## Abstract

This research on "Changes in Highland Communities' Quality of Life" has as its objectives to study changes in quality of life of highland communities within 8 the Highland Research Development Institute (HRDI) operated project areas and to find out factors influencing outcomes of highland communities' quality of life development. The study areas cover HRDI project in 1) Pang Daeng Nai 2) Loong Kod 3) Huay Pao 4) Pa Kluay 5) Pang Hin Fon in Ping Watershed in Chiang Mai province 6) Mae Salong, Kok-Mekong Watershed in Chiang Rai province 7) Khun Satan, Nan Watershed in Nan province and 8) Mae Song, Salawin Watershed in Tak province. A total of 908 households were interviewed using questionnaires comprising 411 households who have participated in HDRI activities, 100 households who have participated in HRDI activities and 397 households who have not participated in HRDI activities. Moreover, in-depth focus groups were also conducted in all sites.

The research used Sustainable Livelihood Framework (SLF) which was modified by OECD (2011) as its conceptual framework guiding data collection and analysis. Well-being was divided into 2 parts: the first covered 8 components including health status, work-life balance, education and skills, social connections, civic engagement and governance, environmental quality, personal security and subjective well-being, the second part dealt with material well-being namely income, employment and food security. The research will find out relationship between social capital and outcomes on quality of life and well-being to determine which factors have influence on the livelihood outcomes.

The research finds out that in terms of physical conditions the study areas have mostly sloping land areas, no irrigation and some areas lack important infrastructure like electricity and telephone or access to market. There are nevertheless good roads in these areas although some areas are quite remote. The households are large in size, have low education and had low access to government extension service until HRDI came to the areas. These communities are mainly agriculturalists and are responsive to new agricultural

technologies and environmental conservation. They readily adopt tree-based crops and integrated farming.

Risk situations in the past 10 years in the 8 project areas reveal that there have been a reduction of risk in the past 5 years and 10 years e.g. output, price, market, drought, floods and pests among those who have participated in HDRI activities as compared to those who have not done so.

In terms of food security, it is found that in many project areas, food security situations are not yet good. Pa Kluay and Mae Song areas have quite high levels of food insecurity. To participate in the project activities has improved situations of food security. Areas which have least problems in food insecurity are Khun Satan and Huay Pao followed by Pang Hin fon and Mae Salong.

The most important reasons which the households reported to be the causes of food insecurity are insufficient income, low yield and lack of water respectively. Short-term strategies to cope with food shortages are borrowing money or food from neighbors or relatives, find wild vegetables, growing own vegetables, raising farm animals and seeking off-farm employment. Long-term strategies include growing more vegetables, raising more farm animals and seeking more off-farm employment.

In terms of sources of food in the last 10 years, it is found that wild food and rice production have been reduced and purchased food has increase. Household economy has been more cash dependent and the need to find cash is increased accordingly.

In terms of income, it is found that there are four main income groups. First group has high income and this is in Khun Satan, Nan province. The second group has medium income and this is in Pang Hin Fon, Huay Pao and Pa Kluay, Chiang Mai province. The third group has low income and this is in Mae Salong, Chiang Rai province, Pang Daeng Nai and Loeng Kod in Chiang Mai province. The fourth group has very low income and this is in Mae Song in Tak Province although the growth in income here has been good in the past 10 years.

The growth rate of average income per household in the past 10 years within the households who have participated in HRDI activities is 10 per cent per annum while for those who have not participated in HRDI activities is 6 per cent per annum. Crop-related income have increased significantly among those who participated in HRDI activities in the last 5 years e.g. in Pang Daeng Nai, Pa Kluay, Pang Hin Fon in Chiang Mai province, Mae Salong in Chiang Rai province and Khun Satan in Nan province. Comparing income and changes in income between those who have participated and have not participated in HDRI activities, the most visible difference among the two groups are seen in Khun Satan, Nan province and Pa Kluay, Chiang Mai province. It can be concluded that HRDI has assisted villagers participated in its activities to have higher income in the past 10 years, having less poverty and more potential to have income to buy food for improved food security.

In terms of quality of life and changes in quality of life, it was found that those households in Loung Kod and Huay Pao, Chiang Mai province have higher total quality of life than the households in other areas although the changes in quality of life in these areas in 10 years have not been large. Among the 8 areas under study, the quality of life of the households has been very good but the changes in the quality of life in 10 years have been the greatest in Mae Song, Tak province. Comparing among those who have participated in HRDI's activities, those who participated and those who have not participated in HRDI's activities, it was found that those who participated in HRDI's activities improved their quality of life. 10 years ago, they had medium level of quality of life and now they have good quality of life. But for those who particily participated or did not participate with HRDI's activities, their quality of life is still in the medium level. The areas whereby the rate of change of quality of life have been visible apart from Mae Song are Pa Kluay and Pang Hin Fon, Chiang Mai province, Mae Salong, Chiang Rai province, and Khun Satan, Nan province. Quality of environment and education and skills are aspects which are more visible in these areas.

Among those who have participated with HRDI's activities, the households in Pang Daeng Nai, Chiang Mai province have lower quality of life than the households in other

areas but still at the comparable level with those Mae Song and still classified in the good level of quality of life. Aspects of quality of life with lower scores are social connections and health status.

In the overall, it was found that environmental quality has been improved, next areas of improvement is education and skills. On the other hand, social connections and health status have been declined comparing with 10 years ago. Nevertheless, for those areas which have a downward trend, the households who have participated in HRDI's activities have had a lower downward trend compared with those who have partially participated or have not participated in HRDI's activities.

This research has an analysis of factors influencing many aspects of livelihood outcomes using econometrics. In terms of income, the factors influencing improved income are found to be maximum education of the household members, size of farm land, household assets and household size. Improved income is remarkable in Pang Daeng Nai, Pa Kluay, Huay Pao and Pan Hin Fon in Chiang Mai province and in Khun Satan, Nan Province,. Factors effecting reduction in income include more than 20 per cent sloping farm land. Factors affecting increased in agricultural income in 2015 were agricultural land, household assets, household size, participation in HRDI's activities. Increased agricultural income was remarkable in Pang Daeng Nai, Pa Kluay, Pang Hin Fon in Chiang Mai province and Khun Satan, Nan province. Participation in HRDI's activities can increase household income about 25,000 baht per household.

In terms of well-being, it is found that factors influencing improved well-being are

In terms of well-being, it is found that factors influencing improved well-being are satisfaction in community, neighbors' quality of life and participation of HRDI activities and access to electricity. It is found that those households in Pa Kluay, Luong Kod, Huay Pao and Pang Hin Fon in Chiang Mai province and Khun Satan, Nan province have remarkable level of well-being. Therefore, what is needed to promote community well-being include community and social development, infrastructural development especially access to electricity. Many study areas are still found to have problems accessing electricity. In terms of food security, factors influencing improved food security are neighbors' quality of

life and diversified cropping. It is also found that the households in Huay Pao and Pang Hin Fon Chiang Mai province and Mae Salong, Chiang Rai province and Khun Satan, Nan province have notably enjoyed high levels of food security. This study has pointed to the importance of social connections and neighbors' quality of life. This can assist households in terms of food security as the community can help each other in terms of food. Moreover, as diversified cropping help increase value of food consumed by the households. HRDI has helped introduce a variety of crops to households enabling them to have more income. Rice and food can then be purchased to increase the households' food security. It was also found that large size of household is a factor to increase food insecurity.

As for the opinion of villagers concerning the importance and relations of the different agencies working in the villages with the villagers, it was found that the villagers saw that HRDI officials as very important to them and that they work closely with the villagers on agricultural extension.

It can be concluded that in the past 10 years, HRDI has been successful in all aspects improving people's quality of life and villagers have appreciated their work which is important to people's livelihood. The success of HRDI is more visiable in the last 5 years when it has institutional strategies and improved organization structure as well as dedicated staff to implement development work in HRDI project areas.