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# POVERTY ALLEVIATION IN HIGHLAND AREA: LOCAL COMMUNITY PARTICIPATION APPROACH

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**ABSTRACT:** This paper presents the use of local community participation as a tool for work towards the alleviation of poverty in highland areas. A majority of people living in this area make an effort to reduce own household poverty by expanding cropped area, but resulting in deforestation and requires more chemical fertilizers. It can also result in low health quality, environmental contamination, and high production costs. A pilot project implemented by a Thai royal committee seems to have overcome the physical constraints in the highland area, such as (1) steep slope, and (2) shortage of water, by improving local community participation in projects' operation and maintenance under government support in the form of technical knowledge and initial budget. The application of this methodology is illustrated through the case of Nan province in the northern part of Thailand. The first-year socio-economic assessment indicates that this pilot project provided a system that allows the people in the highland area to improve not only of higher income with less expenditure, but also to preserve the environment in their community. The achievement of sustainable development in this area requires the integration of economic, environmental, and social components by means of an approach which combines local participation with initial government support. This paper summarizes that first-year socio-economic assessment report and salient findings of a field survey of official and community experts.

**KEYWORDS:** poverty alleviation, highland area, local community participation

## 1. INTRODUCTION

Poverty is now a human development crisis. It is declared as one of the Millennium Development Goals (MDGs) originated from the Millennium Declaration, endorsed by 189 world leaders at the UN in September 2000 (UNDP, 2011). United Nation Development Programme (UNDP) states that "Economic growth will not reduce poverty, improve equality and produce jobs unless it is inclusive. Inclusive growth is also essential for the achievement of the Millennium Development Goals (MDGs). The globalization process, when properly

managed, becomes an important ingredient for inclusive growth. In this context, UNDP works to make real improvements in people's lives, opening up their choices and opportunities." The inclusive growth is interested in the topic of poverty alleviation as a cost-effective way to reduce poverty and move toward a more sustainable economy.

Nowadays, the UNDP is trying to reduce poverty by advocating for and raising awareness about the MDGs at the community level. To support sub-national governments, there is a cooperation between UNDP and local governments to formulate,

plan, monitor and implement participatory local development strategies (UNDP, 2011).

Unfortunately, the existing poverty situations in developing countries especially highland areas still had numerous problems, for a number of reasons. For example, there were physical constraints in the highland area, such as (1) steep slope, and (2) shortage of water. Local hilltribe people had an inability in technical knowledge and initial budget. Local community had a low trust in government actions. Poverty reduction cycle took times of effort.

An example of highland area in Nan province located in the northern part of Thailand which is shown in figure 1 was selected to demonstrate the existing problems. Nan province is located in the remote valley of the Nan River, surrounded by high mountains approximately 85 % of total area. By this condition, cropped area in lowland is small comparing with steep-slope area. After a heavy rainfall, there are flood and landslide problems because of a steep condition.

There are not only these natural disasters, but also the social problem from unsuitable shifting cultivation by local hilltribe people. The cycle and cropped area of shifting cultivation are extremely higher than the past because of the globalization and large market demand of hill crops such as corn to support the livestock industry. This causes a huge fertilizer use resulting in a contamination of natural resources such as air and water. Nan province data center states that the toxic in blood of citizen lived in Song Khaw district is 5 times more than a standard. This is the 3 and 4 level of toxic in blood and causes health problems. The economics statistic data shows that approximately 60 % of agricultural product consumption in Nan province is imported from the other provinces and countries. This shows the low

own producing food and means the high expenditure in household (NSO, 2011). In water resources viewpoint, this Nan River, which has a 45 % share of Chao Phraya River, is the main upstream of the water supply system in Thailand (Pidthong, 2011).



Figure 1. Map of Thailand and Nan province

Sources: [http://en.wikipedia.org/wiki/Nan\\_Province](http://en.wikipedia.org/wiki/Nan_Province)

From the previous data, it shows that highland area in Nan province is now a human development crisis. By this reason, Thai royal committee is trying to reduce poverty at the community level of this area by means of an approach which combines local participation with initial government support under the project named “Pid Thong Lang Phra”. The main difference between traditional and this project is a local community participation which becomes a key success factor.

This paper summarizes the local community participation approach under “Pid Thong Lang Phra” project for poverty alleviation in Nan province, provides example applications, and illustrates some project implementations.

## 2. “PID THONG LAND PHRA” PROJECT

The objective of “Pid Thong Lang Phra” project is to implement the idea of His Majesty King Bhumibol Adulyadej, the King of Thailand, to reduce poverty and develop the living standard in the areas with socio-economic problems under a cooperation from central and local government agencies, local communities, and academic institutes. Nan province was the first pilot project for integrated provincial management selected under 5 conditions: 1) local community has a good cooperation; 2) local administration is powerful to implement; 3) there are severe problems inside study area; 4) data is accessible; 5) the area consists of origin of natural resources; and 6) there are possible systematic thinking solutions.

This project started from year 2009 by a kick-off meeting in Nan province. All participants, consisted of 1) heads of communities; 2) local governments; and 3) civil society, had to clarify the real problems and share own opinions to each other. They stated that the clarified problems are 1) land use change to cropped area with deforestation and 2) low living standard in highland communities. All participants including project committees tried to reduce the poverty under sustainable development. A successful project name “Doi Tung” under royal project in Chaing Rai province was set as the target of this project. Experts from “Doi Tung” team will be project advisers in Nan province to develop not only the producing and marketing processes, but also natural resources conservation such as forest.

The expected outcomes of this project are 1) a pilot project of poverty reduction and better living standard; 2) natural resources preservation; 3) higher income without deforestation; and 4) powerful cooperation among local and central government,

civil society, academic institutes, and private sectors. The study area in the first phrase consists of 21 villages in 4 sub-districts of 3 districts in the mountainous area.

This project was implemented from March 2009 in the target areas under 3 river basins. The project staff was employed from the local people especially teenagers including local government side in province and district level. The primary data was surveyed by the local staff that local people did not feel strangeness and had a good cooperation to supply the real data. The data was set into 3 main factors: 1) physical, 2) economics, and 3) social issues. These data will be classified to be input for the approach of sufficiency economy and integrated natural resources management. His Majesty King Bhumibol Adulyadej proposed this approach by using a integration of soil, water, forest, agriculture, and environment into the practical implementation such as, water resources and irrigation system development; reduction of cropped area of corn; promotion of local production to add value of product; funds of seed and livestock; and promotion of market in village and district levels. There are 3 phrases of implementation as follow.

The first phase: there were only 6 villages in Song Khaw and Tha Wag Pha districts in this phase. First, the project staff had to clarify what are the objective and benefit of this project to local people. The most difficult part is that local people have no trust with the government officers. By this reason, there is no cooperation or/and correct data was not accessible. This is the reason why the staff should be the local people. In local areas, they are a small community and each group has closed relationship such as relatives. It is general that they will have same action because of local news sharing. This step took times of communication; however, survey was

more convenient and accurate with trust of local people. Second, the basic household data such as housing income and expenditure, land use, water source, forest, population, economy and needs were surveyed. The objective of the first and second step is trying to increase local participation by advocating for and raising awareness about ownership of natural resources in own community. Next, the project initially supported the basic needs of local people, for example, 1) water pipeline system for household and agriculture uses; 2) promotion of a step-like paddy field; 3) funds of seed, livestock, and fishery; and 4) encouragement of economic forest or commercial forest.

The second phase consisted of 15 villages in Cha Lerm Pha Kiat district. This area is the upper part of Nan river basin. The main problems are 1) severe deforestation in mountainous area and huge land use change to corn cropped area, and 2) conflicts between government actions and social issue of expectation in ghost culture. For example, local people have to ask permission from ghost for a new crop, new type of cultivation, and the other actions. This is the reason why local people did not cooperate with governmental side. In this phase, the staff from the first team will be advisor with experts from outside study area.

The third phase is concentrated in provincial level leading by Nan province. The main objective is local people can live with natural resources with sustainable economic. They can produce income without deforestation but can get more benefit from commercial forest.

### **3. POVERTY IN HIGHLAND AREA**

From the previous topic, the project staff surveyed the data including the problems, needs, and the other

issues. It is shown that, in the present situation, poverty in highland area of Nan province is caused by gradually increasing income with rapidly increasing expenditure. They stated that the problem is not the increasing population because nowadays teenager migrates to the big city to find the job instead of to produce agricultural products in homeland. Only old and young people who do not have a labor skill are living in highland area. The main source of problem is a need of fashion goods such as pickup truck, motorbike, mobile phone, and the other products. This caused much more expenditure than the past. To support this cost, local people try to expand more new cropped area resulting in deforestation and more used fertilizer. These effects to low health quality, environmental conditions, and high production cost.

It is certain that poverty in highland area has negative impacts in economic, social, health, and environment issues. The problem can be classified as follow;

#### **3.1 Economic problems**

The local people have a low income comparing with the income in the lowland. The statistic data of household economic was shown in table 1. Approximately 50 and 30 % of income are produced by working as employee in community and agricultural products, respectively. For expenditures, 40 and 20 % of consumed money are food and fashion goods, respectively (Pidthong, 2011). This data supports the fact of less own housing gardening and farming system. They have to buy food from the lowland area.

#### **3.2 Social problems**

Local people have an inability in technical knowledge based on low education level and initial budget in infrastructure construction from

governmental side. They use only old community technique in agricultural production based on only climate conditions without suitable irrigation system. They also use fertilizer without concerning its toxic or they know the impact from contamination but do not know how to increase crop yield without using chemical fertilizers.

Table1 Annual household account year 2009

Details	US\$
Income	1,760
Expenditure	962
Debt	508
Asset	3,737
Saving	131

Sources: Pidthong, 2011

Note: 1 US\$ = 29.7 THBcurrency exchange at July 27, 2011

### 3.3 Health problems

There is a poor health condition in this area indicated from high level toxic in blood leads to disease. It caused by natural resources contamination such as chemical fertilizer in water, air, and soil. One of the project staff in Nan branch office states that it is dangerous zone while using chemical fertilizers because the mountain will be covered by the fertilizers cloud (Pidthong, 2011).

### 3.4 Environment problems

The project indicated that natural resources such as air, soil, and water are increasingly contaminated by human activity including chemical fertilizer used leads to disease in the previous section.

## 4. POVERTY REDUCTION BY LOCAL COMMUNITY PARTICIPATION APPROACH

From the analysis of poverty in present situation, the poverty in this highland area can be reduced by reducing household expenditure and increasing household income which help to improve economic,

social, health, and environment.

### 4.1 Efforts to increase household income

The “Pid Thong Lang Phra” pilot project proposed the idea of more crop yield with same cropped area; however, it is difficult to achieve under conditions of steep slope and shortage of water. The project overcomes these constraints by a combination of community participation in operation and maintenance with government supports in technical knowledge and initial budget. At the initial step without income, the project encourages local people by options as follow; 1) free agricultural tools, 2) subsidy the food cost during system construction (87 US\$ per hectare), 3) free seed and fertilizer, 4) basic water supply system, and 5) price guarantee system.

### 4.2 Efforts to reduce household expenditure

The actions reducing household expenditure are cooperation between local community and government side. The project advices community how to produce household food and maintain from own household gardening and farming system. On the other hand, government initially support for production resources and technical knowledge.

The best option to reduce poverty in this mountainous area should be a combination of increasing income and reducing expenditure in own household. If household level is productive, the higher levels of community, province, and region or national are also productive.

## 5. LOCAL COMMUNITY PARTICIPATION APPROACH IN WATER RESOURCES MANAGEMENT

The water problem in this area is shortage of water in dry season because of low rainfall and less storage from steep slope. The report indicated that the water capacity in this area is not enough. This is why they

use pipeline system to discharge water from the other sub-basin. The project support the initial cost of construction, for example, HDPE tube and the other equipments but there is no budget for labor. It means that local people have to build it by themselves; however, the specialists and experts design and plan for the construction based on the basis of simplify operation and maintenance. After the initial state, the local people have to operate and maintain the system by themselves.

The system of small-pond grid was implemented in this area. Each pond was designed to distribute water by using only gravity force and managed by the community committee. Some construction sites were located in private area. There is a regulation that land owner can take a benefit from the pond located in their area such as fish farming but the water is community property. They have to share this water by the community regulation. The operation and maintenance cost were community responsibility.

To preserve the forest in the upstream, systems of small check dams were implemented. Local community had to construct it by themselves with the local materials such as bamboo, sand, and the other material. The project supports only the recommended construction site and initial cost without labor support. After the community recognize the benefit of this system, the local staff will construct own system after training from the experts.

## **6. CONCLUSION AND RECOMMENDATION**

The local community participation presented here is a concept that is workable with poverty reduction in highland area such as Nan province. It is a powerful tool for advocating for and raising awareness about the active participation of stakeholders at the

community level, especially in developing countries such as Thailand where budgets are limited. The “Pid Thong Lang Phra” pilot project is an illuminating real world case study, revealing the cooperation between local community and governmental side in poverty reduction project. For experience such as the Nan province case, the local community participation tool not only construct basic infrastructures with subsidy on the initial stage, but can also guide present time managerial judgment in decisions as to whether they will participate and cooperate and how their own household and community system is operated and maintained. Future research should focus on the monitoring system after the initial step of project.

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