

FOOD SECURITY POLICY PROJECT

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

QUARTERLY REPORT: JANUARY-MARCH 2015

Submitted by

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Project Overview

The USAID Burma Food Security Policy Project (FSPP) was signed September 23 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.

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 first quarter of operation from October-December 2014, including activity development and progress achieved during the period. This summary is organized with reference to the four project components.

Introduction

This Quarter saw a major restructuring and realignment of the project based on the outcome of intensive planning meetings held with all partners in early January. The project is now oriented more directly toward providing policy ready research outputs during 2015/16 which can leverage greater impact in a shorter space of time than the previously proposed program of work. In addition to existing commitments to generate an in depth evidence base on fish value chains and provide reconnaissance of other agricultural value chains, the project will now work to produce a rural development strategy for Mon State, based on a structured statewide household survey of the rural economy and livelihoods, and related studies of key agricultural value chains in the State. This work will feed into the development of a larger policy framework for agricultural sector reforms at the national level. The activities reported below reflect this new orientation.

Component 1: Policy/strategy advising.

As noted in the introduction, this Quarter saw a major realignment of project priorities to make them more responsive to dynamic political realities and associated information needs. This effort began with a week-long intensive planning exercise which continued for most of January, involving senior and mid-level staff from MSU, MDRI and IFPRI. This effort culminated in the submission of a revised work plan to USAID, and its acceptance (Annex 1). The work plan focusses on the production of policy engagement tools at national and state levels. At state level, FSPP will develop a rural development strategy for Mon State (Mon State RDS) based on a detailed understanding of rural livelihoods, their linkages to key commodity value chains and urban centers, and linkages between Mon State and the national and neighboring country economies. The purpose of the Mon State RDS will be threefold- to identify: 1) opportunities for improving rural livelihoods (increased incomes and improved resilience) through accelerated agricultural and rural economic growth; 2) the constraint set (policies, institutions, infrastructure, technology, finance) that currently hold back growth; 3) specific actions (policy reforms, public and private investments, institutional innovations) that can relax or resolve identified constraints. The proposed rural development strategy is designed to be an engagement tool to inform and bring together different groups of actors

with an important stake in the growth of the rural economy: State and local government officials, private sector representatives and business associations, civil society and donor organizations. The outcome is intended to be an informed and coordinated set of policy reforms, public and private investments that will expand the opportunity set for rural households. At national level, FSPP will develop a framework for agricultural sector reforms (FASR). The purpose of the framework will be to identify key legal and institutional reforms that will enable the agricultural sector to accelerate its contribution to economic growth, poverty reduction and food security. The FASR will be an engagement tool to inform key sets of actors involved in governance at national level such as the President's Office, national ministries, national parliament and key sectoral committees, private sector apex bodies (e.g., UMFCCI), civil society and donor partners. The proposed reforms, once adopted, will provide an enabling environment at national level within which regional development strategies can thrive. The FASR will draw on evidence generated by FSPP activities, as well as those developed by a broad range of development partners working in specialized areas (e.g., finance, land, governance).

A draft policy note: "Agricultural Land Use in Myanmar: Fish Ponds and Rice" was prepared. The note, which compares paddy and fish pond area, output and productivity growth rates in Burma and Bangladesh, and land under aquaculture as a share of paddy land, was circulated among partners. A key finding is that fish ponds occupy a very small share of total paddy land, in either Myanmar or neighboring Bangladesh (a major aquaculture producer, which places no legal restrictions on the conversion of paddy land to fish ponds). This implies that very substantial growth of the area under aquaculture could occur in Myanmar without significantly impacting total paddy production. The note is presented in Annex 2

During the month of January, MDRI staff led students of the Community Development Civic Empowerment program (MDRI's sister organization, based in Ching Mai, Thailand) in a rapid value chain assessment of Mon State. This activity provided experiential learning for 33 CDCE course as participants (drawn largely from civil society organizations located across the county), and was the final stage in a three month capacity building training course run by CDCE, prior to the graduation of the course participants and their return to their employers. The CDCE students conducted a value chain analysis at township level in Mon, during which time they were trained on interviewing, data collection and data recording, engaged in fieldwork (group and individual interviews with township level government officials, business associations, and civil society organizations), analyzed results, and presented them to regional government and other stakeholder). The group was divided into five teams. The teams conducted an analysis of agricultural value chains in two townships each (total 10 townships). In addition to its primary function as a capacity building training for course participants, this exercise generated important background information and familiarity with conditions on the ground in Mon State which greatly assisted

preparation for the larger Mon state household survey. (An example of one the Burmese language presentations given to regional government by CDCE course participants is provided in Annex 3).

Component 2: Agrifood value chains.

Fish Value Chain

Fish value chain activities during this quarter centered on the collection and analysis of secondary data to complement primary data compiled in the previous Quarter. This included: the collection of the Integrated Household Living Conditions Assessment Survey dataset and the initiation of analysis of fish consumption patterns; the collection of historical data on fish prices and export volumes from the Central Statistical Office in Nay Pyi Taw and; obtaining permission from Yangon City Development Committee to collect historical data on volumes of fish traded at San Pya and Shwe Padauk fish wholesale markets. Analysis of the data collected will be completed during the third Quarter of the project

Pulses Value Chain

On March 7th, in response to earlier event where MDRI observed negotiations between Indian and Myanmar beans and pulse traders which had reached a crisis point, Dr. Duncan Boughton (MSU) presented findings from the pulses value chain scoping activities at a Meeting with Myanmar Beans and Pulses Producer Association at the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI). The event was attended by Ministry of Commerce officials and Association members, who were the audience for the presentation addressing the challenges and opportunities facing the sector and engaged in a lively discussion. (The presentation is provided in Annex 4 - Duncan, please add presentation).

Component 3: Household and communities livelihoods.

The Mon State RDS and FASR outputs referred to under Component 1 will draw on primary data generated by FSPP, as well as secondary statistical and analytical sources. Other than commodity value chain studies, primary evidence generated by FSPP during 2015/16 will be derived from a rural livelihoods survey in Mon State. The survey will investigate how different types of rural households derive and utilize their incomes, as well as their exposure to risk, and links between the farm and non-farm economies. The evidence base is especially weak for Mon State, as well as for Myanmar in general. This will be addressed by a rural household livelihoods study of approximately 1200

households, and the communities to which those households belong. Accordingly, this effort accounted for the majority of person days work under project during February and March. A variety of related activities took place during this period. These included: Initial design of the household survey instrument; sampling design, to ensure representativeness for rural households at the state level (this activity was contracted to a consultant who had previously designed the sample for the national census); questionnaire pretesting, revisions and translation into Burmese; preparation of survey training materials, and training of trainers (MDRI staff); logistical preparations for survey activities and the initiation of enumerator recruitment through the Mon Region Social Development Network. During the third week in March, senior staff from IFPRI and MSU visited Mon state for a one week field reconnaissance visit to assist with refining key research foci and survey instruments.

Component 4: Capacity and network building.

The majority of capacity building activities during this quarter were experiential, based on learning and direct practical by doing under the guidance of experienced MSU and IFPRI staff during the first stages of implementation of the Mon household survey. These activities were deliberately designed to include the involvement of MDRI staff from beyond the FSPP core group of staff, from divisions including governance, micro-finance and macro-economics in order to ensure maximum exposure for these staff to the learning opportunities available. MDRI and MSU staff participated in the National Land Use Policy Conference; Round Table 2, held in Yangon for three days (Mar 9-11), and observed and participated in group discussions. MSU and MDRI staff visited Nay Pyi Taw on several occasions to liaise with senior officials of Department of Population to obtain details of enumeration areas in Mon State drawn from national Census, and developed good working relationships with them in the course of doing so. Two abstracts based on the fish value chain scoping study were submitted to and accepted for a session on "Aquaculture Value Chain Development and Governance" at the University of Amsterdam's Center for Maritime Research's *People and the Sea* conference. MSU staff met with staff of USAID Burma Aquaculture project, and consultants preparing a project for USAID Burma on digital financial services in agriculture to discuss key findings from the fish and pulses rapid reconnaissance.

Other Issues

Management and personnel changes

There were no major management or personnel changes during this period. The search for a replacement COP was launched. Duncan Boughton served as acting COP for MSU, with assistance from Ben Belton.

Deliverables completed

A revised work plan was prepared in January 2015 and submitted to and approved by USAID (Annex 1). A monitoring and evaluation plan was also developed and submitted to USAID during January (Annex X – Please can you add this, as I don't have a copy?)

Budgeting

A revised budget was submitted to USAID along with the revised work plan and was approved. MSU transferred operating funds to MDRI for the period October 2014 to September 2015.

Priorities for programming during the next reporting period

Component 1: Policy/strategy advising: During the next reporting period, the project will hold a policy seminar for USAID partners to disseminate results of, and encourage discussion on, the preliminary findings of “Agricultural Land Use in Myanmar: Fish Ponds and Rice” policy note

Component 2: Agrifood value chains: Analysis of secondary data on fish value chains collected this quarter will be analyzed and these will be combined with primary data collected during the fish value chain rapid reconnaissance study to produce a final report for the first phase of fish value chain work

Component 3: Household and communities livelihoods: The main focus of work during the next reporting period will continue to be the Mon household and community surveys. Enumerator recruitment and training will be completed, questionnaire pretesting and translation will be finalized, data collection will be completed, data will be entered, and training will be provided to MDRI staff on cleaning and data analysis.

Component 4: Capacity and network building: One member of MDRI staff and one member of MSU staff will present findings from the aquaculture rapid reconnaissance at the People and the Sea conference in the Netherlands. **Three??** MDRI staff will attend a training course on structural economics in Beijing **(double check)**. MDRI and MSU staff will submit abstracts based on project outputs to the Global Food Security conference.

Food Security Policy Project (FSPP)

Associate Award No. AID-482-LA-14-00003

Proposed FSPP Workplan for the period January 1, 2015 to September 30, 2016

1. Introduction: FSPP Goals, Objectives and Context

FSPP is a five-year project funded by USAID Burma with an inception date of September 23, 2014. FSPP activities are expected to be co-funded by the Livelihoods and Food Security Trust (LIFT) fund. The FSPP project is an associate award to the USAID Feed the Future Innovation Lab for Food Security Policy LWA implemented by Michigan State University with consortium members International Food Policy Research Institute (IFPRI) and University of Pretoria. FSPP will be implemented by MSU and IFPRI in collaboration with local partner Myanmar Development Resource Institute, Centre for Economic and Social Development (MDRI-CESD).

The **overall goal** of FSPP 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.

The **objectives** of FSPP are twofold:

- 1) to address critical evidence gaps for informed policy debate and formulation: FSPP 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. The policy issues together focus on the facilitation and encouragement of policy reforms to increase private sector-driven agricultural growth, to decrease the direct role of the government in markets, and to increase domestic and international private sector investments in the agrifood sector in all segments of the value chains and the rural economy.

- 2) to foster credible, inclusive, transparent, and sustainable policy processes in Burma: FSPP will strengthen the building blocks for 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 workplan for the first two years of FSPP takes into account the **context** of national elections to be held late in 2015 with a new national government expected to be operational around mid-2016. The main outputs (deliverables) generated during this phase will provide evidence-based policy engagement tools at national and state government levels consistent with these key political events. Capacity building for MDRI-CESD staff and selected civil society groups will be an integral part of project implementation.

The proposed workplan is based on a joint planning workshop with MDRI-CESD senior management and staff, IFPRI and MSU researchers held in Mawlamyein January 11-13. Following the workshop, senior members from all three organizations contributed to developing the workplan document, which is organized as follows. Section 2 describes the key outputs to serve as policy engagement tools in more detail, section 3 describes specific activities and timelines to generate the critical evidence base for those tools, section 4 presents the outreach and engagement plan, section 5 presents human resource and capacity building activities for MDRI-CESD and other organizations, section 6 the project management structure, and section 7 the monitoring and evaluation (M&E) plan.

A summary table of milestones and outputs for each set of activities can be found in a companion spreadsheet file. It will be integrated as an appendix in the final version.

2. Key FSPP outputs: policy engagement tools at national and state levels

During the first two years of its anticipated five year life FSPP will develop policy engagement tools at national and state levels.

At state level, FSPP will develop **a rural development strategy for Mon State** (Mon State RDS) based on a detailed understanding of rural livelihoods, their linkages to key commodity value chains and urban centers, and linkages between Mon State and the national and neighboring country economies. The purpose of the Mon State RDS will be threefold:

- a) to identify opportunities for improving rural livelihoods (increased incomes and improved resilience) through accelerated agricultural and rural economic growth;
- b) the constraint set (policies, institutions, infrastructure, technology, finance) that currently hold back growth;
- c) specific actions (policy reforms, public and private investments, institutional innovations) that can relax or resolve identified constraints.

The proposed rural development strategy is designed to be an engagement tool to inform and bring together different groups of actors with an important stake in the growth of the rural economy: State and local government officials, private sector representatives and business associations, civil society and donor organizations. The outcome is intended to be an informed and coordinated set of policy reforms, public and private investments that will expand the opportunity set for rural households. An illustrative outline for the rural development strategy, to be completed by end March 2016, can be found in Attachment 1. FSPP leaders for this output will be Than Tun of MDRI-CESD and Dr. Paul Dorosh of IFPRI. Activities to generate evidence as an input to the strategy are described in the next section.

At national level, FSPP will develop a **framework for agricultural sector reforms** (FASR). The purpose of the framework will be to identify key legal and institutional reforms that will enable the agricultural sector to accelerate its contribution to economic growth, poverty reduction and food security. The FASR will be an engagement tool to inform key sets of actors involved in governance at national level such as the President's Office, national ministries, national parliament and key sectoral committees, private sector apex bodies (e.g., UMFCCI), civil society and donor partners. The proposed reforms, once adopted, will provide an enabling environment at national level within which regional development strategies can thrive. The FASR will draw on evidence generated by FSPP activities described in the next section, as well as those developed by a broad range of development partners working in specialized areas (e.g., finance, land, governance). A schematic outline of the FASR, to be completed by end June 2016, can be found in attachment 2. FSPP leaders for this output will be Dr. Zaw Oo of MDRI-CESD and Dr. Duncan Boughton of MSU.

3. FSPP Evidence Generation Activities and Timelines

The FASR and Mon State RDS outputs will draw on evidence generated by FSPP as well as secondary statistical and analytical sources. Evidence generated by FSPP during the first two years will come from two integrated sets of activities: a rural livelihoods survey in Mon State and selected commodity value chain studies.

3.1 Mon State Rural Livelihoods Survey

Any rural development strategy that seeks to improve rural livelihoods must be based on an understanding of how different types of rural households derive and utilize their incomes, as well as their exposure to risk (e.g., weather, health, market or income shocks). Rural livelihoods are often critically dependent on linkages between the farm and non-farm economies, and between rural and urban centers. The evidence base to inform such an understanding is especially weak for Mon State, as well as for the country in general. This gap will be addressed by

undertaking a rural household livelihoods study for approximately 1200 households, as well as the communities to which those households belong. The objectives of the survey are:

- a) To identify income sources and their relative importance for different types of rural households in Mon State (e.g., households which derive most of their income from farming, households that derive most of their income from non-farm enterprises, and the role of remittances from migrant worker family members);
- b) To understand the extent of spatial variation in income sources (e.g., proximity to the coast, proximity to urban centers, proximity to rubber plantations or fish farming enterprises);
- c) To document levels and patterns of household expenditures;
- d) To understand sources of risk and constraints faced by different rural households to improving their incomes and food security; and
- e) To assess the business climate for rural and agribusiness enterprises.

The survey will be designed, field-tested and implemented between January and June 2015 under the leadership of Ellen Payongayong (MSU) and Aung Hein (MDRI-CESD). Analysis will be undertaken by joint thematic teams comprised of the MDRI-CESD Research Team, selected members from other MDRI-CESD teams (e.g., labor and governance), and IFPRI and MSU researchers. Preliminary results of the survey will be available by end August 2016 and a full technical report of the survey will be prepared by December 2016. A detailed timeline for implementation of this activity can be found in Attachment 3.

3.2 Commodity Value Chain Studies

A detailed empirical understanding of rural livelihoods needs to be complemented by an understanding of the value chains that create or expand market opportunities. Four value chains of strategic importance nationally as well as to Mon State have been identified for study in the first two year phase of the project: Aquaculture, agricultural inputs (especially seed and mechanization services), horticulture (fruits and vegetables), and smallholder rubber. The scope of the value chains will be sub-national (broader than State but not necessarily national in scope). Value chain studies will use a sequential methodology beginning with broad geographical reconnaissance and key informant interviews, and progressively focusing in on specific opportunities or bottlenecks where more in-depth empirical evidence is necessary for an accurate diagnosis. Each of the value chain studies will take account of cross-cutting concerns such as land use rights, financial services, technical and market information, and regulatory issues. The results of the studies will feed into both the MSRDS and FASR outputs.

3.2.1 Aquaculture in-depth value chain study

Aquaculture (in this case, meaning the farming of freshwater fish) is a high value activity with significant potential for expansion. Fish is the main source of animal protein in the national diet, including diets of the poor, and an essential source of micronutrients. The potential for aquaculture to develop appears largely unmet in Mon State as well as several other parts of the country outside of the Delta. The purpose of the in-depth value chain study is to learn from the experience of aquaculture development where it is most evolved to date – the Ayeyarwaddy and Yangon Regions – and use that understanding to inform the sustainable, profitable and equitable growth of this activity in other regions.

Initial reconnaissance activities were undertaken in Ayeyarwaddy and Yangon Regions between October and December 2014. An initial report will be completed by end January 2015. Further field visits and mapping will be undertaken to document the spatial patterns of aquaculture development over time as well as changing market structure in response to increased production volumes. A final report on the first phase will be completed by end June 2015 and used as a basis for dialog with government, private sector and civil society.

A second phase of more in-depth analysis of the aquaculture value chain will be undertaken between October 2015 and June 2016 in two aquaculture clusters: Maubin in Ayeyarwaddy Region and Kayan in Yangon Region. The two clusters will provide complementary lessons. Kayan is an established cluster that has grown steadily since the 1970s. Comprised mainly of medium-scale farms, the cluster includes the full spectrum of aquaculture operations (including homestead ponds and nurseries) and production technologies (including the use of pelleted feeds). Maubin is a more recent (yet larger) cluster that has grown rapidly over the past fifteen years. The cluster is comprised of medium and large farms with the small-scale segment confined to nurseries. This region has experienced land conflicts as part of its growth trajectory.

A formal survey of fish farmers in each cluster will seek to quantify the current and potential profitability and productivity of different scales of aquaculture operation (backyard ponds, small-medium farms, large scale). The study will also quantify employment associated with each scale of operation, and its profitability relative to other agricultural enterprises. A companion formal survey of fish traders will understand how domestic and export market opportunities are evolving.

The in-depth study will also analyze the reasons behind the apparent “bias” toward large-scale operations, the implementation of regulations governing land access and use for aquaculture, and specifically the relationship between fish farm operators, government authorities and private sector. Attention will also be given to understanding the structure and competitiveness of the feed supplier and marketing sub-chains, which could be important determinants of the potential for broad-based expansion of this economic opportunity.

This activity will be led by Aung Hein of the MDRI-CESD research team, Dr. Ben Belton (Worldfish) and Dr. Ricardo Hernandez (IFPRI).

3.2.2 Agricultural inputs and mechanization services

Access to agricultural inputs, and information on how to use them, is essential for farm-level productivity gains. The rural livelihoods household survey will provide extensive information on the current types and intensity of farm input use in Mon State, but little information on how to expand access to them. This value chain study will examine current organization of the supply of key agricultural inputs, especially seed, fertilizer, insecticides and mechanization services, as well as the regulatory environment governing their production or importation and distribution.

Mechanization services are important for relieving key bottlenecks and labor cost centers in paddy production, thereby increasing paddy quality while reducing costs while allowing for more timely planting of the winter pulse crop grown on residual moisture. But mechanization also involves displacement of farm labor. Understanding both the likely trajectory of mechanization services provision and the potential for labor absorption in non-farm enterprises will be an important contribution to the Mon State RDS.

The agricultural input value chain studies will be undertaken between October 2015 and March 2016 by the MDRI-CESD research team, Adam Kennedy (IFPRI) for seeds, Dr. Xiaobo Zhang (IFPRI) (IFPRI) and Dr. Ricardo Hernandez) for mechanization services, and Dr. Duncan Boughton (MSU) fertilizer and pesticides.

3.2.3 Smallholder rubber

Rubber is an example of a promising export crop for smallholders in Mon State that has fallen on hard times due to a decline in international prices. Migrant workers learned valuable skills in Thailand while amassing sufficient savings, often pooling resources with other migrants from the same home village to establish plantations when they returned. Even though the market for latex is in decline at present, demand for other rubber plantation products is growing. Wood from mature rubber trees is a prized raw material for furniture in Malaysia and demand is growing. New clones considerably reduce the time required for trees to reach the required girth for wood exploitation. A careful study of the value chain is warranted to see whether, given multiple products and new technology, smallholder rubber can return to being a viable option for the medium term or whether smallholders would be better off investing in other high value enterprises.

The smallholder rubber value chain study will be undertaken between October 2015 and March 2016 by the MDRI-CESD research team, Dr Bart Minten (IFPRI) and Dr Ricardo Hernandez (IFPRI).

3.2.4 Horticulture

Fruits and vegetables are well recognized as a high value activity for smallholders in close proximity to urban centers, including rural market towns. Inevitably such markets can quickly become saturated without more specialized opportunities that have broader markets in geographical

and/or seasonal dimensions. Betel nut, for example, is now facing growing demand from Indian traders as well as the established domestic market. Cashew nut also has potential as an orchard crop. The purpose of this study will be to identify high value horticultural and orchard crops with long-term growth potential to complement existing market outlets for Mon State.

The horticulture value chain study will be undertaken between October 2015 and March 2016 by the MDRI-CESD research team, Dr. Ricardo Hernandez (IFPRI) and Dr. Ben Belton.

Each of the four value chain studies will generate a technical report for consultation with stakeholders prior to feeding into the MSRDS and the FASR.

4. Outreach and Engagement

Engagement approaches with key stakeholders are defined by the nature of the three categories of outputs;

- (1) *Commodities* include Beans and Pulses, Aquaculture, Inputs and mechanization services, small-holder Rubber, Horticulture
- (2) *Policy Outputs* include the rural development strategy for Mon State and framework for agricultural sector reforms
- (3) *Cross-cutting Issues* include land, financing and trade policies as priority activity engagement, while other issues such as labour, regulations and social capital will be “on demand engagements” as opportunities arise.

The aim of the engagement activities is to identify key stakeholders and key policy processes so that evidence generated from the surveys and analyses are effectively targeted to inform the design of policy change. The engagement strategy for FSPP is first to generate relevant and rigorous evidence for food security related policies, then to identify veto-players and advocacy coalitions, and then to help improve the policy capacity of the stakeholders in Myanmar and to effect changes in food security policies.¹

4.1 Engagement Plan Development

¹ The engagement approach is informed by the literature on policy change, especially *Conceptualizing drivers of change for improved agriculture and nutrition policies* by Resnick et. al, which was developed partly for USAID’s **Feed the Future** initiative as well as other policy reform studies such as ODI’s Research and Policy in Development resources.

Given the rapid changes in political and policy contexts, especially with the election in late 2015, the engagement approach will be responsive and flexible, while the engagement strategies for Beans and Pulses and Aquaculture value chain studies will generate a better understanding of policy and stakeholder contexts for other outputs. The current priority cross-cutting issues especially land, financing regulations and trade policies would need earlier engagement to capitalize on the national level policy reform windows in 2015 and early 2016.

4.1.1 Beans and Pulses

Capitalizing on the already generated evidence by the MDRI-CESD and MSU, the engagement plan for this commodity will involve the following activities:

- Conduct one or more engagement seminars by end May 2015 to:
 - Validate the study findings and obtain stakeholder reactions to the analysis;
 - assess the support for recommendations and understand the interests of each stakeholder groups;
 - identify consensus on policy changes which could be quick wins as well as the foundation for longer term structural change.
- Form key working groups that could serve as advocacy coalitions to achieve progress in the implementation of selected policy recommendations by end of June 2015.
- Develop action plan on selected policy issues; three to five policy issues would be selected through the consultative and consensus-based process.
 - Eg 1. *Value-added export working group*, possibly involving officials from the Ministry of Commerce, Finance, Beans and Pulses Associations, exporters, transportation sectors, food processing on beans and pulses
 - Eg 2. *Farm level technology working group*, possible membership includes Yezin Agricultural University, Department of Agriculture Research, Department of Agricultural Services, Seed industry groups, farmer organisations, international research organizations such as ICRISAT and AVRDC.

The formulation and implementation of the engagement plan will be led by the policy team of MDRI-CESD and Dr. Duncan Boughton (MSU).

4.1.2 Aquaculture

Building on the initial reconnaissance study of aquaculture conducted in late 2014 and early 2015, the engagement plan for this value chain will help form the advocacy coalitions of the national stakeholders involving in the research question formulation to policy advocacy. The following outputs are envisaged for this engagement plan.

- Validate findings from the study; to share research approaches and initial findings, by October 2015.
- Identify key policy issues for further in-depth studies, to develop Aquaculture in-depth value chain study, by October 2015
- Develop work plans for the future research and survey activities to generate evidence for targeted policy areas to improve the aquaculture in Myanmar, by December 2015

The formulation and implementation of the engagement plan will be led by researchers of MDRI-CESD and Dr. Ricardo Hernandez (IFPRI) and Dr. Ben Belton.

4.1.3 Land policy issues

Land policy development is the national priority as the foundation for future economic development for Myanmar. Capitalising on the emerging land-related policy opportunities in Myanmar, FSPP partners can engage with key policy makers involved in the national land use policy development process. MDRI-CESD has also assisted in the process, as its Executive Director is the secretary of the land policy activities coordination committee and a member of the National Land Use Management Central Committee. The expected outputs for the land policy engagement are as follow.

- Present international relevant experience on land use management to inform the national land use policy development, with four issues briefs being ready by March 2015.
- Support the national land use management central committee to develop policy options for the national and regional land reforms, such as One Map, land valuation, land use taxation and land distribution, on-going throughout 2015.

The development and implementation of the engagement in land policy issue will be conducted by the policy research team of MDRI-CESD's FSPP program with support from IFPRI resources in consultation with USAID in-country land adviser (Rob Obendorf).

4.1.4 Other commodities and policy outputs

Engagement plans for other commodities and inputs will be developed as informed by our engagements from Beans and Pulses, Aquaculture and Land policy issues. These engagement plans will include the categories of stakeholders, including their strengths and weaknesses, and the suitable engagement approaches which are relevant to changes in the food security policies.

See Attachment 3 for the Engagement Strategy Approach

5. Capacity Building

Through deep engagement, all the stakeholders would be able to learn from each other through working together as well as from the directly engaging with rigorous research methodologies. This approach will help the capacity development of MDRI-CESD, as an organisation or as individual researchers. Other stakeholders will also improve their capacity in accordance to the nature of their organisations.

5.1 MDRI-CESD's Human Resource Development under the FSPP program

MDRI-CESD as a whole will have four broad categories of human resources; namely policy, surveys and case-studies, capacity building and program support.

The Policy team will have a policy coordinator with two policy analysts and a communications officer to respond to urgent policy needs as well as analysing the broader international and national food security related policy challenges and opportunities. This team will work closely with the MDRI-CESD leadership team to translate policy issues as engagement opportunities and research findings as policy inputs. With a high level of understanding of policy processes and policy understanding of the government, private sectors and the civil society organisation, the team members will have strong policy analytical and communications skills with a high level of training in Economics, Public Policy, Development Studies or similar disciplines. International policy experts will work closely with these officers in understanding and developing policy relevant products. These four officers will also require adequate and dedicated program support for effective delivery of policy outputs.

The survey and case-studies team will have a research coordinator with strong research methodology skills. The team is divided in two streams; (1) four members being dedicated to survey activities and (2) 6 members as case-study team for different commodities and issues. These researchers will join relevant international experts as task-teams on conducting surveys or case studies for selected commodities and issues. Researchers within this survey and case-study team can move between different streams to gain exposure from different skill sets. However such movements will be limited to the full participation of the each distinct phase of the survey and case-study. In addition, other MDRI-CESD researchers who are currently engaged in other research priorities of the centre will contribute to selected case studies if the management team deems appropriate for their value-added contribution as well as desired capacity building of these researchers.

The capacity building team consists of a training coordinator, training officer and outreach officers. Though capacity building permeates the whole FSPP program, this team is dedicated to assist in FSPP partners engaging with other non-partners (e.g., FSWG) and grass-root communities (e.g., CDCE). This team will work to develop and implement training programs for the government, educational institutions, civil society organisations and grass-root communities.

The program support team comprises a logistics coordinator, supported by logistic officer and assistant. Separate to the program wide support, the task-teams with specific outputs (such as Mon Regional Development Strategy task-team), which required multiple coordination especially in

relations to engagement with key policy stakeholders, will be provided with adequate program and logistic assistance. Such assistant will work directly with the task-team coordinator for the efficient and effective coordination. Implementing appropriate business processes in implementing the FSP program activities for MDRI-CESD will help develop its capacity to strengthen its corporate systems, so that it would become more effective in providing relevant policy evidence.

5.2 Approach to capacity building for MDRI-CESD staff

One of the project's main purposes is to develop capacity among MDRI-CESD staff and those of affiliated organizations (e.g. CDCE). It is envisaged that MDRI research and policy staff will participate in training and capacity building activities jointly, subject to their interest and availability, in order to ensure that policy and research staff have a broad grounding in both areas. It is anticipated that this will be achieved via three main sets of activities:

- 1) Field based training and capacity building gained through directed "learning by doing";
- 2) Classroom based training; and
- 3) Exposure to research, policy and development institutions, and participation related events in Myanmar, the region and elsewhere.

These three sets of activities are described in more detail below.

5.2.1 Field based training and capacity building

Field based training and capacity building activities will take place as part of the Mon household survey and in depth fish value chain studies. MDRI staff will participate in the planning, design, pretesting and finalization of survey instruments, working under the guidance of experienced MSU/IFPRI staff. In doing so, they will become familiar with each of the steps involved in the design and preparation of a household survey. Having gained this experience, these MDRI staff will serve as supervisors for survey enumerators, who will be drawn largely from CDCE. This experience will develop the practical knowledge and abilities of MDRI staff and support their capacity for implementation of future surveys, as well as familiarizing CDCE course participants with the process of survey data collection.

5.2.2 Classroom based training

There will be a variety of classroom based training activities covering a range of applied, conceptual and technical areas relevant to research and policy activities.

Monthly presentations of fieldwork/research results by MDRI staff members will strengthen their analytical and presentational skills in a supportive environment. This will also allow emerging findings from field activities to be shared with other staff members, raise awareness of project activities within the institution, facilitate timely feedback on the research process and emerging policy implications, and focus attention on priority areas.

Regular discussion seminars on concepts and theory related to agricultural research and policy will be led by visiting and resident international researchers, and senior MDRI staff, one to two times per month. The seminars will cover a range of topics which will support research and policy staff in understanding the principles which structure their activities and the broader significance of the outputs generated. Topics covered could include: the rural non-farm economy; livelihoods; migration; gender; food security; nutrition; agricultural households; farm productivity; enterprise budgeting; statistics and econometric analysis; agricultural policy analysis; etc.

Applied technical training will be provided to support the implementation of research activities, the analysis of data generated, and to capacitate project staff. Trainings will include, but not be limited to: use of STATA statistical software for analysis of data generated from the household survey, through an intensive data analysis workshop; ARC GIS software for spatial analysis; CS Pro software for design of data collection using Computer Assisted devices; Preparation of policy briefs based on households survey findings

5.2.3 Exposure to research, policy and development institutions and events

The project will seek to ensure that MDRI staff have the opportunity to actively participate in international conferences and workshops in relevant fields, as these arise, in order to provide research and policy staff to with greater exposure to international research and policy experience. Examples of suitable events for MDRI participation could include the IFPRI-coordinated workshop on Innovation in Agri-food Value Chains in Asia, to be held in Nepal in March 2015, and Global Food Security conference, to be held at Cornell University in October 2015. Other suitable venues and events will be actively sought. While travelling to events such as these, staff could gain from structured side visits to institutions involved in related research and policy formulation activities, where they can present FSPP findings and build their professional networks. The project will also explore the possibility of obtaining funding post-graduate education for MDRI staff members.

5.3 Capacity Building of Other Stakeholders

Policy Community: with an aim to create sustainable and effective policy analysis capabilities, FSPP partners will develop (1) internship programs for the public servants within the food security and economic development portfolios, and (2) contribute to key post-graduate training programs in public service and economic development policies. FSPP partners will explore the opportunity for policy internship program for policy units within the Permanent Secretary offices within the FSPP program. While regular research seminars will be delivered based on the research

findings; FSPP partners will engage in specific opportunities to conduct trainings of senior public servants and policy makers. Such opportunities could include the Master of Development Studies at the Yangon University of Economics, Master of Public Administration from the Ministry of National Planning and Economic Development, the Executive Development Program by the Union Civil Service Board and the trainings at the Institute of Development Administration under the Ministry of Home Affairs.

Education institutions: These institutions will be invited to participate in providing participants to conduct household and commodity surveys as well as case studies, either as individually contracted participants or under internships. A separate funding mechanism for master students would be set up for a small competitive research grants, with a close supervision from the FSPP researchers and experts.

Private sectors and civil society organisations which are interested to advocate for the food security policy options will be assist to understand the value of rigorous policy evidence as well as alternative policy options. From collaborating together with FSPP partners, stakeholders from these organisations can jointly develop analytical, communications and advocacy skills.

Grass-root communities will gain improvement in their capacity from targeted and tailed capacity building program that is being delivered as the Community Development Civic Empowerment program. This is highly adaptable and directly relevant capacity development program targeted the local community leaders through intensive exposure to up to date international development approaches and current Myanmar's social and economic conditions. These community leaders also learn analytic, research and management skills relevant to address community level issues in Myanmar.

6. Management Structure

See separate organigram chart

7. Monitoring and Evaluation

To be developed during visit of Dr. Mywish Maredia Jan 26 – 30.

Attachment 1: Mon Rural Development Strategy Report Outline

- I. Introduction
 - Key issues in Mon State Rural Development
- II. Overview of Mon State Economic Structure
 - Trends in output, income, etc. (analysis of secondary data w/ comparison w/ other Asian countries), rural and urban population
- III. Household characteristics: poverty profile (farm/non-farm), structure of incomes [Ellen Payongayong]
- IV. Land use and land rights: Rob Obendorf / Xiaobo 2.0 / Bart w/ Ben)
- V. Opportunities in the Agricultural Sector (looking at value chains by crop, including dynamics; case studies with solid evidence)
 - Rice [PD 1.0/DB 1.0]
 - Fish (restrictions on land use, access to ocean fish, marketing issues?); feed sector issues (rice husks, intensification?) – traditional (rice by-products) vs improved feed [Ben / Bart]
 - Rubber (smallholder rubber plantations – workers returning from Thailand organize together to form collective plantations... problems now because of low world rubber prices, lack of supporting institutions, lack of political support...) [Bart 2.0, Ricardo 2.0]
 - Betel nut – require government permissions?, potential for exports to India – Indian traders coming to Myanmar [Bart, Ricardo 1.0]
 - Pulses [Duncan 1.0]
 - Inputs and improved ag technology (access to improved seeds, research stations?, information regarding pesticides for pulses); extension.... Invest 2% + of ag GDP in ag research)
 - Mechanization: Xiaobo (1.0)
 - Seed: Adam (1.0) / David Spielman
 - Fertilizer / Insecticides: Duncan (1.0)
- VI. The rural non-farm economy (infrastructure, etc.) –... – how to overcome constraints after electrification [Mateusz 4.0, PD 1.0, XD 1.0]

- Rural non-farm enterprise survey (Rural Investment Climate Survey)
- Simulations of linkages of output growth to household incomes (small vs large farms, etc.)
- Rural-urban linkages
- Labor markets
- Case studies (clusters, linkages, etc.)

VII. Government policy and investments (Than Tun; Adam 2.0)

- Revenues and Expenditures (national/state/townships/village tract)
- Assess effectiveness of improve public service delivery in infrastructure, health and education (household survey data):

VIII.A Strategy for Rural Development (Than Tun; PD 1.0; DB 0.5; XD 0.5)

- Illustrate cases that show it is possible to change; success stories
- Land use regulations reform options?

Attachment 2: Framework for Agriculture Sector Reform Schematic

See attached PDF file

Attachment 3: Outreach and Engagement Strategy

FSPP partners will use a flexible and responsive engagement approach to directly inform the food security policy processes. The partners will disseminate relevant and rigorous evidence on policy problems and solutions to effect policy changes for food security in Myanmar. To achieve this goal, the partners will develop a strong understanding of the relevant policy context, while identifying key determinants for policy changes².

4.1 Policy stakeholders

The following broad categories are identified as the types of audience for the FSPP Program as stakeholders in achieving food security in Myanmar.

4.1.1 Policy community

This category includes those who have direct role in formulating, designing, adopting, implementation and reviewing of the whole policy process. In engaging with stakeholders within this category, it is important to identify who are the veto-players³ and to understand how different advocacy coalitions influence these players. The key policy community members include:

- a. President's Office for a broader policy direction and the highest possible policy buy-in;
- b. Union level ministries
 - i. Finance
 - ii. National Planning and Economic Development
 - iii. Agricultural and Irrigation
 - iv. Livestock, Fishery and Rural Development
 - v. Border Affairs
 - vi. Home Affairs (local administration)
- c. Parliamentary committees relevant to rural development, agriculture, investment and trade
- d. Parliamentarians (the Union and sub-national levels)
- e. Sub-national government
- f. Township level officials.

² FSPP partners will be guided by the international thinking on policy change, especially *Conceptualizing drivers of change for improved agriculture and nutrition policies* by Resnick et. al, which was developed partly for USAID's **Feed the Future** initiative as well as other policy reform studies such as ODI's Research and Policy in Development resources.

³ Veto-players are those individual or collective actors who have to agree in order for a proposed policy change to occur (Resnick et. al, (forthcoming), *Conceptualizing drivers of change for improved agriculture and nutrition policies*)

These actors have direct responsibilities over the policy development of the rural sector. With a comprehensive understanding of relationship in terms of policy influence between these actors, the FSPP program would be able to provide evidence for better understanding of food security problems and alternative solutions.

4.1.2 Educational institutions

These are key stakeholders for two reasons. First, they will participate in validating the evidence produced by the FSPP partners, especially from the stance point of the contextual understanding on Myanmar. Second, these institutions are keys in producing the future Myanmar policy experts and the public officials who will take responsibility of the food security policy development in the future. The Yangon University of Economics, Yezin University, local Universities have the potential to become premier centres for public policy, food security and agricultural knowledge. Moreover, there are a number of local vocational training schools which can also provide people with competent skills for implementation at the field level. With a comprehensive understanding of the educational sector reform in Myanmar from MDRI-CESD's engagement, FSPP partners will work closely with these educational institutions for the longer-term capacity building for a strong food security knowledge base in the future.

4.1.3 Private Sectors

This category involves a set of competing and often conflicting interests. Moreover, these are also multiple dimensions within the sector; namely international, national, regional and local. Since the private sector is central in the development of the agricultural and rural economic sector, it is essential to have effective engagement with these actors by the FSPP partners. The FSPP will provide reliable, relevant and comprehensive evidence for the growth for the private sectors for the benefits of the whole country. With the democratic transition, the trade associations are going through some level of democratic transformation. Moreover, new and innovative trade policy mechanisms are also emerging; for examples *Diagnostic Trade Integration Studies* or the national *Trade and Investment Promotion Taskforce*. FSPP partners will first map out these policy engagement opportunities so that evidence from the FSPP program's research activities have direct relevant to these actors.

4.1.4 Civil Society Organisations

This is a category of stakeholders transforming itself in their own engagement in the policy process. Recognising the great opportunities to assert the voices of the ordinary people in a positive way in all policy process components, there are some organisations which want to cooperate in finding food security solutions, while others want to advocate for different perspectives reflecting their constituents. Acknowledging the democratic roles of diversity of voices in the policy process, the FSPP partners will inform evidence gathered to these organisations, while collaborate with like-minded organisations. Aware of the political dimension pertinent to these organisations, FSPP partners will map out the

characteristics, relationships and potential opportunities of these stakeholders to engage in appropriate ways with these diverse civil society organisations. FSPP partners will use our existing relationships with key civil society organisations such as the Food Security Working Group, Metta Foundation and Myanmar Consumers Union.

4.1.5 Grass-root Communities

These are the stakeholders for whom the FSPP partners will shed light on in terms of food security opportunities and challenges. The FSPP partners will engage with the local champions who are familiar with community development thinking and concepts and demonstrated their strong commitments to inclusive and sustained development. The food security and policy evidence from in-depth research activities will help these communities to understand and adopt changes to improve agricultural and economic outcomes at the community levels. By drawing on the innovative solutions from the global experience, the FSPP program will contribute in the local communities enhancing their links to the national and international markets. Through pilot programs on a selected sub-national areas (initial year on Mon State), the FSPP will work with the mobilised community development advocates for the behaviour changes at the local level. Coupled with adequate national and sub-national government financial and regulatory supports, the local change agents will help the grass-root communities for innovative solutions such as one village one product or commodity cluster formation.

4.2 Methods of engagement

Methods of engagement will depend on their role within the policy processes and the nature of relationship with these actors. Three broad ways the FSPP partners will engage with these stakeholders are (1) increasing awareness, (2) supporting them with strong evidence for their advocacy for common policy goals, and (3) collaborating deeply in the whole policy research process from defining the problem, gathering relevant data and analysing for evidence and solutions.

4.2.1 Awareness is the first order method of engagement where we are building the community of interest who may be interest in evidence for better food policy options. The FSPP partners will disseminate research findings and policy relevant solutions to the stakeholders through workshops, lectures, roundtables and other dissemination events. Also through research publications, we will distribute research reports in physical or electronic forms. One on one policy briefing could also include especially for the key “veto-players”, while group discussion on the issue would be appropriate for the advocacy coalitions. This awareness method of engagement will give the FSPP partners the entry and initial engagement to the key stakeholders, like-minded partners and diverse thinking among the stakeholders.

4.2.2 Advocacy is the second order method based on the clear understanding of the relative strength of the key stakeholders. The FSPP partners will work to provide tailored policy evidence and solutions to policy champions and advocacy coalitions for improved policy understanding and solutions. These champion policy makers will have strong evidence in their dialogues with other veto-players, so that new and improved food security policies will be adopted. The FSPP Program approach on capacity building of the stakeholder to appreciate and use evidence will help the development of advocacy coalitions, within which FSPP partners will be recognised as a key evidence provider.

4.2.3 Analytic and policy development through deep engagements with key stakeholder in the whole policy research and advocacy process is the third order method of engagement with key stakeholders. Having identified key policy advocacy stakeholders with direct link to veto-players (and sometimes they are themselves veto-players), the FSPP partners will work to empower these stakeholders in evidence and solution generation processes. By collaborating together with these stakeholders in identifying key research questions, in gathering systematic and rigorous data, in analysing relevant information, and in providing innovative solutions for food security policies in Myanmar.

Such an approach could include, as an example, working closely with key policy officers within the Ministry of Livestock, Fishery and Rural Development, in evidence generation for the one village one product program. In order to engage with these policy processes and policy makers, a comprehensive understanding of the policy environment and the key stakeholders as well as strong relationships with these stakeholders are required. Such deep engagement approach will be adopted at all levels. FSPP team will be developing deep engagements with the President's Office; the proposed policy units within the Permanent Secretary's Offices of the Ministry of Livestock, Fishery and Rural Development, Ministry of Finance, Ministry of Commerce, and Ministry of Agriculture and Irrigation; Mon State Government office; the Mon State General Administrative Department officials (including township levels). FSPP team will work to develop such deep engagement with other like-minded civil society organisations and educational institutions.

4.3. Outreach and engagement tools and strategy

The following tools will help gain deeper understanding of the policy context of the food security issues in Myanmar, including for each commodity or policy issue.

4.3.1 Institutional Architecture Assessment

This tool will help map the key actors operating in Myanmar food security policy related sectors. The initial stage will be conducted in Mon State and later extended to national level. This tool is used to inform the Feed the Future activities in other countries, especially in the African

countries. The use of this tool would help the FSP partners to draw on the existing international experience while tailored to meet the country context in Burma/Myanmar.

4.3.2 Alignment, Interest and Influence Matrix

This is the tool which would not only help to identify the main stakeholders, but also suggest a possible course of action towards them. This tool will complement the Institutional Assessment (4.3.1) by identifying key stakeholders with influence within the institutions, while also help to place these stakeholders onto a matrix according to their level of alignment and interest to the FSPP outcomes. This matrix will guide in developing appropriate engagement plans for each commodities as well as the whole program. This tool is developed by the Overseas Development Institute (ODI) and the FSPP partners will adapt to Myanmar context. Drawing key insight from the Panel of Advisers (ref Management Structure), this matrix will be drafted and updated by the Policy Coordinator and Analysts. International expertise from IFPRI will be drawn to support the development and updating of this matrix.

4.3.3 Performance Monitoring Plan

This tool was developed by the FSP global partners and approved by USAID for the program monitoring purpose. This tool will guide the FSPP partners on monitoring their approach in engagement with the veto-players and advocacy coalitions in Myanmar. By using the indicators developed as part of the FSP PMP, the partners will review and revise the engagement plans. In line with the learning by doing approach, the PMP will provide mile stones and decisions points for the policy and management teams.

Annex 2:

Agricultural Land Use in Myanmar: Fish Ponds and Rice

Ben Belton, Paul Dorosh and Emily Schmidt

- After years of stagnation, favorable rice growing conditions and a heavy policy focus on rice productivity over the last decade have translated into an exportable surplus of rice for Myanmar (Haggblade et al., 2013).
 - However, self-sufficiency has not brought increased agricultural incomes or food security for the poor
 - Farm households earn one-half to one-third agricultural income compared to Myanmar's regional neighbors
 - Given increasing land scarcity, smallholder farmers and landless households may need to consider more high-value activities such as fish ponds which are scalable and require small land allocation.
- Current land and agricultural input policies favor rice production to the detriment of greater diversification into higher-value crops (Tun, Kennedy and Nischan, 2015)
 - The 2012 Farm-land law is intended to provide greater land security. However, it places substantial restrictions on land use by stipulating a policy of state control over land classification and production decisions of individual households
 - The Farm-land law underlines Myanmar's commitment to maintain rice self-sufficiency, and suggests that changing the designation of tenured land from rice to another crop may have significant repercussions and jeopardizes households' tenure rights.
 - The Myanmar Agricultural Development Bank (MADB) provides subsidized loans for rice farmers.
 - MADB loans money at significantly lower interest rates than private lenders (recent field data from Mon State 0.4% interest rate per month compared to 7-9% per month for private loans)
 - Loans are granted for up to 10 acres with a limit of 100,000 kyat per acre for and **small-scale rice farmers** versus 20,000 kyat for **non-rice farmers**
 - 80 % of loans granted from the MADB are to rice farmers
- In spite of these incentives for rice cultivation, Myanmar fish pond area has been increasing over time
 - Fish pond area has increased from approximately 63 thousand hectares in 2003/04 to almost 90 thousand hectares in 2012/13; roughly 4 percent per year since 2004 (Table 1).

- A majority of fish pond activity is occurring in the delta regions (Ayeyarwaddy and Yangon). Bago region also increased fish pond area from 7 to 11 thousand hectares from 2003/04 to 2012/13 (Table 1, see dark blue area in Figure 1)
- Shrimp pond area, which overall is approximately equal to fish pond area, has also increased over time in Myanmar (Table 1). However, shrimp pond area is relatively small in comparison to fish pond area in the delta.

Table 1: Pond area (Thousand hectares)

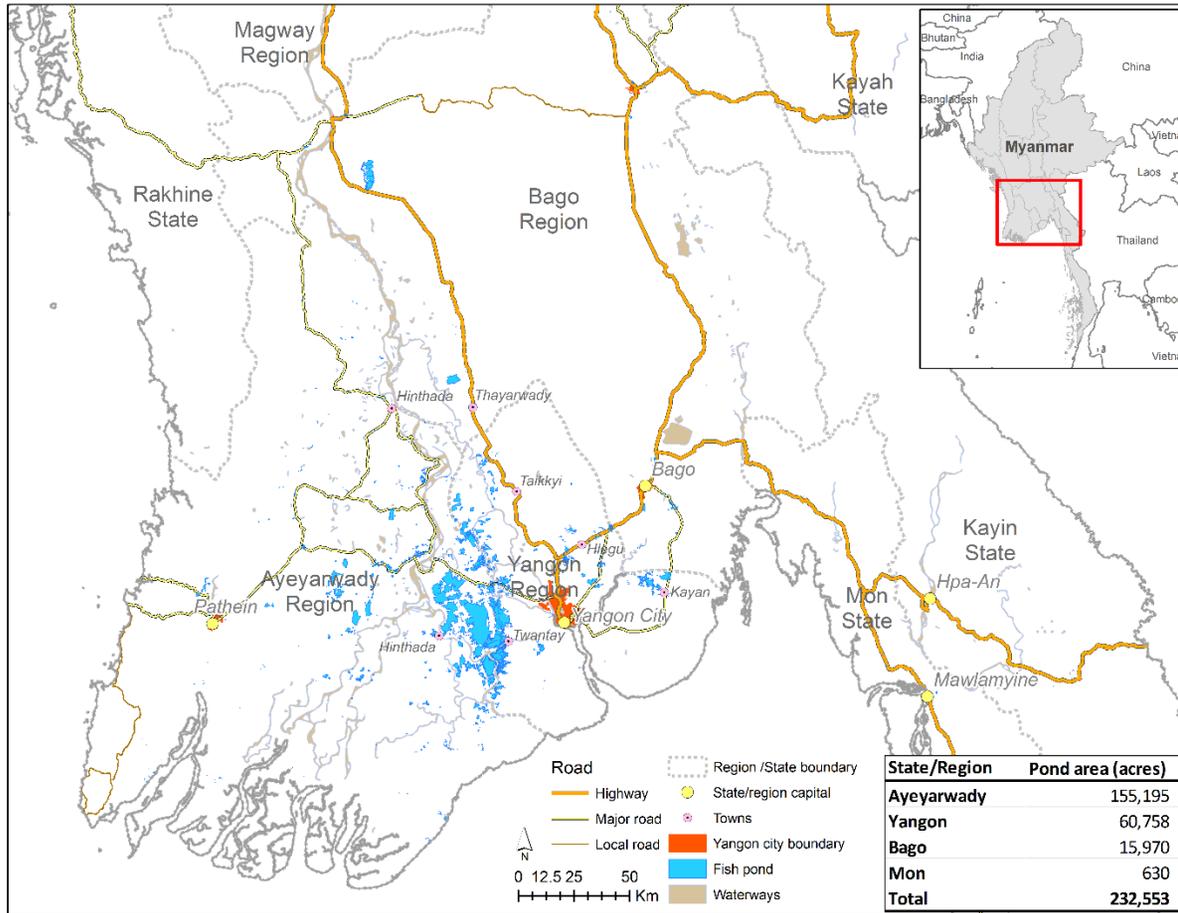
	<i>Shrimp Pond Area</i>	<i>Fish Pond Area</i>	<i>Total Pond Area</i>	<i>Shrimp Pond Area</i>	<i>Pond Fish Area</i>	<i>Total Pond Area</i>	<i>Growth Shrimp Pond Area</i>	<i>Growth Fish Pond Area</i>	<i>Growth Total Pond Area</i>
	2003-04			2012-13			2004-13	2004-13	2004-13
Myanmar	82.9	62.9	145.8	92.4	89.6	182.0	1.2%	4.0%	2.5%
Bago	0.1	7.0	7.0	0.0	10.5	10.5	-15.6%	4.7%	4.6%
Yangon	3.9	19.5	23.4	4.1	24.2	28.4	0.6%	2.4%	2.2%
Ayeyarwaddy	15.5	30.6	46.2	23.1	45.7	68.8	4.5%	4.5%	4.5%
Mon	0.4	0.2	0.6	0.5	0.4	0.8	2.3%	8.1%	4.6%
Other	63.0	5.7	68.7	64.7	8.8	73.4	0.3%	5.0%	0.7%
	2001-02			2010-11			2002-11	2002-11	2002-11
Bangladesh	141	291	431.9	276.5	371	647.8	7.7%	2.8%	4.6%

Source: Authors' calculations using Myanmar Fishery Statistics (2013), Dept. of Fisheries; Bangladesh Statistical Yearbook (various years)

- Myanmar rice paddy area and production has also increased over time⁴ (Table 2)
 - From 2003/04 to 2009/10 agricultural area dedicated to rice increased by 4.3 percent per year, while production increased by 5.6 percent per year.
 - By comparison, Bangladesh rice area and production have had relatively slow growth (0.9% and 3.6% per year from 2001-2011); paddy yields in Bangladesh, however, have increased more rapidly than yields in Myanmar.

⁴ Note that there is considerable variation in estimates of Myanmar paddy area, yields and production across sources. Official government figures for rice production in Myanmar for recent years are almost double the estimates of USDA (Haggblade et al., 2013).

Figure 1: Fish pond area in Myanmar



Source: MDRI/MSU (2015)

Table 2: Rice paddy production and area

	<i>Rice Area</i> (000 ha's)	<i>Rice Area</i> (000 ha's)	<i>Growth Rice Area</i>	<i>Rice Prod</i> (000 tons)	<i>Rice Prod</i> (000 tons)	<i>Growth Rice Prod</i>	<i>Rice Yields</i> (tons / ha)	<i>Rice Yields</i> (tons/ ha)	<i>Growth Rice Yields</i>
	2003-2004	2009-2010	2004-2010	2003-2004	2009-2010	2004-2010	2004-2005	2009-2010	2004-2010
Myanmar	6543.1	8066.8	4.3%	24939	32682	5.6%	3.81	4.05	1.2%
<i>Bago</i>	1087.0	1423.3	5.5%	4099	5671	6.7%	3.77	3.98	1.1%
<i>Yangon</i>	566.2	564.5	-0.1%	1814	2075	2.7%	3.20	3.68	2.8%
<i>Ayeyarwaddy</i>	1911.8	2023.5	1.1%	7731	8643	2.3%	4.04	4.27	1.1%
<i>Mon</i>	313.6	411.6	5.6%	1081	1525	7.1%	3.45	3.71	1.5%
<i>Other</i>	2664.5	3643.9	6.5%	10214	14768	7.7%	3.83	4.05	1.1%
	2001-2002	2010-2011	2002-2011	2001-2002	2010-2011	2002-2011	2001-2002	2010-2011	2002-2011
Bangladesh	10660.7	11529.1	0.9%	36268.7	50061.8	3.6%	3.40	4.34	2.7%

Authors' calculations using Myanmar Agricultural Service Report, Settlement and Land Records Department (2010), Dept. of Fisheries; Bangladesh Statistical Yearbook (various years)

- Although fish pond area has increased in Myanmar, this growth is relatively small compared to overall rice paddy area
 - The ratio of fish pond area to rice area increased very little (0.010 to 0.011) from 2003 to 2013 (Table 3).⁵
 - Area devoted to fish ponds in Yangon region expanded more substantially over this period, from 0.034 to 0.043; the ratio in Ayeyarwaddy region increased from 0.016 to 0.023.
- Bangladesh, which has a similar environment to the Ayeyarwaddy Delta, dedicates approximately four times the amount of land to fish ponds as Myanmar.
 - Fish pond and total pond area in Bangladesh has experienced very rapid growth (2.8% and 4.6% per year).⁶
 - As a result, the fish pond area to rice area ratio increased from 0.027 in 2001/02 to 0.032 in 2010/11.

⁵ In part this is because new ponds have been created alongside new paddy land by conversion of wetlands. Thus, pond area expansion has not always come at the expense of paddy.

⁶ Yields of fish in Bangladesh have likely risen faster than in Myanmar as a result of the widespread adoption of manufactured feeds and production of higher yielding species

Table 3: Share of fish pond area to paddy area

	<i>Total Pond/Rice Area</i>	<i>Total Pond/Rice Area</i>	<i>Fish Pond/Rice Area</i>	<i>Fish Pond/Rice Area</i>
	2003-04	2013(2010)	2003-04	2013(2010)
<i>Myanmar</i>	0.022	0.023	0.010	0.011
<i>Bago</i>	0.006	0.007	0.006	0.007
<i>Yangon</i>	0.041	0.050	0.034	0.043
<i>Ayeyarwaddy</i>	0.024	0.034	0.016	0.023
<i>Mon</i>	0.002	0.002	0.001	0.001
<i>Other</i>	0.026	0.020	0.002	0.002
	(2001-02)	(2010-11)	(2001-02)	(2010-11)
<i>Bangladesh</i>	0.041	0.056	0.027	0.032

Authors' calculations using Myanmar Fishery Statistics (2013); Myanmar Agricultural Service Report, Settlement and Land Records Department (2010); Dept. of Fisheries; Bangladesh Statistical Yearbook (various years)

- Comparisons with Bangladesh suggest that Myanmar may be able to liberalize land use policy and could increase fish and shrimp pond area substantially with little repercussion on rice paddy output.
 - An increase in total pond area from the equivalent of 2.3% of rice area (the current ratio of total pond area to rice area) to 5.6% of rice area (similar to the total pond area to rice harvested area ratio in Bangladesh) implies an approximate 3% decrease in rice area and production
 - As shown in Table 4, approximately 18 percent of gross rice area cultivated in Yangon and Ayeyarwaddy regions (22 percent of net rice area) is double-cropped.
 - If the increase in pond area derived from land which was double-cropped with rice, the decrease in rice area could approach 6% of rice area harvested instead of only 3% of rice area harvested.
 - Note, however, that pond area in Myanmar is not necessarily constrained only by land use restrictions. It is possible that there is insufficient market demand for potential fish or shrimp production if pond area were to double.

- Further analysis is needed regarding the extent of domestic demand constraints for fish and the possibilities for fish exports. For rice, however, it is possible that at the margin, any decrease in production will reduce exports, leaving domestic consumption and market prices of rice in Myanmar essentially unchanged.

Table 4: Myanmar Rice Area, 2009/10 (IHLCA survey data)

	Wet season	Dry season	Total gross area	Both seasons	Total net area	Wet season only	Dry season only
Myanmar	5,189,550	1,102,819	6,292,369	899,185	5,393,184	4,290,365	203,634
	82.5%	17.5%	100.0%	14.3%	85.7%	68.2%	3.2%
Bago	786,893	64,037	850,930	56,007	794,923	730,885	8,030
	92.5%	7.5%	100.0%	6.6%	93.4%	85.9%	0.9%
Yangon	375,427	89,105	464,532	87,144	377,389	288,283	1,962
	80.8%	19.2%	100.0%	18.8%	81.2%	62.1%	0.4%
Ayeyarwaddy	1,778,650	477,887	2,256,537	397,984	1,858,553	1,380,667	79,903
	78.8%	21.2%	100.0%	17.6%	82.4%	61.2%	3.5%
Mon	185,242	17,832	203,074	17,484	185,590	167,758	349
	91.2%	8.8%	100.0%	8.6%	91.4%	82.6%	0.2%
Other	2,063,338	453,957	2,517,296	340,567	2,176,729	1,722,771	113,390
	82.0%	18.0%	100.0%	13.5%	86.5%	68.4%	4.5%

Note: Percentages shown are shares of total gross area.

Both seasons is estimated as the minimum of total land cultivated across the two seasons.

Wet season only is total wet season less land cultivated in both seasons.

Source: Authors' calculation using Myanmar Integrated Household Living Conditions Assessment Survey (R1 and R2), 2009/10.

- Further analysis of the rice –fish pond tradeoffs could include:
 - Calculation of net income per hectare from paddy (single and double cropped) and fish ponds in both Myanmar and Bangladesh
 - Assessment of prospects for yield increases of rice and fish ponds
 - Projections of rice and fish production, consumption, exports, prices and farmer incomes under alternative scenarios

Summary

- Both rice and fish pond area have expanded over the last decade in the delta regions of Myanmar in the last decade.
- Comparisons with Bangladesh suggest that Myanmar may be able to liberalize land use policy and could increase fish pond area and farmer incomes substantially with little repercussion on rice paddy output
 - An increase in total pond area from the equivalent of 2.3% of rice area (the current ratio of pond area to rice area) to 5.6% of rice area (similar to the total pond area to rice harvested area ratio in Bangladesh) would imply an approximate 3% decrease in rice area and production (a 6% decrease if the ponds replaced land double-cropped with rice).

Annex 3:

Annex 4: