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Burma Food Security Policy Project (FSPP)

QUARTERLY REPORT

JANUARY – MARCH 2016

FOOD SECURITY POLICY PROJECT

Associate Award No. AID-482-LA-14-00003
Under LWA Cooperative Agreement No. AID-OAA-L-13-00001

Submitted by

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March, 2016

USAID FROM THE AMERICAN PEOPLE

CESD

MICHIGAN STATE UNIVERSITY

IFPRI INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

PROJECT OVERVIEW

The USAID Burma Food Security Policy Project (FSPP) was signed September 23, 2014 and began operations immediately. The project is implemented by Michigan State University (MSU). Implementing partners are Myanmar Development Resources Institute – Center for Economic and Social Development (MDRI-CESD) in Burma, the International Food Policy Research Institute (IFPRI), and WorldFish. The overall goal of the Project is to promote inclusive agricultural productivity growth, improved nutritional outcomes, and enhanced livelihood resilience for men and women through an improved policy-enabling environment. Taking a broad view of agriculture, including the farm and off-farm parts of the food system, this goal will be achieved through increased capacity to generate policy-relevant evidence and gender-sensitive analysis that is used by stakeholders throughout the food system to improve policy formulation and implementation. This goal is to be achieved by two integrated objectives:

Objective 1: To address critical evidence gaps for informed policy debate and formulation. The Project will generate, synthesize, and disseminate new knowledge on targeted policy issues for which the current evidence base is insufficient, and thus facilitate and encourage reforms.

Objective 2: To foster credible, inclusive, transparent, and sustainable policy processes in Burma. The Project will strengthen the building blocks for Burmese national and state/region policy systems, promote inclusion of and dialogue among all stakeholders around critical policy issues, and disseminate globally sourced examples of successful innovation and best practice in policy system capacity building.

The project is comprised of an integrated set of four components that feed into these two objectives:

Component 1: Policy/strategy advising. This component is responsible for consulting with stakeholders and getting a sense of policy issues, doing outreach from research results to policy audiences, and conducting policy analysis;

Component 2: Agrifood value chains (AFVCs). This component is responsible learning about AFVCs and the specific issues faced by each one in terms of the field research and analysis, outreach of the study results, policy advising from the results, and capacity building for doing similar work;

Component 3: Household and communities livelihoods. This has the same set of responsibilities as the second component, but for its study area; and

Component 4: Capacity and network building. This component funnels, cross-fertilizes, documents, and organizes the capacity building actions of the other three components. This is so other institutions interface with the project in a continuous way and builds to a body of imparted method and approach.

This report provides a summary of activities conducted by FSPP during its Sixth quarter of operation from January-March 2015, including activity development and progress achieved during the period. This summary is organized with reference to the four project components.

INTRODUCTION

This quarter saw implementation of activities including: analysis and write up of data from the Mon State Rural Household Survey (MSRHS); the design, pretest, and translation of a questionnaire for a major new household and producer survey on aquaculture, agriculture and agricultural mechanization, to be implemented in Ayeyarwaddy and Yangon from April onwards; recruitment and training of new 48 enumerators and data entry operators for the survey; roll out of a survey on the 'economics of hope' in Mon State; participation in and contributions to a variety of policy fora, including the USAID supported agriculture white paper coordinated by Nathan Associates; and dissemination of findings from the aquaculture value chain rapid reconnaissance study

COMPONENT 1. POLICY/STRATEGY ADVISING

Findings from aquaculture value chain rapid reconnaissance activities (released as a policy brief and full length report in the previous Quarter), were presented by CESD and MSU researchers to an audience of 54 development partners, private sector, civil society and government representatives during a half day seminar held at the Sedona Hotel, Yangon on the morning of January 28. The findings were well received and stimulated engaged discussion on a range of related topics. Findings from the workshop were featured in several national and international media outlets, including the English Language dailies, Myanmar Times and New Light of Myanmar and the seafood industry websites, IntraFish and Fish Farming International. Links to the Myanmar Times and Intrafish articles are provided here: Report highlights Myanmar's aquaculture potential. (Myanmar Times. Friday, 29 January 2016); Myanmar: Aquaculture's next big frontier? (Intrafish, Published: 02-08-2016). The workshop agenda and links to presentations are provided in Annex 1.

Duncan Boughton and Ben Belton contributed to development of a USAID supported white paper on agriculture, led by Nathan Associates and the National Economic and Social Advisory Committee (NESAC), through attendance at workshops on January 7 and March 9. Duncan Boughton made policy presentations on the role of agriculture and rural economic development at a number of fora, including the following:

- Accelerating the Growth and Development of the Vegetable Sector in Myanmar: Principles for Success. Duncan Boughton. Second National Vegetable Sector Round Table. Naypyitaw. March 3, 2016.
- Transformation of the Rural Economy in Myanmar: The Essential Role of Agricultural Public Expenditure. Duncan Boughton. Presentation Notes. Agriculture and Rural Development Sector Working Group. Yangon. February 16, 2016.
- Briefing Note for Agriculture and Rural Development Sector Working Group Agricultural Public Expenditures in Myanmar. February 16, 2016.
- The Essential Role of Agriculture in Myanmar's Economic Transition. Duncan Boughton, Aung Hein, and Ben Belton. Workshop on Least Developed Country Graduation | Technical Considerations and Policy Options. Ministry of National Planning and Economic Development. Nay Pyi Taw, January 20, 2016.

COMPONENT 2. AGRIFOOD VALUE CHAINS

Fish, Paddy, Pulses and Agricultural Inputs Value Chains

Preparations for the next round of in depth study on aquaculture, agriculture, and mechanization accelerated during this Quarter. January was devoted primarily to the development and translation into Burmese of a survey instrument. The questionnaire underwent intensive pre-testing, revision, and retranslation during February, during which the research team spent three alternate days in the field each week, pretesting the questionnaire, with revisions and updated translation completed in the days between visits. The survey instrument was finalized in early March. Also in early March, 48 enumerators and data entry operators and five reserves were selected by exam and interview from a pool of 220 applicants identified with support from the Myanmar Fisheries Federation. Selected individuals received a 2.5-week residential training from CESD researchers in Thanlyin, Yangon on the principles and practice of enumeration and data entry. Enumerators began listing households in selected EAs in the final week of March to provide a sample frame from which to draw households for interview. Details of the survey are outlined below:

Sample Design: 1,200 households are to be surveyed. These will be comprise representative sample of the population of 40 village tracts in 4 townships of Ayeyarwady (Maubin, Nyaungdon) and Yangon (Twantay, Kayan), including both farm and non-farm households. These four townships have the highest concentrations of aquaculture in Myanmar. Within these townships the 25 village tracts with highest densities of fishponds were selected using GIS analysis. The selected village tracts cover about 50% of the country's total pond area. Another 15 village tracts with little or no aquaculture (mainly paddy/pulses) were selected from a list prepared with the support from township levels staff of the General Administrative Department. Selection of village tracts in which livelihoods are dominated by either aquaculture of agriculture was designed to allow for comparison of the impacts of these activities on the respective rural economies of the two areas. Two enumeration areas (EAs) were selected randomly from each village tract, from a list prepared by the census office (total 80 EAs). A census (listing) of the population of all 80 EAs was conducted. Fifteen households were selected for interview from each EA, using this listing. A summary of findings from the listing of the aquaculture cluster EAs is included as Annex 2.

Survey Instrument: The survey instrument consists of 4 parts:

Part 1 (Household) – to be administered to every household selected
Part 2A (Agriculture) – to be administered to households who farm paddy or pulses
Part 2B (Aquaculture) – to be administered to households who farm fish
Community questionnaire – to be administered to a focus group of knowledgeable community members in every EA.

Data Collected Will Be Used to Generate:

1) Detailed 'benchmark' information on aquaculture and agriculture, for example:
    - Farm size distribution
    - Farm enterprise profitability
    - Household incomes
    - Farm productivity (yields of different crops)

- Production technologies (farming methods)
- Access to and utilization of credit
- Tenure conditions under which land used for aquaculture & agriculture is accessed
- Employment generation (extent and characteristics)
- Labor migration to and from rural areas

2) The scale of impact of aquaculture and agriculture on the rural economy (economic and employment "multipliers" – size of economic and employment spillovers generated by businesses in the value chain that support aquaculture or agriculture, and size of multipliers associated with larger and smaller commercial fish farms)
3) Trends in number and types of different businesses in aquaculture and agriculture value chains over time, and shifts in wages, prices, labor migration etc.
4) Characteristics, extent and patterns of change in use of agricultural machinery

This survey will be augmented later in the year by a smaller survey of up- and downstream aquaculture value chain actors. Collection of data on agricultural mechanization has been planned and designed to complement scoping research on mechanization and agricultural inputs value chains that will begin in April.

COMPONENT 3. HOUSEHOLD AND COMMUNITIES LIVELIHOODS

Major activities completed under this component during this quarter related to analysis and write up of the Mon State Rural Household Survey (MSRHS), and rollout of a survey in Mon State in the economics of hope.

During this period the research team at IFPRI took the lead in completing analysis and drafting the final technical report, with regular correspondence with researchers from MSU and CESD. The IFPRI team (Dr. Paul Dorosh, Dr. Mateusz Filipski, Ulrike Nischan (research analyst) and Joanna van Asselt (senior research assistant) visited Mon State during the final two weeks of March in order to work with the CESD research team to validate survey results through focus groups, and gather additional contextual data to complement household survey data, and support the development of a Mon State Rural Development Strategy during Quarter 3. As of the end of Quarter 2, analysis was of the MSRHS dataset was complete and the technical report had almost been finalized. An advanced draft of the Executive Summary of the Mon State Rural Livelihoods Survey report is included as Annex 3.

Also in Mon State, February saw extensive pretesting of the economics of economics of hope survey. This was administered in March to a sub-sample of 600 households surveyed previously under MSRHS. Twenty-four enumerators who had worked under MSRHS were recruited and trained. Data collection was completed by mid-March. Enumerators reported that aspirations and confidence in achieving them were generally higher for compared to poorer, wealthier compared to poorer, and influenced by degree of exposure beyond village life. Although the enumerators were approximately balanced in gender composition, and most had a college education, few female enumerators had set goals for themselves compared to male enumerators. In discussion they felt that the concept of goal setting needs to be introduced into education at an early age but is not explicitly addressed at present.

COMPONENT 4. CAPACITY AND NETWORK BUILDING

Ben Belton gave a presentation summarizing the aquaculture value chain study's findings, titled "Overview of Food Security Policy Project research on Myanmar's aquaculture value chain" at the opening workshop of the LIFT funded MYCulture project in Nay Pyi Taw, February 16.
CESD staff engaged in the Mon State survey analysis received on the job training in data analysis and report writing.

OTHER ISSUES

Management and Personnel Changes: No changes in project management or personnel occurred during this period. A priority for the upcoming quarter is to identify a pathway for registration for MSU.
CESD has established an identity distinct from MDRI after one of the three MDRI centers established a political party.

Deliverables Completed: The project made good progress toward meeting its deliverables during this quarter. Activities for all surveys were rolled out approximately two weeks later than schedule planned in September 2015, but in line with a revised schedule agreed upon internally in January 2016.

Priorities for Programming during the Next Reporting Period

Component 1. Policy/strategy Advising: Priorities during the next reporting period will include additional contributions to the USAID supported white paper on agriculture, responses to the advisory needs of the incoming government as required, and policy outreach to disseminate recommendations from the Mon Rural Development Strategy.

Component 2. Agrifood Value Chains: Priorities will be timely completion of data collection and entry for the aquaculture-agriculture-inputs survey, completion of data cleaning and preliminary analyses of the dataset, write up of initial scoping findings on agricultural mechanization, and development of a framework for more comprehensive scooping activities on agricultural input value chains.

Component 3. Household and Communities Livelihoods: The MSRHS technical report and policy briefs will be finalized, and analysis of data from the economics of hope survey will begin.

Component 4. Capacity and Network Building: Networking and capacity building activities with the incoming government will be intensified to support the new administration in implementing effective agricultural policy.

ANNEX 1

AQUACULTURE IN TRANSITION: VALUE CHAIN TRANSFORMATION, FISH AND FOOD SECURITY IN MYANMAR

Thursday, 28 January 2016, Sedona Hotel, Yangon

8:30-9:00 am	**Registration**
9:00-9:15 a.m.	**Welcome Remarks** Dr. Zaw Oo, Executive Director, Centre for Economic and Social Development
	Session 1: Current structure and performance of the aquaculture value chain in Myanmar
9:15-9.40:00 a.m.	**Presentation 1: "The status of aquaculture in Myanmar: A review of existing data"** Presenter: U Kyan Htoo, Research Associate, Centre for Economic and Social Development (CESD) English version. Myanmar version.
9:40-10:10 a.m.	**Presentation 2: "The structure and performance of aquaculture value chains in Myanmar"** Presenter: Dr. Ben Belton, Assistant Professor, Michigan State University English version. Myanmar version.
10:10-10:40 a.m.	**Question & Answer Session**
10:40-11:10 a.m.	**Tea Break**
	Session 2: Policy options for improved value chain performance
11:10-11:40 a.m.	**Presentation 3: "Policy options for inclusive aquaculture growth"** Presenter: U Aung Hein, Research Associate, Centre for Economic and Social Development (CESD) English version. Myanmar version
11:40-12:20 pm.	**Policy discussion**
12:20-12:30 a.m.	**Concluding Remarks**

ANNEX 2

SUMMARY NOTE ON FINDINGS FROM AQUACULTURE PRE-SURVEY CENSUS

Prior to implementing the aquaculture-agriculture survey, we conducted a census (listing) of all households in the 49 enumeration areas (EAs) selected for having high concentrations of aquaculture. A further 30 EAs with low concentrations of paddy-based agriculture will also be surveyed, but listing data for these EAs will be collected for these during the survey rollout period. The listing data is used as a sample frame from which to select households to complete the survey questionnaire. The listing questionnaire also asked all households in the sample EAs whether they operated a pond, whether they operated any land used for paddy cultivation and, if so, how large the landholding was. The listing thus provides some preliminary indicative data on landholdings and land use in the sample EAs. Key results are summarized below.

The 49 sample EAs are located across two townships in Yangon (Kayan and Twantay), and two townships in Ayeyarwady (Maubin and Nyaungdon). A total of 7,318 households were listed across the 49 EAs. The number and share of households with ponds, paddy land, both paddy land and ponds, and no paddy or ponds are presented in Table 1. Just over 11% of households in the sample EAs operated a pond, and close to 18% farmed paddy. Seventy three percent of households did not practice aquaculture or cultivate paddy. These shares were fairly consistent across all four townships. Although the listing questionnaire did not ask about the operation of agricultural land other than paddy (e.g. orchards), results point to very high levels of landlessness in the sample EAs.

Table 1. Number and Share of Households by Type of Land Operated

Land type	No. of households	Share of households (%)
Ponds	656	9.0
Paddy	1,126	15.4
Ponds & paddy	163	2.2
No ponds or paddy	5,373	73.4
Total	7,318	100

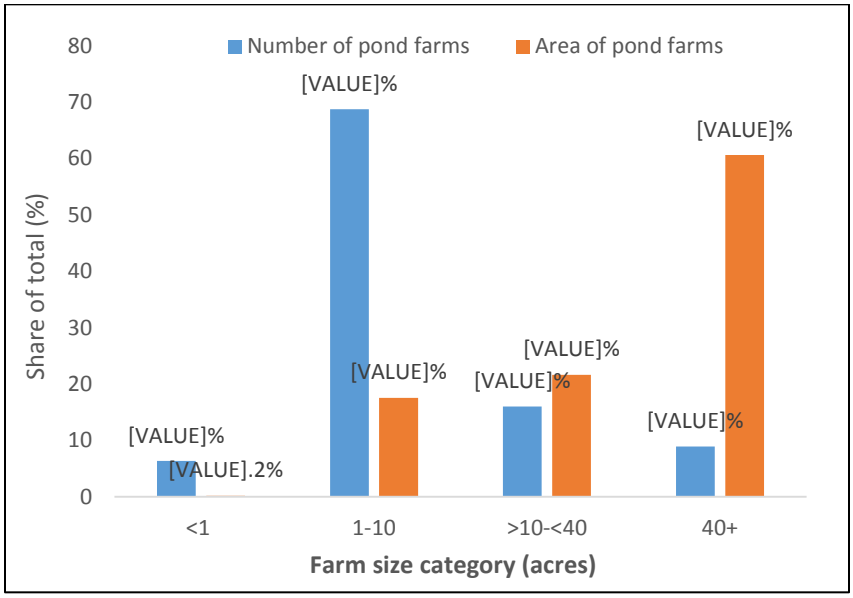
Among households practicing aquaculture, the mean operated area of ponds was 14.4 acres, with a maximum farm size of 600 acres. The mean area of paddy farms was 6.7 acres, with a maximum farm size of 135 acres. However, the median size of paddy and pond farms was similar, at around four acres (Table 2). These preliminary results indicate that small and medium sized fish farms are more numerous than is generally recognized. One explanation for the low average size of fish farms reported is that the listing did not distinguish between nurseries (which are typically very small operations), and growout farms in which fish are raised to marketable size, and which are typically larger than nurseries. Never the less, the results are striking and support observations made during the scoping phase of the research.

Table 2. Mean, Medium and Maximum Aquaculture and Paddy Farm Area

Farm type	Mean area (acres)	Median area (acres)	Maximum area (acres)
Aquaculture	14.4	4.0	600
Paddy	6.7	4.5	135

Figure 1 breaks down aquaculture farms into four size categories. Three quarters of aquaculture farms are less than 10 acres in size, but together they account for just 18% of pond area. Nine percent of farms are 40 acres or more in size, but they account for 61% of total pond area. Just 2% of fish farms are sized 100 acres or above, but account for 32% of total pond area. Thus, although small farms are common, large farms account for the major share of pond area and, presumably, production. The distribution of land in paddy farming is more even than in aquaculture, with 87% of farms sized 10 acres or below (of which most are between 1 and 5 acres) accounting for 57% of total farm area, and 4% of farms sized more than 20 acres accounting for 21% of total farm area.

Figure 1. Share of Pond Farm Numbers and Area, by Farm Size Category



ANNEX 3

MON STATE RURAL LIVELIHOODS STUDY - EXECUTIVE SUMMARY

The purpose of this report is to provide information and analysis to government, civil society, and donors interested in improving the wellbeing of the rural population of Mon State. Specifically, the report analyzes the different sources of income for rural households, as well as their socio-economic characteristics, with a view to identifying potential pathways to improving incomes, especially for poor households, and stimulating inclusive rural growth. The overall picture that emerges is one of an economy heavily dependent on services for local employment, and on international migration for income. Like a two-legged stool, the economy is potentially unstable in the face of external shocks. Diversification of the Mon State economy, including diversification and increased productivity within the agricultural sector, will lessen the relative dependence on external migration remittances and result in more resilient growth in the future.

The analysis presented in this report is based on a sample of 1632 rural households. The sample households were selected from village communities identified by rural Enumerations Areas (EAs) in the 2014 population census. All potential EAs were first stratified according to the primary agricultural activity (rice, rubber, orchard, or marine fishing). A total of 140 EAs (just over 6% of the sampling frame of rural EAs) were randomly selected, 35 from each of the four strata. For each selected EA, 12 households were randomly selected based on a household listing. The sample is designed to be representative of rural households for Mon State as a whole, as well as the major agricultural activities that rural households engage in.

The household questionnaire collected demographic information (including education level) on all household members, on farm and non-farm income generating activities, migration, assets (including land), credit, consumption and shocks. A community survey was also administered in public areas to a group of up to 6 prominent village figures, such as religious leaders, youth group or women's group representatives, etc. The community questionnaire focused principally on village-wide infrastructure (roads, electricity, waterways, etc.) and the availability of services (banking, schooling, etc.).

In terms of livelihood strategies for rural households, remittances from migrant family members, farm and non-farm enterprises, and wage labor are the largest sources of income. Wealthier households have more diversified and more remunerative income sources, emphasizing remittances, agricultural production, non-farm enterprises, and fishing. Although non-farm enterprises are an important source of earnings at all income levels, poorer households are more likely to depend primarily on income from wage labor.

Almost half of households in the sample had a member in Thailand, where wages are almost three times as high as in Mon State. Offering ample opportunities for unskilled laborers, migration is a common choice for working-age household members of both genders. Remittances sent by family members abroad generate almost a quarter of all income in our sample, at all levels of the income distribution. The earnings of migrants contribute significantly to consumption and asset accumulation, in particular land purchases and house construction. While migration help bolster the Mon State economy, the absence of workers is being felt acutely in Mon State, where rising **costs of labor** are jeopardizing profitability in labor-intensive sectors such as rice or rubber.

Small-scale capture fisheries support the livelihoods of 34% of citizens living in Mon State's coastal zone. Many of these people are asset poor, landless and have few other livelihood alternatives. The contribution of small-scale coastal fisheries to the Mon state economy is similar to that of rice or rubber, but they receive little recognition or attention. The capacity of coastal fisheries to support fisheries-based livelihoods and make a significant contribution to the state economy is under threat from limited management that has led to over-exploitation of fish stocks. Sustaining and increasing the contribution of coastal fisheries to the economy, livelihoods and food security in Mon State will require enacting decentralized fisheries governance frameworks at the state level to enable effective co-management of the fishery in partnership with the communities dependent upon it.

Agriculture is an important component of rural livelihoods but agriculture is not fulfilling its potential. Half of all households engage in agriculture and one in five earns wages from agriculture. Households engaging in agriculture earn about half their income from farming and half from non-farm income sources. Rice and rubber are the most common agricultural enterprises (39% and 36% respectively), followed by betel leaf, roselle, and green gram. Livestock rearing is practiced by 40% of households, usually on a small scale with just one type of animal. Labor scarcity and cost is a major constraint to profitability given low productivity.

The primary reasons for the low performance of paddy and annual crops are: a) the small percentage of area cultivated in the winter season under irrigation (only 1 out of 8 acres is cultivated in the winter season, and only 3% of rice farmers practice double cropping); b) limited use of improved technologies; and c) pre-harvest losses due to flooding and pests.

The area planted to rubber has increased rapidly in recent years, and the majority of trees have yet to reach productive age. Mature trees are harvested with average yields of 900 pounds per acre, compared to over 1,400 pounds per acre in Thailand and over 1,500 pounds in Viet Nam. Underuse of fertilizer, unimproved varieties, and inadequately skilled labor contribute to low yields. The profitability of rubber is further undermined due to low prices associated with poor quality (high level of impurities and moisture) and inefficient marketing channels (multiple handlers). The potential for improvement is demonstrated by the top 20% of rubber income earners who achieve average yields of almost 1,700 pounds per acre and three times the profit per acre of the average rubber farmer.

Access to land is a major constraint to livelihood strategies. Three out of every five households have no access to agricultural land, and hence are much more dependent on wage labor for their income. Even among those who do have access to land, the distribution is very unequal. The top 20% of households own 56% of the agricultural land compared to just 2% for the bottom 20% of households. Only slightly more than one third of households owning agricultural land had an official land title document. One result of unequal land distribution is that a high proportion of farmers, 43% in the case of rice, hire permanent workers (or sharecroppers in the case of rubber). This does provide local employment opportunities, as most permanent workers are from Mon state.

Low use of improved technology is a constraint to the performance of agriculture. Lack of access to irrigation for winter season production limits agricultural activity largely to the monsoon season. Median paddy yields are only 50 baskets (just over one ton) per acre. Despite labor shortages, only one in four paddy growing households own a power tiller or a tractor. Even though rental markets allow almost 60% of paddy farmers to use mechanized land preparation there is considerable scope

to increase access to mechanization for timely operations. Reflecting the predominance of monsoon paddy cultivation, the most popular rice varieties are traditional long-stemmed varieties that are resistant to flooding and fetch a high market price. Fertilizer use is low and chemical-based weed and pest management negligible. Improvements in crop management could greatly increase productivity and profitability. The top 20% of rice growers in terms of profitability have yields double the average rice farmer but with similar levels of costs per acre.

Limited diversification of agricultural production also constrains the contribution of agriculture to household incomes. Mon State is suitable for a wide variety of horticultural production (vegetables and fruit trees) yet only one in five agricultural households practice them. For those that do, incomes per acre are much higher than for paddy or rubber.

Limited commercialization of agricultural products is both a reflection of, and a contributing factor to, low productivity at the farm level. Only half of paddy farmers achieve a marketable surplus, and those who do sell shortly after harvest. A much higher proportion of other annual crops are sold. Most rubber is destined for low quality use with multiple handling between farm and processor rather than coordinated supply chain management for high quality manufacturing.

In conclusion **agriculture, along with other non-farm sectors, could make much larger contributions to rural incomes in Mon State in the future than they do today**. If this potential can be realized it will diversify the sources of income for the state economy, providing expanded income sources for families without migrants, as well as resident members of migrant's families. Diversification of Mon State's agriculture requires expanded access to irrigation for more diversified, high-value production, as well as increases in the productivity and quality of its traditional food staple and cash crops (paddy and rubber). Improved access to and quality of market-oriented farm advisory services, initially publicly financed, is a necessary investment to support this transformation.

However, diversification into high value activities needs to occur in the non-farm sector as well as in agriculture. Besides improved energy and road infrastructure, for Mon State to create higher wage employment in the off-farm sector the current low levels of educational achievement need to improve dramatically. Among five dimensions of well-being (food consumption, housing, clothing, health care, and education) households were least satisfied with the adequacy of education. Because improvements in education take time and will come too late for many school leavers over the coming decade, attention should also be given to literacy and vocational skills training opportunities, such as rubber tapping, construction, carpentry, and mechanical and electrical repair.

International migration, especially to Thailand, will continue to be an important source of income (directly and through consumption linkages) for many years, quite possibly decades, to come. Efforts should be made to improve migrant safety and welfare through insurance, language training, and education on Thai law and worker rights.