynamics involved and analyse the impacts of their interventions. Using AESA, farmers realise that to understand and intervene in crop ecology effectively, they must address the root causes of problems instead of only treating the symptoms. They learn how their management decisions impact rice ecology. Once farmers understand rice ecology, it is not a giant step to use the same critical thinking process and apply it to human ecology i.e. to themselves, their families and villages.

When farmers standardize their existing knowledge in rice ecology, they are rewarded with changes in rice yields and reduced costs of inputs e.g. no pesticides are bought. The positive impact on rice yield is an objective measure of their success. This positive feedback builds their self-confidence, which is empowering. In addition, farmers learn group dynamics, leadership, discussion and presentation techniques. The participating farmers organise themselves into learning groups. Jointly, they test different crop management practices and

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<sup>11</sup> For a complete presentation, one can consult the web site: [www.communityipm.org](http://www.communityipm.org) or write to FAO.

keep records including agro-ecosystem drawings, which is important because many farmers are illiterate.



Farmer Life Schools

*(2) The second building block: Human ecology and the FLS*

UNDP-SEAHIV and FAO, in an attempt to reduce potential HIV impact on rural farmers reached out to the farmers' field training in Cambodia. Initial brainstorming sessions with farmer-trainers (themselves farmers) focussed on how to reach rice farmers while being conscious of not imposing the HIV-associated stigmas of outsiders onto the rural farmers. The discovery-learning process of ecological analysis generates an understanding of ecological concepts and their practical application. Thus the farmers developed the concept of "Farmer Life Schools;" it is *their* terminology.

FLS transposes the crop ecosystem analysis to human behaviour within a human ecology system framework. The rice ecosystem analysis, based on AESA, places the rice plant at the centre of an ecology system, whereas in the human eco-system analysis (HESA), farmers place themselves at the centre of the human ecology system. They then identify and analyse its dynamics through continued questioning of the explanations they provide. Farmers are stimulated to probe deeper and distinguish between symptoms, root causes and various interactions. The HESA process encourages them to think through causal sequences as well as possible interventions to modify undesirable outcomes that can be anticipated.

For example, in a traditional health education approach, a health worker explains the characteristics of the HIV virus, how it is transmitted and the use of condoms to prevent sexual transmission. The problem with such an approach is that the farmer cannot easily relate to such examples and explanations. When a health worker points out that HIV is found in bone marrow, farmers cannot relate the presence of a virus in bone marrow to their daily problems: the model is meaningless to the farmer.



However, through the human ecology approach, farmers see that poor farm management can result in debt, which in turn can generate a crisis for the farm-household. Such financial crisis can cause a daughter to leave and find work in the city. When a rural girl with only skills in agriculture and some elementary education goes to a city to seek employment, she most likely will find employment in the entertainment sector thereby exposing herself to the risk of HIV infection.

***FLS contributes to farmer’s empowerment***

The FLS provides farmers with an expanded analytical tool and an enabling environment through training. The FLS is held in participating farmers’ houses. Farmers learn how to conduct a HESA centred on a farmer himself/herself and his/her household. The farmers interview members of their group and members of their village selected for contrasting situations. For example, a rich farmer versus a poor farmer; a healthy household versus one with sick members; or male versus female headed household. They collect information on health, the farm and household economy, social factors, the environment, education and culture. The farmers thus become aware that these elements are inter-related and that the systems approach learnt in the rice field can be transposed to study their own situation.

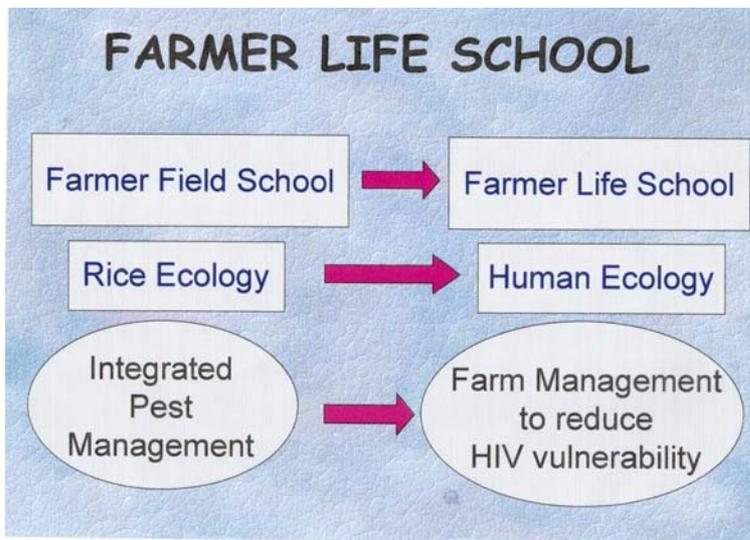


Diagram from Sin Chhitna

Using HESA, they identify not only interactions between key factors influencing their life but also the impact over time. This is particularly important because many farmers are not accustomed to planning over a number of years. Their usual time horizon is largely set by the agricultural calendar and the rice cycle. Adopting a long-term time horizon is the key to making HIV prevention

meaningful. The HESA process explores root causes of problems faced by farmers and encourages them to project future implications of the dynamics at play and the decisions taken that can have repercussions spanning several years. Emphasis is placed on future implications of present decisions, actions or inactions. The farmers then become aware that the quality of decisions made and the possibility of implementing them in order to improve one’s own situation are dependent on the quality and depth of the HESA analysis.

Observations and discussions collected by the farmers are then discussed among participants. The farmer whose case is being reviewed participates in the HESA discussions of his/her case even if he/she is not a trainee of the FLS. The discussions not only focus on problem identification, but also on the strengths of the farmers, their farm-household and options open to them within their own resources. The farmer is thus in a position to consider objectively his/her own situation and make informed decisions based on feasibilities and risks involved.



Photo: Jacques du Guerny

This HESA process becomes a motivating force for the farmer to implement decisions he has chosen to make.

The FLS process promotes constant and open interaction between the farmers involved, and thus leads to creating an informal network of farmers. Farmers continue to meet after the FLS training is concluded to follow up on the decisions taken by individual farmers. Such an informal network corresponds to an informal monitoring system through a peer support group. During such follow-up meetings and discussions, when mistakes made in the options chosen or in their implementation are discovered, the situation is analysed and corrected whenever possible. For example, some farmers decided to raise chickens in order to supplement their rice based income. However, their knowledge was not sufficient and the chickens died.

They then understood that training is required in what appears at first glance a deceptively simple activity. Equipped with such causal insight instead of just giving up after a failure, they might decide to be trained in raising chickens and start over again if they still consider chicken-raising a good option. Sometimes a farmer does not implement the decision he has taken on the basis of HESA analysis. Then the network of farmers analyses the reasons for not implementing the decision and it might be found that the resources required for implementation were underestimated or that the situation has changed. Based on such reviews, alternative solutions can then be explored.

Farmers who benefit from the FLS training are in a position to better consider their own and their children's future. As this analytical tool is being internalised by the farmers, their confidence in their own capacity to improve their lives and invest in the future becomes important for them. An indicator of the impact of the HESA process is the improved capacity of the farmers to express themselves, articulate issues and find their own solutions.

It is important to note that the FLS focuses on individual farmers. It is the trainee's fields, situation and family that are analysed. The farmers' incentive is to discover their own possibilities to change the yields of their fields. When they see they can achieve improved yields, the next step is to improve their own standard of living. The more thoroughly each trainee analyses his or her situation, the more insights they gain, thus stimulating their commitment to self-development processes. Furthermore, as the farmers go through

analytical, decision-making and implementation processes, they become more aware of the value of support networks. Solidarity is perceived as beneficial because all the participants in the network benefit from it, like the rising tide lifting all the boats. In this way, the FLS differs from many community based approaches because it focuses on individual situations and motivations rather than on promoting altruistic contributions to the community for the benefit of all.

The FLS brings benefits to the village situation as a consequence of the sum of individual benefits. Experience shows that FLS trainees quickly realize that their own empowerment process will be facilitated if the rest of the village also improves its situation. This is why the trainees strongly advocate the scaling up of FLS training to the rest of the villagers. For example, a young trainee discovered through HESA that he was really interested in bicycles so he wanted to establish a small repair shop to supplement his farm income. He noted that to make his workshop a success in the long run would require as many villagers as possible with sufficient income to buy bicycles. Consequently he actively encouraged the villagers to improve their income.

In Cambodia, development strategies (*See box on Trainees and Trainers.*) must be individually based because many villages were formed by regrouping people together. There lacks the common past history necessary to form a community. The population census has shown that a large percentage of village inhabitants are resettled refugees, uprooted farmers, etc. Under such conditions, there is no natural solidarity. Often there is even a degree of mistrust between the villagers, reinforced by the trauma of war. It is difficult to develop a community as a whole when there is neither group cohesion nor kinship bonds. The FLS, on the other hand, can contribute to creating or reinforcing community relations through network building.

#### **Trainees and Trainers**

The trainees are volunteer farmers of different ages (However, a majority are younger male and female farmers.) There are an equal number of men and women: a good cross section of the village. The rate of attendance at the training sessions is high showing that the farmers are motivated to attend. The training takes place in the houses of trainees and the atmosphere is informal, but earnest. The case studies are presented by the trainees after they collect the data and prepare the HESA. Both men and women participate equally in the presentations and discussions. During the discussions, questions and answers go back and forth until the participants are satisfied they have really covered the issues. As the trainees reach the end of their knowledge, they call on the trainers who function as facilitators or call on outside expertise if necessary. The trainees are pragmatic. If an issue is important to them, it is open for frank discussions. For example, when they become aware of the threat posed by HIV/AIDS, they are able to discuss it very openly, both men and women, and in very concrete terms.

The trainers are graduates from the Farmer Field Schools (FFS) who volunteer to become trainers. They function as facilitators, keep records and then follow up on topics raised or an action required e.g. bringing an extension agent or a health official to a meeting in order to answer specific questions. They do not receive a salary, only financial compensation to cover their travel expenses to the next FLS. Their reward comes more from the recognition by the villagers and the perfecting of their personal analytical and expression skills. There are an equal number of male and female trainers.

### **III. Building the future: Empowerment, risk management and HIV prevention**

#### ***For a future...***

When farmer's empowerment expands from the rice field to that of the farm-household, the concern for the future becomes important. For example, as FLS farmers become aware of the possibility of their children gaining access to a better future through schooling, the impact of malaria on their children takes on a new meaning: a child with malaria will perform poorly in school. The farmers then become more concerned with malaria prevention and begin to protect their children with mosquito nets.

Farmers' empowerment also indirectly decreases their own and their families' vulnerability to HIV infection. By increasing income levels and financial stability throughout the year they can reduce crisis situations by which desperate measures are taken, such as selling a daughter to pay debts. It is not only the level of income, but also its regularity throughout the year that is important to decrease vulnerability (see Annex). The period before harvest is a vulnerable time because stocks are low and debts are high. Moneylenders usually appear at such time to press for repayments. Human traffickers often follow the lenders to offer help by buying the farmers' daughters or even young children of both sexes.

With empowerment, farmers begin considering possible futures for themselves and their families. They understand that biological pest control is a good strategy to keep the rice plant healthy when grain is forming and maturing, thus maximising the yield. Similarly, they realise that to build a future requires them to remain healthy. Good health is more than a goal in itself, it is also a requirement for increasing production and improving income. It is well known that workers like to look after their tools. The most important tool for the farmer is his strength and ability to work. The maintenance of the farmers' health takes on a new importance when there is a sense of the future.

#### ***...without HIV/AIDS***

As has been discussed, in the human eco-systems framework, health is the result of risk management. It is not a given status or the absence of diseases. The farmers learn how certain patterns of behaviour, e.g. alcohol and accidents and drugs and HIV, and other factors like the quality of drinking water can have health implications. These factors are under the control of the farmers. For example, farmers can improve the cleanliness of rainwater storage equipment by ensuring that these are not breeding-places for mosquitoes. They can buy mosquito nets for their children. The use of HESA analysis stimulates farmers to explore other possible causes of sickness, beyond the obvious immediate ones. For example, not using a condom with sex workers when they travel can make them sick and eventually lead to their death as well as the collapse of their household (e.g. the widow entering into a barter system trading sex for food and goods). They then consider their behaviour when they migrate to the cities during the dry season. Peer pressure often results in them drinking excessively and visiting sex workers. They begin to consider alternatives to seasonal migration. The HESA group discussions identify poverty as a root cause of seasonal migration with a cascade of consequences: search for gainful employment, loneliness, risk of sexually transmitted infections (STIs), HIV and even the risk of simply disappearing and never returning to the village. Some villages are able to develop other sources of income beyond rice farming. For example, palm sugar keeps the men busy in the village during the dry season. The FLS trainees become aware that income-

generating activities during the dry season contribute to protecting the villagers from STIs and HIV. In such villages, the absence of these diseases is noted by the villagers when comparing their situation to that of nearby villages where no alternative income-generating activity during dry season was developed. Migration was considered by the villagers as a major risk factor for HIV infection. In their opinion, creating other sources of income, besides the income from rice, such as cash crops or handicrafts could be an effective HIV prevention strategy.

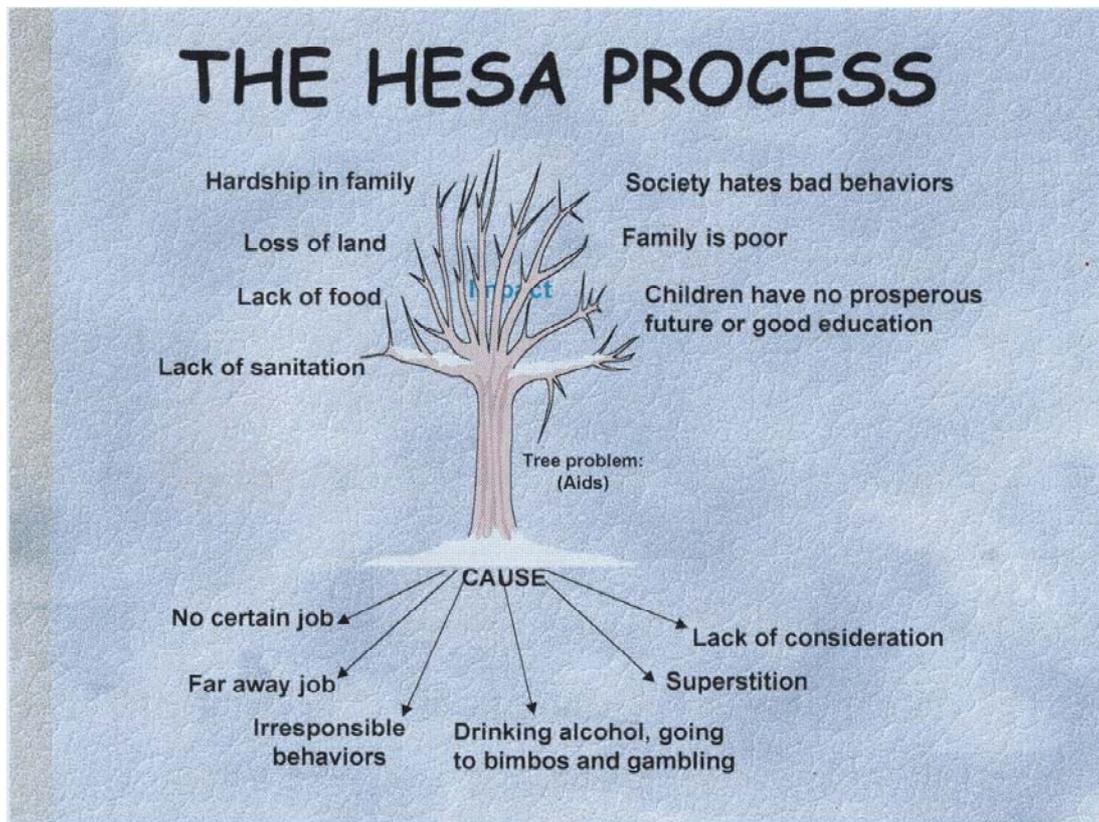


Diagram from Farmer Life Schools

In Cambodia nowadays, rural villagers usually know personally or have heard of cases of AIDS or what is considered to be AIDS, as blood tests for HIV are not carried out. The impact of HIV/AIDS was often stressed by the trainees as a cause of the catastrophic economic consequences for an entire family, not just because it is a deadly disease. For the FLS trainees, HIV/AIDS is a fearsome disease because it destroys the possible future they have just discovered for themselves and their families. In this context, their frame of mind is very receptive to HIV/AIDS preventive education.

HIV/AIDS is not a specific subject in FLS training. However, the trainees, when discussing the HESA case studies often bring up HIV. In a number of cases, the trainees become so concerned about the impact of HIV/AIDS that they request the trainers for information on

HIV prevention. The trainers who are themselves farmers and have little scientific knowledge of HIV, then call on health officials to come to the village and provide information on HIV. The FLS are able to prepare the ground for people to identify that HIV/AIDS is an important threat. The FLS can also generate demand for HIV preventive education, thus creating a supportive environment for HIV/AIDS prevention.

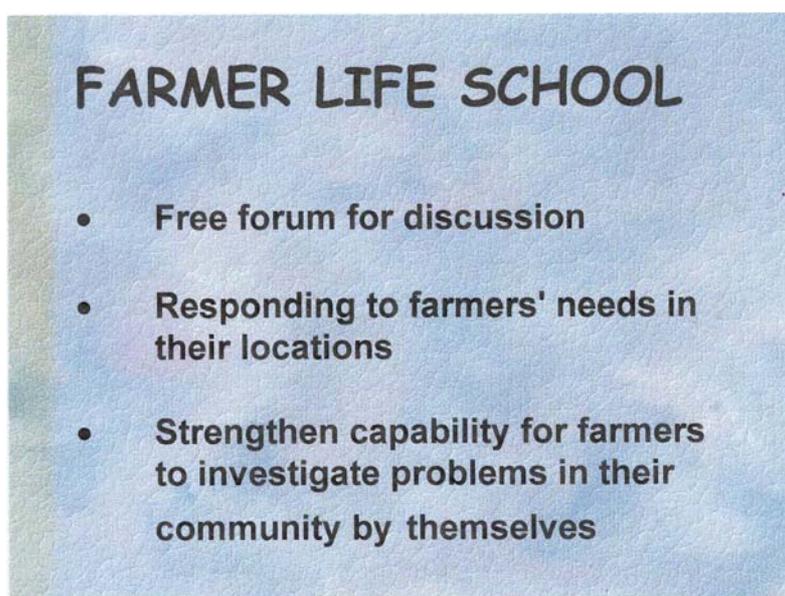
### **Economic consequences of HIV/AIDS: the case of Buo Thou told by a sister**

Thou was only earning 2,700 baht (US\$70) per month in the Army, and what little was saved after food and other living expenses he spent on his social life. He visited brothels until he got sick with AIDS. Thou started his treatment under the supervision of foreign doctors, using foreign medicine. One of our sisters lived close to the clinic, so he lived with her for the first two months of his treatment. The cost to fulfill the necessary prescriptions was 20,000 baht (US\$500) per month. Our family all grouped together to discuss the best ways of covering the cost. It was decided the only way that we could contribute money was to sell some of our possessions. One of our sisters first sold her motorbike, and this covered the first month of treatment. We were actually hopeful that he would only need one month of treatment, but as time went on Thou was getting more and more ill. He needed to continue with the foreign medicine for a total of six months, and this cost our family everything we had. My sisters first sold their houses, and then their land. They were happy to do this for Thou, but they became angry with the doctors and medicine. They saw everything they owned disappear on a treatment that obviously was not helping Thou. Myself, I had nothing to sell. My husband and I had taken some risks with our crops in the past in order to try and make some more profit, but these had not worked out. All I had was a small hut on some rented land, so I felt very bad when I saw the sacrifice my family was making. The only thing I could do was spend as much time as possible with Thou.

-One of Thou's sisters

## **CONCLUSION**

Through the human eco-system analysis (HESA) developed by the Farmer Life Schools, the Cambodian rice farmers are able to situate themselves in a context that is shaped by their own characteristics as well as by outside positive and negative factors. HIV/AIDS is perceived not as an isolated health factor, but as part of a system. The FLS encourages farmers to become aware that they can influence the dynamics of a system and shape their own future. The farmers adopt HESA because they control the process and the outcomes that give it credibility in their eyes. The farmers understand that by addressing the root causes of their vulnerability to HIV/AIDS, such as poverty or poor farm management, they can reduce vulnerabilities. When farmers acquire the capacity to build their future, preventing HIV infection by protecting themselves and their families becomes fully meaningful.

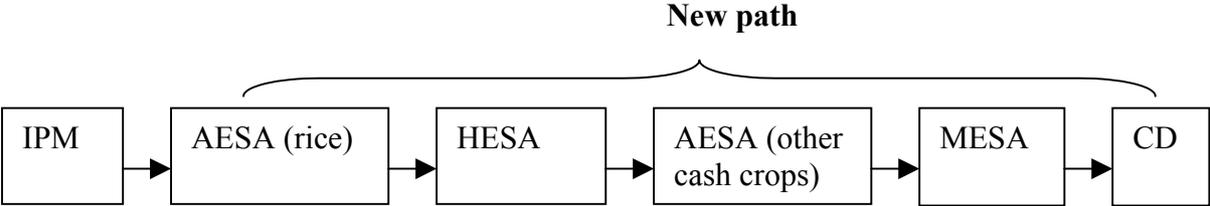


From: Farmer Life Schools

**Annex**

Since the FLS follows up and builds upon the Farmer Field Schools (FFS), both the FLS and FFS influence each other. Their mutual influence provides a production and a farm-household base for community development. The FLS generally brings farmers to realise that in order to break out of poverty they need to introduce cash crops, which are handled through other forms of IPM and specialised FFS and AESA designed for vegetables, cotton, etc. In order to help the farmers participate in the market economy under the best terms possible so that as much as possible of the new value added by cash crops would remain in the farm-household and village rather than be taken by middlemen, one could develop a Marketing Ecosystem Analysis (MESA) on the same pattern as the AESA and the HESA. The villages would then dispose of a coherent process to go beyond subsistence farming which would be under their control and contribute to community development.

**Figure 2. A new path towards community development**



Note: IPM – Integrated Pest Management  
AESA – Agro Ecosystem Analysis;  
HESA – Human Ecosystem Analysis  
MESA – Marketing Ecosystem Analysis  
CD – Community Development



Photo by: Lee-Nah Hsu