FOOD SECURITY POLICY PROJECT

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

ANNUAL REPORT: OCTOBER 2014-SEPTEMBER 2015

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Submitted by

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NOVEMBER, 2015

Executive Summary

The USAID Burma Food Security Policy Project began its first year of operations in September 2014. The project is led by Michigan State University (MSU), in partnership with Myanmar Resources Development Institute – Center for Economic and Social Development (MDRI-CESD), and the International Food Policy Research Institute (IFPRI). The overall project goal is to promote inclusive agricultural productivity growth. This will be achieved by meeting two integrated objectives

- **Objective 1**: Address critical evidence gaps for informed policy debate and formulation.
- **Objective 2**: Foster credible, inclusive, transparent, and sustainable policy processes

The project is comprised of four components, which integrate primary research, evidence based policy advocacy, and building research and policy capacity among national partners:

- **Component 1:** Policy/strategy advising
- **Component 2:** Agrifood value chains
- **Component 3:** Household and community livelihoods.
- **Component 4:** Capacity and network building

Major activities completed under each component during Year 1 of the project include the following:

1. Policy/strategy advising: FSSP's major contribution to policy strategy advising was in its support to flood recovery policy. In June 2015, heavy rains precipitated floods in several parts of Burma, affecting over 1.6 million people and more than 1.4 million acres of farmlands, marking Burma's worst flood for 60 years. MDRI-CESD executive director Dr. Zaw Oo chairs the committee coordinating the national flood recovery effort on behalf of government and international development partners. Recommendations from research conducted for FSP are being adopted as part of this process. Burma's president, Thein Sein, has promised to support farmers who have lost their rice crop to grow alternative crops such as higher value beans and pulses during the coming cropping season in order to help stimulate farm incomes and rural economic activity. Working closely with officials coordinating the recovery effort, the project is also helping to value the damage and losses experienced by farmers, and offer short, intermediate and long term strategies to help the sector 'build back better' for a more resilient future.

The project also advised Ministry of Commerce and Myanmar Pulses and Beans Association on pulses and beans sector development in the short and long run. Despite being Burma's largest agricultural export the sector has been disrupted by record demand from its largest trading partner, India.

2. **Agrifood value chains:** Value chain research comprised a 'rapid reconnaissance' survey of inland (freshwater) fish farming (responsible for 95% of Myanmar's reported aquaculture). We started by identifying, measuring, and cataloguing inland fish ponds in the Delta (where 90% of Myanmar aquaculture takes place) using satellite images from Google Earth. We then traveled to seven townships, accounting for 75% of total fish pond area, and to San Pya market – the main fish wholesale market in Yangon which receives most of the fish produced in the Delta. In each township an inventory of all the segments of the value chain, with numbers of fish farms, rural traders, hatcheries and nurseries, feed mills and feed traders, and linked services like transporters and ice services, was completed. Detailed interviews with structured interview guides with 251 persons followed. The study challenges much of the conventional wisdom on aquaculture in Myanmar, indicating the existence of a dynamic sector with great potential for commercial smallholder led growth, but which is heavily constrained by structural constraints, including land use regulations and inadequate credit markets.

3. **Household and community livelihoods:** The project's largest research component in Year was the Mon State Rural Household Survey (MSRHS). The survey was designed to investigate how different types of rural households derive and utilize their incomes, links between the farm and non-farm economies, and opportunities for economic reform and growth, and will provide evidence on which to base a Mon State Rural Development Strategy, requested by the Mon State government. The survey was a major undertaking. Twelve households were selected in each of 148 EAs, to give a total sample of more than 1700, and 66 enumerators from Mon State were hired and trained in data collection. The survey questionnaire covered a broad range of issues pertinent to the analysis of rural livelihoods, including household consumption and assets, farm enterprise budgets, non-farm employment, migration, transfers and savings, health and education, access to public services and credit, subjective wellbeing, dietary diversity, and shocks. Community questionnaires were also administered in every EA selected. Data entry and cleaning was completed by the end of Q4.

4. **Capacity and network building:** FSPP delivered a variety of training and capacity building activities around value chains; both theoretical and practical. MDRI-CESD research staff gained extensive practical experience of conducting value chain research through aquaculture. This was augmented by a series of research seminars held at MDRI. The project also provided value chain analysis training to 62 employees of Burmese civil society organizations in the Community Development & Civic Empowerment (CDCE) Program at Chiang Mai University, Thailand. Survey implementation and data analysis activities conducted under MSRHS represented another major component of capacity building for project researchers. This comprised an immersive program of guided learning by doing, with activities including survey design, pre-testing, translation, training for trainers, enumerator supervision and logistical support, as well as the use of STATA software to enable data cleaning and analysis. This training and its direct practical

application represents an extremely valuable addition to the skillset of researchers involved. The project also provided diagnostic support and training communications, policy advocacy and policy analysis to members of the Food Security Working Group.

1. Introduction

1.1 Project objectives

The overall goal of the Food Security Policy Project (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. 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.

1.2 Project partners and staffing

FSPP is implemented by Michigan State University (MSU), in partnership with Myanmar Development Resources Institute – Center for Economic and Social Development (MDRI-CESD) in Burma, and the International Food Policy Research Institute (IFPRI), Washington D.C., USA.

For MSU, Duncan Boughton (Professor, International Development, and co-director of the Food Security Policy Innovation Lab), is acting Chief of Party for FSPP, making regular visits to Myanmar to direct project activities and liaise with partners. He will relocate to Burma fulltime in January 2016. Ben Belton (Assistant Professor, International Development), is based in country fulltime, leading the project's value chain research activities. Ellen Payongayong (Survey Specialist) visits Myanmar regularly to lead household survey and data analysis training implementation activities. They are supported by a number of administrative and finance staff, including Steve Longabaugh (Specialist), who works closely staff of MDRI-CESD to ensure that reporting standards are achieved.

For MDRI-CESD, Zaw Oo (Executive Director MDRI-CESD and special economic advisor to the president) leads the project, playing a key role in facilitating the delivery research findings and policy recommendations to policy makers at the highest level. The research component of the project is led by Aung Hein (Research Coordinator), who heads a team of four research associates and two research assistants to implement research activities and data analysis. They are supported by a large team of administrative and financial staff.

For IFRPI, the project is led by Paul Dorosh (Division Director, Development Strategy and Governance) who leads on policy strategy guidance issues. He is supported by Mateusz Filipski (Research Fellow), Emily Schmidt (Associate Research Fellow) and a team of researchers and research assistants who provide technical backstopping and training on data collection and analysis for MDRI-CESD researchers, and engage in data collection and analysis and research planning activities.

1.3 Work plan summary

A revised two year work plan for 2015 was submitted to and approved by USAID in Q2. In line with the project objectives and components summarized in Section 1.1 above, project activities and outputs are organized around four main components:

1) Policy Engagement Tools
2) Evidence Generation
3) Outreach and Engagement
4) Capacity Building

Work plan highlights are summarized below, in line with each of these components:

Policy Engagement Tools: At the state level, FSPP will develop a rural development strategy for Mon State 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 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. At national level, FSPP will develop a framework for agricultural sector reforms (FASR) 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. The FASR will heavily draw on evidence generated by FSPP research activities.

Evidence Generation: Evidence generated by FSPP during the first two years will come from two integrated sets of activities: 1) a rural livelihoods survey in Mon State; 2) selected commodity value chain studies.

The objectives of the survey are:

- To identify income sources and their relative importance for different categories of rural households in Mon State
- To understand the extent of spatial variation in income sources
- To document levels and patterns of household expenditures;
- To understand sources of risk and constraints faced by different rural households to improving their incomes and food security; and
- To assess the business climate for rural and agribusiness enterprises

Detailed understanding of rural livelihoods is complemented by an understanding of the value chains that create or expand market opportunities. Four value chains of strategic importance, both nationally and in Mon State, have been identified for study. These are: 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). 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.

Outreach and Engagement: 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.

Capacity Building: 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:

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

Field based training and capacity building activities will take place as part of the Mon household survey and in depth fish value chain studies. 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. 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.

A complete version of the work plan is attached as Annex 1

2 Agricultural commodity value chain research

2.1 Aquaculture value chain

Value chain research during October-December focused on a rapid reconnaissance of the fish value chain in the Delta (Yangon, Ayeyarwaddy and Bago Regions). This was comprised of two sets of scoping activities: **Scoping 1** - A meso-level structural and geographic inventory of each segment in the value chain to assess the "lay of the land" and how this has changed over time. **Scoping 2** – Micro-level interviews with actors in the value chain in each of the key districts/clusters selected after the general lay of land work, focusing on the assets.

Google Earth was used to identify and catalogue all pond clusters in every township in the Delta. The research team initially visited the major clusters of ponds identified through this search, located in seven townships which account for an estimated 75% of Burma's pond area. Interviews were conducted with a broad range of farmed fish value chain actors operating at different scales to provide an initial picture of the structure of aquaculture sector in the Delta, and overview of changes taking place within it. Interviews with actors of each type and scale were held 'one on one' in the privacy of interviewees' farms, homes and businesses. Two types of interview were conducted:

1) A matrix for obtaining a meso-scale inventory of information on the number and size of value chain actors operating at the village, village tract and

township level within each cluster-node. This information was collected for the present day, five years previously, and 10 years previously.

2) Semi-structured key informant interviews (conducted with each actor type in each cluster-node) on micro-level behavior. Just as with the inventory matrix, the research team sought out changes in actors' assets and behavior over five-year and ten-year periods.

A total of 251 interviews were conducted with 26 different types of actor and up-, mid- and downstream value chain segments (Table 1)

Upstream	#	Midstream	#	Downstream	#	Other	#
Nursery	23	Fish farm	87	Fish trader	35	Capture fish trader	4
Feed trader	19	Mechanic services	5	Transport services	10	Local official	3
Hatchery	14	Transport services	3	Market manager/worker	5	Government official	2
Seed trader	6	Worker	3	Other ancillary services	2	Landless household	1
Ice manufacturer	5	Labor broker	2	Fish processor (small)	2		
Rice mill	5	Other ancillary services	1				
Other ancillary services	4						
Ice trader	3						
Transport services	3						
Feed mill	3						
Chemical supplier	1						
Total	86		101		54		10
Grand total	251						

Rapid reconnaissance results were summarized in a short note, along with a tentative policy implications and recommendations and circulated for comment. The report indicates that, contrary to popular opinion, over the last decade, rapid and sustained growth of aquaculture enterprises has occurred, relatively unfettered by official restrictions on land use, in response to domestic market opportunities. Rapid technical change has occurred, resulting in widespread productivity increases, and large and growing numbers of small and medium producers have entered production, engaging in commercial enterprises, especially nurseries which supply larger operations with seed, as well as in subsistence-oriented extensive fish production in 'backyard ponds'. In almost all locations visited, these changes resulted in rapid value chain development, with small and medium enterprises providing an increasingly diverse range of supporting goods and services, and employing large numbers of workers. This note is attached as Annex 2

Field based fish value chain research activities were supplemented by the collection and analysis of secondary data, from sources including the Integrated Household Living Conditions Assessment Survey 2010 dataset (IHLCA), the Central Statistical Office (CSO), the Department of Fisheries (DOF), and the Yangon City Development Committee (YCDC). Analyses of secondary sources included exploration of data on

the consumption of fish and other animal source foods from IHLCA; historical changes in fish prices generated from the 'Monthly Economic Indicators' collected by CSO; data on farmed fish production and international trade from various sources. Analysis of both groups of rapid reconnaissance and secondary data was completed, and a draft of a comprehensive report summarizing results and policy implications was prepared in Q4. Tentatively titled "*Aquaculture in Transition: Value Chain Transformation, Fish and Food Security in Myanmar"*, the report is undergoing internal review, and will be circulated more widely in Q1, 2016.

3 Household and Community Livelihoods research

3.1 Mon State Rural Household Survey

The second major component of research work conducted by the project in Year 1, was the Mon State Rural Household Survey (MSRHS). The survey will provide inputs into a Mon State Rural Development Strategy requested by the Mon State government, to be prepared in Year 2, as well as a larger national Framework for Agricultural Sector Reform. MSRHS was designed to investigate how different types of rural households derive and utilize their incomes, links between the farm and non-farm economies, and opportunities for economic reform and growth. More than 1700 households, representative of the rural population of Mon State, were surveyed during February and March, accounting for the bulk of project work during Q2. Activities during Q2 included: Sample design, questionnaire design, pretesting and translation, and training of trainers (MDRI staff); logistical preparations and enumerator recruitment. 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.

The bulk of project activity during Q3 also related to implementation of the MSRHS. The entire MDRI project team, comprised of six researchers, one fulltime research intern and three administrative/final staff relocated to Mon for the ten week duration of survey implementation activities. MSU survey expert Ellen Payongayong led the survey in the field. Additional field support was provided by visiting IFPRI and MSU researchers. An 'advance team' was recruited to visit all selected enumeration areas (EAs) ahead of survey implementation, to inform the authorities, obtain permissions from non-state armed groups, and provide other logistical support.

Sixty six enumerators from Mon State, including residents of all 10 of the State's townships were selected to partake in the survey, from a pool of 120 interviewees. All enumerators were university graduates, and those selected spoke a range of languages necessary for survey implementation, including Mon, Karen and Burmese. EA maps drawn during the national census were provided by the Ministry of Population and Immigration, providing a population sample frame. Twelve

households were selected in each of 148 EAs, to give a total sample of more than 1700. The sample is representative of rural households at the state level, but oversamples households whose main occupations are paddy cultivation, rubber farming and marine fishing, in order to ensure sufficiently large numbers of each type of household were sampled to allow for statistically robust analysis of each livelihood profile type. The survey questionnaire covered a broad range of issues pertinent to the analysis of rural livelihoods, including household consumption and assets, farm enterprise budgets, non-farm employment, migration, transfers and savings, health and education, access to public services and credit, subjective wellbeing, dietary diversity, and shocks. Community questionnaires were also administered in every EA selected. Data entry began in early June, and was completed by mid-August, during Q4, and data were checked and cleaned during August and September. MDRI staff received extensive training on the use of STATA software for the analysis of household survey data from IFPRI and MSU staff during this period.

4. Policy Analysis and Outreach

4.1 Framework for Agricultural Sector Reform

Data collection and analysis from MSRHS will provide the basis for the formulation of a rural development strategy (RDS) for Mon State, which will in turn represent a major contribution to the ultimate formulation of a national Framework for Agricultural Sector Reform.

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).

In preparation for this work, Paul Dorosh (Division Director, FPRI) made a visit to Mon state with MDRI-CESD and MSU staff to meet with government officials, including the Chief Minister, and obtain access to information including state budgetary allocations and expenditures which will be analyzed in the Mon State Rural Development Strategy, and to develop a plan and program of work for completion of the strategy.

4.2 Beans and Pulses

A report based on findings from a rapid reconnaissance study of pulses value chains - "*Winds of Change: A Rapid Appraisal of Four Pulse Value Chains in Myanmar* - was circulated during Q1. The report explores changes in Myanmar's pulses value chains since 1988, focusing on three key objectives. First, the paper examines factors driving the long first wave of growth in Myanmar's pulse production and exports. Second, it describes the current organizational structure, incentives and performance of Myanmar's four most important pulses value chains – green gram, black gram, pigeon pea and chick pea. Finally, the paper summarizes stakeholder observations about prospects for future growth in pulses value chains – at the farm level, in value added processing and in domestic and export markets. The report concludes that private sector initiatives by Myanmar's traders and farmers have grown the country's pulses into a billion dollar export industry over the past 25 years, with limited government interference or involvement. However, a second wave of pulse expansion will require more active public support, particularly in breeding and agronomic research. Moreover, diversification into high value new export markets requires encouragement of foreign direct investment into the processing sector, which in turn requires allowing foreign countries to purchase raw material domestically in local currency. A summary of the report's key findings is attached as Annex 3.

Outreach was provided by Prof. Duncan Boughton (MSU), who gave an invited presentation on findings from the pulses rapid reconnaissance report at a Meeting with Myanmar Beans and Pulses Producer Association at the Union of Myanmar Federation of Chambers of Commerce and Industry (UMFCCI), on March 7, 2015. 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

4.3 Aquaculture

The main policy analysis completed aquaculture to date, is contained in a draft policy note: "*Agricultural Land Use in Myanmar: Fish Ponds and Rice*". 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 4. The main outreach activity completed in relation to the aquaculture component of the project was a seminar, held at MDRI-CESD to present preliminary research findings on the structure of aquaculture value chains in Myanmar, and tradeoffs between the allocation of land for aquaculture and paddy cultivation, and implications for land use policy. The seminar was well attended, by representatives from USAID, development partners, and senior staff from MDRI and IFPRI. Dr Ben Belton gave a 30 minute presentation for MSU, introducing the project, providing an overview of key findings from fish value chain rapid reconnaissance activities, and developing an analysis of secondary data on land use for aquaculture and paddy cultivation in Myanmar and Bangladesh.

4.4 Support to flood recovery policy

Dr. Zaw Oo (MDRI-CESD) was appointed to the position of Special Coordinator of the National Disaster Management Committee, dedicated to coordinating post-flood recovery efforts, during the fourth quarter of the project. This provided an additional window for FSPP to engage in policy dialogues around rebuilding the rural economy for greater post-flood resilience and growth. FSPP research staff were provided support to Dr. Zaw Oo in this new role. Activities included: attendance at National Disaster Management Committee and UMFCCI workshops; accompanying the Deputy Minister for Relief and Resettlement, senior officials from the Department of Construction and UMFCCI members to support assessment damage to crops and aquaculture; facilitating breakout groups for data gathering, analysis, and validation of information on economic, social, infrastructure and cross cutting issues relating to flood recovery at a Post Floods & Landslide Needs Assessment Workshop. Participation in these activities and events provided an opportunity to promote policy messages derived from project research on beans and pulses and aquaculture, in support of freedom of farmer decision and facilitating the diversification out of rice and into higher value crops.

4.5 Other outreach

Thomas Reardon (MSU) delivered a keynote speech for the Livelihoods and Food Security Trust Annual Forum 25/26 November 2014, on the "*The Emerging Quiet Revolution in Agrifood Value Chains and Livelihoods in Myanmar*". The speech compared agricultural development in Myanmar to that in other Asian countries, and identified many signs and indications of an emerging Quiet Revolution in the agrifood sector in Myanmar, rather than the stagnation and lack of transformation, as is popularly believed. A video of speech can be viewed here: https://www.youtube.com/watch?v=2wjc4q8OWsM.

5. Capacity Building

5.1 Value chain research training

FSPP delivered a variety of training and capacity building activities around value chains; both theoretical and practical. MDRI-CESD research staff gained extensive practical experience of conducting value chain research through aquaculture value chain rapid reconnaissance activities, organized around the conceptual framework of and structure, conduct and performance, and lens of meso- and micro-scale temporal change. This practical field based experience was augmented by a series of weekly seminars held at MDRI during Q1. The seminars (led by Tom Reardon, MSU) covered a range of topics of importance to the research effort. A total of 7 seminars were held, on subjects including "How to write a research paper", economic geography, transformation in Asian agri-food value chains, and the supermarket revolution. In combination, this program provided MDRI-CESD researchers with the experience and conceptual and analytical tools to lead future value chain research activities.

As part of project capacity building activities, MSU and MDRI-CESD staff (Ben Belton, Aung Hein and L. Seng Kham) provided training for two groups of participants (totaling 62 people) from Burmese civil society organizations in the Community Development & Civic Empowerment (CDCE) Program at Chiang Mai University, Thailand, in December 2014, and again in August 2015. These training sessions covered an introduction to value chain analysis and introduction to research methodology respectively. Participants in the first course were able to put their classroom-based training into practice through research assignments conducted in Mon state in December and January, ahead of MSRHS. The course participants 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 stakeholders. Some participants in this activity subsequently went on to participate in the full MSRHS survey activities.

5.2 Survey design and implementation training

Capacity building activities relating to survey design and implementation centered on an immersive program of guided learning by doing for MDRI-CESD researchers during the Mon household survey, under the direction of experienced MSU and IFPRI staff, including MSU's survey specialist, Ellen Payongayong. These activities, including survey design, pre-testing, translation, training for trainers, enumerator supervision and logistical support, were designed to include MDRI staff from beyond the core group of FSPP researchers, from divisions including governance, micro-finance, macro-economics and admin, to ensure maximum exposure to the learning opportunities available. Enumerators and supervisors hired for the survey on a

temporary basis also gained experience of survey implementation through their involvement in these activities.

5.3 STATA training

Another major thrust of capacity building has been training for MDRI-CESD staff on the use of STATA software to enable cleaning and analysis of data collected by MSRHS. Two IFPRI research assistants, Ulrike Nischan and Zara Qureshi (IFPRI) conducted a training course on STATA for researchers, for 13 FSPP researchers and other MDRI staff on introduction to statistics, including an introduction to quantitative analysis and introduction to data cleaning and reshaping using STATA software for two weeks in mid-July. A shorter version of the course was held the following week, and was attended by a seven additional participants. Core FSPP staff received further week of practical training on using STATA for data cleaning in August, led by Ellen Payongayong (MSU). This training, and the practical application of the knowledge gained, will represents an extremely valuable addition to the skillset of project researchers.

5.4 Organizational Development

Steve Longabaugh (Specialist) and other MSU staff made several visits to Myanmar to support the implementation of timely, efficient and compliant financial reporting systems. MDRI administrative process and procedures and the current status of the finance and administration structure were reviewed jointly, and MSU staff worked closely with their MDRI-CESD counterparts to identify a vision of an upgraded finance and administration structure, more responsive to financial and reporting requirements. On the basis of this analysis, a series of recommendations were made and implemented, regarding improving procedures for managing issues including timesheets and payroll recording, staff roles and responsibilities within MDRI-CESD, and exchange rate documentation. Training was also provided on donor requirements, federal guidelines, best practice for efficient submission of invoices and preparation of invoices, file storage, and currency conversions, to support the implementation of these procedures.

5.5 International workshops/seminars

Several MDRI-CESD staff attended international trainings and workshops to make presentations or receive training, gaining important professional experience in the process for doing so:

MDRI-CESD Research Associate Kyan Htoo made a presentation highlighting preliminary findings from the fish value chain rapid reconnaissance work at a forum in Bangkok organized by the ASEAN-Mekong NGO Engagement Program. MDRI-CESD research associate Seng Kham, presented findings from the pulses value chain rapid reconnaissance at a conference hosted in Yangon by the Australia Myanmar Institute. MDRI-CESD Research Coordinator Aung Hein attended an

international summer school at Bejing University (China), on the New Structural Economics, funded by a bursary from the same institution.

5.6 Support to the Food Security Working Group

The Food Security Working Group (FSWG) has been working in Myanmar since 2003 and is composed of national and international NGOs, community based organization and individuals addressing food insecurity in Myanmar. FSWG provides a platform for members to learn, share and advocate on issues relating to food security and engages with members to build their knowledge and skills on food security and mobilizes their capacities to identify and formulate issues for research and policy advocacy. In February 2015, a three person team (Suresh Babu and Adam Kennedy of IFPRI and Oyinkan Tasie of MSU) made a scoping mission to Myanmar at the request of USAID to assist FSWG in assessing FSWG capacity needs and developing a long-term vision for developing their food security and agricultural policy advocacy efforts. This activity, which consisted of conducting interviews with more than 40 individuals from 15 different member organizations of FSWG, and a presentation of initial findings to partner organizations, also provided an opportunity to identify key evidence gaps FSPP to address.

On the basis of these efforts, Suresh Babu returned during July, to lead a training workshop organized by the Food Security Working Group (FSWG) on "*Strengthening the Food Policy System through Communications and Advocacy in Myanmar"*. In addition to helping participants increase their understanding of the policy process, the training emphasized the systematic development of policy advocacy and communications strategies for the members of the FSWG, and application of the "Kaleidoscope Model" of policy development analysis to the policy process in Myanmar.

6. 2016 Work Plan Highlights

Work plan highlights for 2016 are presented below, organized with reference to the four project components.

Component 1: Policy strategy advising

A flagship activity for 2016 will be the release of the Mon State Rural Development Strategy, based on findings from the MSRHS, commodity value chain studies in Mon, and the compilation and analysis of macro-economic data for the state. The Strategy will be released in April 2016, to take advantage of the policy window that will exist when the first parliament of the new government sits. The rural development strategy for Mon state will be followed by a larger national Framework for Agricultural Sector Reform, which will build upon the Mon strategy and incorporate findings from earlier national diagnostic work and new value chain

studies completed in 2016, supported by a variety of national and state/region macro-economic data and analysis of national survey datasets. The Framework will be used to initiate dialogue around agricultural policy reform, to stimulate the development of a more productive, higher value agricultural sector.

Component 2: Agri-food value chains

Findings from the initial fish value chain rapid reconnaissance study will be published in Q1 of 2016. Following on from this largely qualitative study, FSPP will implement a structured household and farm survey to generate the robust quantitative evidence required to make the case for policy reforms. The survey will focus on the returns, employment and economic spillovers associated with aquaculture and paddy cultivation, and in differences in the economic impacts of small and medium commercial farms, versus the much larger operations that dominate sectoral output. The survey will also capture information on agricultural input use and mechanization, to provide data to support rapid reconnaissance activities on input value chains. From start to finish, the process it planned to run from mid-November to mid-April.

A number of additional value chain rapid reconnaissance of smallholder rubber and horticulture value chains in Mon. The scoping, design and data collection phases of these two studies will be conducted simultaneously during January and February. Rapid reconnaissance of agricultural input value chains will be conducted in the Delta region during January and February. This activity will later be extended to other areas of the country, likely including Shan state and the Central Dry Zone.

Component 3: Livelihoods

Mon State Rural Household Survey data analysis will continue during Q1 of 2016. Two outputs; a technical report summarizing key descriptive outputs of the survey, and livelihoods report. The livelihoods report will contain detailed analysis of livelihood activities and household welfare by occupational group, agro-ecological zone, and income quintile, and this information will serve as a key input into the Mon State Rural Development Strategy.

Component 4: Capacity building and outreach

Capacity building an outreach activities will continue as opportunities arise, and will include validation workshops for key research outputs, continued on the job research training for MDRI staff, and generation of a range of policy relevant materials and participation in policy fora on agriculture and rural development as demand arises.

A draft timetable for research activities in 2016 is included as Annex 7

Annex 1

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) (IFRPI) 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

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

[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.

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 additional, 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 FSPP 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.

Annex 2

Fish value chain rapid reconnaissance: Summary of preliminary findings and recommendations

This document provides a synopsis of preliminary findings from a rapid reconnaissance study of the fish value chain in the Delta region of Myanmar, conducted between September and December 2014, and provides initial recommendations based on these findings. The first section of this summary briefly reviews some of the more widely held conventional views of aquaculture in Myanmar. These contrast sharply with many of the most important findings from the rapid reconnaissance, as outlined in the second section of the document. The final section summarizes the policy implications and offers preliminary policy recommendations based on evidence derived from the rapid reconnaissance.

Conventional views of aquaculture in Myanmar[2]

Commonly held views of the characteristics of aquaculture in Myanmar are summarized as follows:

- Aquaculture in the Delta region is dominated by large-scale production systems, which are, to a large extent, export oriented. Selling to domestic markets represents a 'second best' option for these enterprises (Johnstone et al., 2012; Delta Alliance, 2013)

- Large-scale aquaculture is characterized by low productivity and efficiency, with long production cycles, and its long term economic viability is questionable (Johnstone et al. 2012; Delta Alliance, 2013).

- Large-scale farms provide low levels of seasonal employment (Johnstone et al. 2012)

- There is an "almost complete absence of a small-scale aquaculture sector", in part because of "an absence of small multipurpose ponds near farming homesteads… dug in response to water shortages [and to] provide a domestic water source and refuge for wild fish" Edwards (2005).

- "The authorities do not allow ponds to be built on land suitable for rice cultivation" (Edwards, 2005), representing a major constraint to more widespread aquaculture development (FAO, 2003).

In short, according to this narrative, the prospects for aquaculture as a driver for rural development in the Delta region are weak; constrained by poor technical performance, an unfavorable policy environment, a rather sluggish domestic market, and offering few opportunities to small and medium-scale producers or workers.

[2] In this document we consider only freshwater aquaculture. Coastal and marine aquaculture (including tiger shrimp and crab), account for a very small fraction of total national aquaculture production, and were not surveyed.

Summary of key rapid reconnaissance findings

Whilst there is an element of truth to most of the characterizations presented in the preceding section, preliminary results from the rapid reconnaissance paint a dramatically different picture of aquaculture development over the last decade. During this period, rapid and sustained growth of aquaculture enterprises, relatively unfettered by official restrictions on land use, has taken place in response to burgeoning domestic market opportunities. Rapid technical change has occurred, resulting in widespread productivity increases, and large and growing numbers of small and medium producers have entered production, engaging in commercial enterprises, especially nurseries which supply larger operations with seed, as well as in subsistence-oriented extensive fish production in 'backyard ponds'.

In almost all locations visited, these changes have resulted in rapid value chain development, with small and medium enterprises providing an increasingly diverse range of supporting goods and services, and employing large numbers of workers. A 'silent revolution' in fish value chains is thus very much underway in Myanmar. A note of caution must also be sounded however as, in many locations in the Delta, conversion of paddy and wetlands to large scale pond farms has resulted in the displacement of rice farmers and natural resource users. The remainder of this document summarizes some of the most important of these findings and their implications in more detail.

Geography and historical development

Aquaculture started to emerge from the mid-1960s onwards, as farmers in Kayan and Twantay townships began stocking wild fish in enclosed rice fields, where they were grown without feed. As hatchery produced seed became available from government run hatcheries during the 1970s, pioneering farmers in these areas began to construct purpose built ponds, stock hatchery produced seed, and use rice bran as a feed input. Informal knowledge transfer of hatchery techniques from government staff to early pond farmers followed, resulting in the development of the first private hatcheries, initially in Kayan and subsequently in Twantay.

Early pond farmers were rapidly able to expand their operations (which were highly profitable at this time), by buying up low productivity submerged paddy fields from neighboring farmers using credit provided by large fish traders in Yangon. The sector suffered a temporary setback during the late mid to late 1980s as the Socialist government cracked down on these emergent operations, but began to expand again rapidly post-1988, as the command and control of agricultural production was relaxed, and there was a period during the early 1990s during which the development of aquaculture was actively promoted by the military in in some areas. As the land frontier in pioneering areas was closed, the most successful farmers began to acquire land for pond construction outside the original clusters, and residents of newly forming clusters also began construct ponds in increasing numbers.

This pattern of expansion has continued until the present day. Most pond farms are now located in a set of clusters shaped like a sickle with a fat handle, centered around main demand hub of the city of Yangon. The point of the sickle starts in Kayan to the East of Yangon City, running through Hlegu to the North (at the top of the curve of the sickle), and curves down to the fat handle of the sickle to the South and West, through fish pond clusters in the Townships of Twantay, Nyaungdon and Maubin on the borders of Yangon and Ayeyarwaddy Divisions. Newer pond clusters are also beginning to emerge further to the west and north of these main centers. The total area of land under aquaculture in the Delta region, as ascertained from analysis of satellite imagery, is currently 210,700 acres (Figure 1)

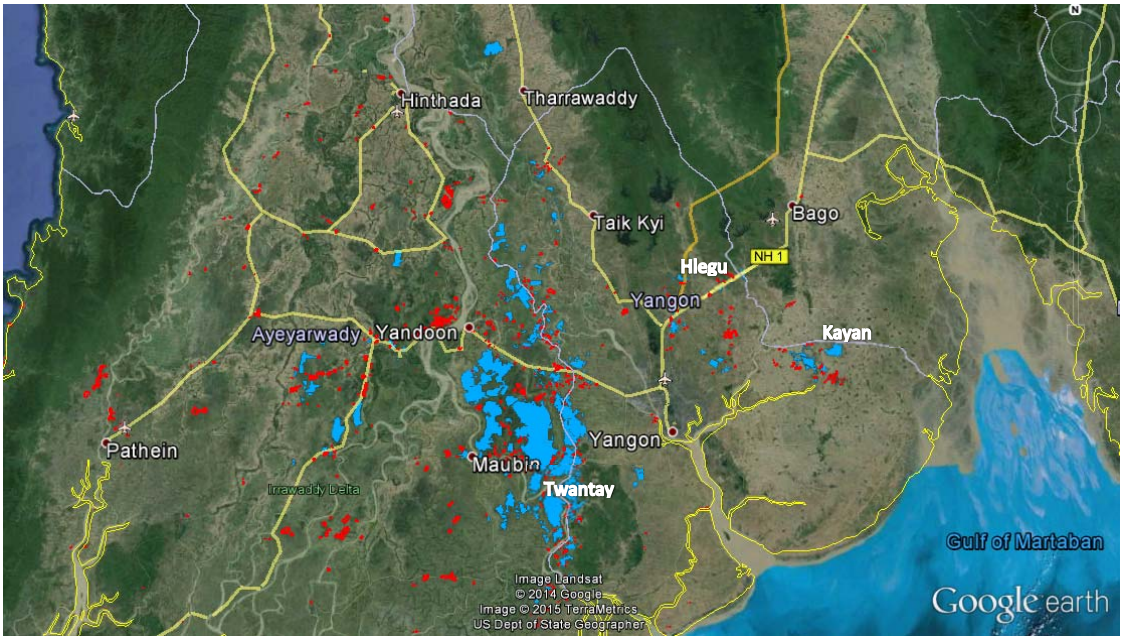


Figure 1: Satellite image overlaid with the location of major pond clusters (shaded light blue) and smaller groups of ponds (shaded red). Source: adapted from Google Earth

Sectoral structure

In terms of production volumes, aquaculture is dominated by large scale operations. These include a small number of farms operated by companies, with sizes of up to 7000 acres, and some very large farms around the 1000 acre mark operated by individuals or families, often from among the earliest investors in the sector. These large enterprises are all vertically integrated to varying degrees, often incorporating hatcheries and, in some cases, pelleted feed production facilities and marketing outlets. Farms in the low 100s of acres represent a large share of pond acreage in some clusters. However, there are also significant numbers of 'medium-sized' farms, ranging from 5-50 acres in each cluster.

Kayan township in Yangon Region, and village tracts along the border between Twantay and Maubin Townships in Ayeyarwaddy Region are major hubs for seed production, each supporting several private hatcheries and large numbers of specialized commercial nurseries, the majority of which are sized 1-5 acres. All major pond clusters are well connected by waterways and/or roads to Yangon, the main demand hub where the vast majority of fish are marketed. Clusters of medium sized fish farms integrated with poultry production (which provides 'free' pond inputs in the form of chicken manure and spilt feed) have developed rapidly over the last decade in peri-urban areas along major roads to the north of Yangon.

Unexpectedly, given the common belief that there is little or no very small-scale 'backyard' aquaculture in Myanmar, satellite images reveal there to be in excess of one hundred thousand homestead ponds sized less than half an acre in townships throughout the Ayeyarwaddy and Yangon Regions. Interviews conducted in Thongwa, to the east of Yangon indicated that over the past 10 years, these ponds (which were originally excavated to provide drinking water for farm households in areas with saline groundwater), have increasingly been stocked with hatchery seed to provide fish for home consumption as a replacement for dwindling stocks of wild fish. This pattern is likely to be repeated through other townships to immediately to the east and west of Yangon, although it has yet to be determined whether fish are stocked in this type of pond in remoter areas of the Ayeyarwaddy Region, located far from the main seed production hubs.

Supply side growth

In all but the most mature clusters where the land frontier for pond construction has already been closed, pond acreage has increased rapidly over the last decade through the conversion of paddy land and uncultivated wetlands. For instance, analysis of satellite images show that the area of ponds on 'Nyaungdon Island', which covers much of Maubin and Nyaungdon townships, grew by more than 250% between 2003 and 2014, from approximately 9,700 to 34,000 acres. The acreage of ponds around Hlegu to the North of Yangon grew by more than 150% over the same period, with integrated poultry-fish farms expanding dramatically, from nothing in 2004 up to three quarters of total acreage in 2014.

Hatchery numbers have grown steadily in all major pond clusters. Nursery operations have increased extremely rapidly on the Twantay-Maubin border, where numbers of entrants have increased an estimated 5-10 times, and nursery pond acreage has grown threefold during the last decade, as large numbers of smallholders have seized the opportunity to diversify away from less profitable horticulture and paddy farming. There are also an estimated 3000 acres of nursery ponds located in the original hatchery cluster of Kayan.

A proliferation of other up- and mid-stream value chain actors performing increasingly specialized functions has taken place in key growth hubs, most notably the towns of Twantay and Kayan, where numbers of transport services (truck and boat rentals), feed traders, mechanics, hardware suppliers and ice factories have doubled or trebled over the space of a decade. Workshops in these areas have also begun to manufacture fiberglass boats, water pumps and specially modified boats for the live transport of fingerlings over this period.

Demand side growth

Perhaps the single most striking finding of the entire study is the dramatic growth of demand for aquaculture fish from Upper and Eastern Myanmar which has occurred since 2011. Transport workers and companies at San Pya central fish wholesale market and Aungmingalar Bus Terminal in Yangon city reported a huge increase in the number and volume of consignments of farmed fish distributed to more than 25 destinations outside the capital since the liberalization of regulations on motor transport and completion of the Yangon-Mandalay express way, sharply reducing transport costs and times.

The rapid expansion of aquaculture over the last decade has taken place despite extremely high real exchange rate appreciation of the Kyat against the Dollar from 2007 to 2013, which sharply reduced the competitiveness of fish exports from Myanmar. Nevertheless, nominal domestic prices for farmed fish have remained buoyant so it appears that domestic demand has been able to absorb both increased production and surplus from falling exports. We hypothesize that the opening up of the internal market via improved transport linkages has been *the* single most critical a factor in allowing this to occur (rapid urbanization, rising real incomes and declining freshwater capture fisheries output over this period are also likely to be contributory factors). The rapidity of growth in demand from Upper Myanmar is illustrated by the emergence of cluster of 50 small enterprises at San Pya market processing *nga chit* (a paste of minced fresh fish used in fish cakes), employing a reported 1500 laborers. 10 years ago there were very few *nga chit* producers in the market, and their numbers have jumped very sharply within the last 5 years in response to demand from newly opened hotels in Nay Pyi Taw.

Technological change

Fish production continues to be dominated by semi-intensive farming systems utilizing agricultural byproducts as feeds (most importantly rice bran and peanut oil cake and, increasingly, chicken manure in integrated poultry -fish systems). Use of manufactured pelleted fish feeds is on the increase, facilitating

shorter production cycles, but its use remains relatively limited at present, accounting for perhaps <20% of total production. Despite this, per acre yields have risen steadily over the past decade, principally as a result of the practice of stocking increasingly large fingerlings, at sizes of up to 12 inches. This has the effect of shortening production cycles by a third or more, as well as increasing yield per acre/cycle in some instances. Based on farmer interviews, we speculate that productivity increases are responsible for as much as half the output growth which has occurred over the past 10 years.

The tendency toward stocking large fingerlings has been responsible for the boom in small commercial nursery operations, since although larger farms nurse fingerlings to advanced sizes on-site, they require inputs of smaller fingerlings in order to do so, and are also often unable to produce larger fingerings in sufficient quantities to meet their own needs. Although aquaculture remains dominated by production of Indian major carps (mainly rohu), other species (most importantly pangasius and pacu) are also increasingly important, and production of a variety of minor species including African walking catfish, climbing perch and giant freshwater prawn is also apparent, suggesting emergent processes of product differentiation.

Inter-sectoral linkages

Total sales of unprocessed fish feeds and fish feed ingredients are growing rapidly. Traders at Yangon's largest wholesale market for agricultural goods estimate that the market for fish feeds and feed ingredients is as large as the market for all other animal other feeds combined. The fish feed market supports a vibrant interstate trade in the agricultural byproducts, both from North to South (mainly oil cakes from the Dry Zone), and within the Delta region (rice bran). The growth of aquaculture is thus highly dependent on these other agricultural sectors and their allied processing industries, and also supports their development, since the ability of processors to derive income from sales of byproducts reduces effective operating costs.

Much of the growth in integrated poultry-fish production to the north of Yangon has been fuelled by the inflow of capital from investors in Shan state with trading, mining and agricultural businesses, seeking to diversify their asset portfolios. Marine fishing boat owners have also invested in aquaculture for the same reasons. The investment of remittances from international migration in pond farming in the Delta, while present, is rather limited, as the capital threshold usually proves too high. Investment of international remittances in smaller scale trading businesses (e.g. fingerling brokers) appears somewhat more common.

Labour

All medium and large scale fish farms employ permanent labour to tend ponds (often husband and wife teams who live in on-site accommodation). In all pond clusters visited, the overwhelming majority of permanent laborers (all of whom were landless) originated from outside the area, usually from the remoter townships of Western Ayeyarwaddy Region, where there were said to be few employment opportunities apart from causal seasonal agricultural work. Large teams of day laborers, hired for harvesting ponds, unloading feeds and earthmoving work, were also found in all locations. These tended to be comprised largely or wholly of local residents (with the exception of peri-urban Hlegu, where groups of migrants from Ayeyarwaddy Region living in makeshift housing on roadside land perform a range of casual farm and non-farm labour).

Wage rates for temporary workers are in the region of $4/day for men and $3/day women, while wages for a single male permanent worker are approximately $2.50/day, meaning that pond cluster residents preferred the greater freedom of better remunerated day labour. Widespread outmigration, most importantly to Yangon for jobs in garments and other industries, was reported in pond clusters in Twantay and Maubin, particularly among members of families who had sold agricultural land to fish pond

operators, and other landless households. This outflow of labour has reportedly resulted in rising wage rates and occasional labour shortages within pond clusters. These observations appear to be correlated with recent growth in the use of mechanized earthmoving equipment, rental services for which have emerged in all pond clusters visited, mostly within the last three years.

Land

Pond farms are mainly constructed on land purchased by their operators. In Latkyargyi village tract, Maubin, at least two thirds of pond acreage in several villages was owned by large farmers originating from earliest pond cluster in Twantay, who purchased land from small paddy farmers unable to support the costs of production inputs and living expenses. Similar patterns of land acquisition and pond ownership were reported in other pond clusters. The relative ease with which many pond farmers had apparently been able to purchase agricultural land may also be linked to very low historical incomes associated with paddy cultivation, due in part to low productivity, but also (in the past) to policies which strictly regulated paddy production targets, sales and prices, leaving many farm households deeply indebted (Okamoto, 2008). Uncultivated wetlands have also been converted to ponds, and land prices in all pond clusters have risen sharply as the land frontier has closed.

Farming on land leased-in from private owners is relatively uncommon, occurring mainly in cases where a pond farmer has incurred large financial losses, causing them to rent their land to others. Where land is leased-in for aquaculture, this is primarily from state institutions, including government departments, prisons and the military, or from companies granted land concessions by the state. We hypothesize that the limited development of private land rental markets may reflect the somewhat ambiguous situation pertaining to private property rights, as all land is formally owned by the state which allocates land use rights.

Widespread land grabbing was reported to have occurred throughout large areas of Maubin and Nyaungdon Townships in the early 2000's. A large government flood control and irrigation scheme completed in the late 1990s was intended to facilitate the intensification of rice cultivation in the area, but also improved its suitability for aquaculture. Following completion of the scheme, companies with close ties to the military government reportedly seized many 1000s of acres of land, including land already cultivated by paddy farmers (in one village visited, 180 out of 300 households had reportedly lost all or part of their agricultural land in this way). Paddy and wetlands in the most favorable locations were converted to ponds, most of which were leased out to large pond farmers rather than operated directly by the companies concerned. Since 2011, many of the paddy farmers affected have begun efforts to reclaim their land or receive compensation. In some instances they have been successful in doing so, but many other unresolved cases are still being contested.

Regulatory issues

Officially, a person wishing to convert any land to ponds must possess; 1) 'Form 105', which provides land use rights; 2) 'Form 39', which permits a change of land use; 3) a pond license issued by the Department of Fisheries, which permits the cultivation of fish. In areas visited, most land under cultivation is already assigned a Form105, and pond licenses were reported to be granted to any individual in possession of a Form 105 and a pond, irrespective of whether they also possessed a Form 39. According to informants, obtaining a Form 39 requires the consent of multiple agencies at local, regional and national level. These include the village head, the Settlement and Land Records Department, the Department of Agriculture, the Department of Irrigation, and the General Administration Department. The process can take several years and requires numerous visits to various government offices. It also

entails the payment of substantial "unofficial" fees. Possession of Form 39 also requires the bearer to pay an annual tax to the Internal Revenue Department, reported by informants to cost MMK 80,000/acre.

In many of the pond clusters visited, it was widely reported that a person wishing to convert a small area of land to ponds would need to receive the assent of the village head in order to do so but that, if granted, this was sufficient to allow pond construction and operation to take place unhindered. Although the village head is only officially permitted to give consent to the conversion particularly poor quality paddy land (referred to as category "R3" land), informant's comments suggested that providing the correct financial incentives might facilitate a greater degree of flexibility with respect to the quality of paddy land that could be converted. Few farms of less than 10-15 acres choose to apply for a Form 39. In fact, from the perspective of the farmer, the only discernible benefit of obtaining Form 39 is that it affords the bearer protection in the case of a dispute over land use rights, and entitles them to compensation in the event that the land is confiscated by the state. Thus, farm owners have little incentive to apply unless their farm is sufficiently large that their lack of Form 39 might come to the attention of the authorities, subjecting them to the possibility of fines, or if they have reason to fear that their land use rights might be challenged.

As a result, the majority of informants in most pond clusters estimated that a Form 39 had been issued for around only half of total pond acreage, with some putting the figure as low as 10%. Even larger farmers often reported having applied for Form 39 for only part of their pond acreage in order to avoid the costs entailed, while others reported having begun the application process, but deliberately failing to pursue it further once the application had been lodged. Thus, at least in some areas where pond clusters are already well developed, the need to obtain permission for land use conversion does not appear to pose as large an impediment to the expansion of small and medium scale aquaculture as is widely believed.

Policy implications and recommendations

We identify the following preliminary set of policy implications and recommendations on the basis of findings from the rapid reconnaissance outlined above. Recommendations are organized in relation to the midstream (farm sector), upstream (input supply) and downstream (marketing) segments of the fish value chain, and with respect to land.

Midstream:

- The domestic market for fish in Myanmar is large (53 million people) and expanding quickly with strong long term growth prospects as urbanization, incomes and communications improve, and the productivity of freshwater and marine capture fisheries decline. In contrast, the total maximum potential market for exports in the Gulf States (the main target market for farmed freshwater fish exports from Myanmar) is around 20 million people, with more limited prospects for growth and less stable conditions of trade than those found in domestic markets (e.g. as a result of exchange rate fluctuations and occasional trade embargoes). **Policies aimed at promoting freshwater aquaculture should therefore focus primarily on fulfilling and creating additional future domestic demand**.

- In pond clusters where large numbers of small and medium scale commercial producers engage in aquaculture supported by numerous small services providers, levels of employment appear higher, and the distribution to access to benefits appears much more equitable, than where very large vertically integrated farms dominate production. This finding requires further empirical

investigation, but suggests that **there is an economic case for prioritizing support for development of small and moderately sized commercial producers over that which serves the needs of very large farms**.

- The semi-intensive farming systems which dominate aquaculture in Myanmar perform well, but presently produce a very limited variety of species, and a very limited range of production technologies are utilized in comparison with other major producer countries in Asia. As the domestic market continues to grow and become better spatially integrated **there is ample scope to initiate production of a variety of additional species, both niche and high volume, including those which can be farmed commercially on a relatively small-scale, to meet demand from middle class and low income consumers and provide points of entry into aquaculture value chains for new producers and associated service providers**.

- Large farms are not generally credit constrained because they possess sufficient collateral to secure advance payments from fish traders and loans from other informal and formal sources. Bank credit is reportedly only available to fish farms with holdings of 50 acres or more. Some smaller producers reported being unable to access credit to cover operating costs, even from informal sources, resulting in suboptimal use of inputs and low profitability, and farmers stocking fish in homestead ponds reported using the agricultural loans provided for paddy cultivation to purchase fish seed. These factors suggest that **there is demand for carefully targeted and appropriately designed microcredit instruments to improve the productivity of small producers, along with improved access more substantial and appropriately tailored bank loans for medium-scale commercial producers**.

- The land frontier in the main townships where pond clusters are currently located is closing rapidly, and scope for further horizontal expansion of pond acreage in these areas is somewhat limited. There remains considerable scope for expansion into remoter townships further to the west, north and south of Ayeyarwaddy Region, but production in these areas is at a comparative disadvantage due to weaker road and water transport links to the main demand hub of Yangon. **Improvement of road and/or canal access to remoter parts of the Ayeyarwaddy Region would open up new areas for pond expansion by connecting them to the Yangon Market.**

- Extremely large numbers of small homestead ponds identified through analysis of Google Earth satellite images hold great potential for the expansion of ‘backyard’ aquaculture for both household food security needs and the market. At present, the intensification of production in this type of pond is constrained by the need to limit feed use in order to retain their primary function as sources of drinking water in areas with saline groundwater. **Improving household access to potable water in these areas would remove the key constraint to the more intensive utilization of homestead ponds in aquaculture production**.

- **Fish diseases and parasites were by far the most common problems identified by farmers, compounded by extremely limited access to veterinary services and information on diagnosis and treatment.** These needs could be addressed through the development of public-private partnerships to ensure greatly improved coverage and quality of these services.

- The extent of electrification in most of the pond clusters visited was extremely limited. **Improved rural electrification would substantially reduce production costs** associated with pumping water and (in the case of integrated poultry-fish operations) lighting and ventilating hen houses, as well as that needed for important support services such as ice production, resulting in greater profitability and improved husbandry.

Upstream:

- Interviews indicate that the by far most effective interventions of the Department of Fisheries have been in the sphere of fish seed production. **Improvement, commercialization, and transfer of production technologies for seed of a variety of existing and 'new' or emerging species to the private sector should represent a priority.** These investments would be a key step in leveraging the potential for product and technological diversification highlighted above.

- The feed manufacturing sector is currently poorly developed, being dominated by a single company, with a few other large vertically integrated farms producing pelleted feed primarily to meet their own requirements. Part of the reason for the limited adoption of pelleted by smaller farmers is their quality, which is not always acceptable. Other reasons include the marketing practices of the main feed manufacturer, and the limited diversification of farming systems into species which are better suited to more intensive production. **Encouraging foreign direct investment in the feed sector could increase its competitiveness, leading to higher product quality, lower price, fairer marketing practices, and the provision of stronger embedded services by feed suppliers (e.g. veterinary services and promotion of new production technologies)**.

Downstream:

- The domestic market for fish has proven extremely responsive to the liberalization of regulations governing transport, and improvements in transport infrastructure. **Further investments in transport infrastructure, particularly linking to the main urban centers Upper, Eastern and Western Myanmar would improve market access and connectivity and reduce transport times**.

- Busses are not currently licensed to carry freight, including fish, and fish cannot legally be transported interstate without written consent from the Department of Fisheries. Both of these restrictions are ineffective in achieving their intended aims, and serve only to promote rent seeking behavior and increase transaction costs in marketing, which are ultimately passed on to the consumer. **All restrictions on the domestic transport of fish should be removed**.

Land:

- In several of the pond clusters visited, producers wishing to convert less than 10 acres of land to ponds are already *de facto* informally exempt from the need to apply for official permission

(Form 39), although they still require the consent of the village head in order to make these changes. **Exempting all farms sized 10 acres or less from the requirement to obtain Form 39 for pond construction would remove this constraint to the development of small-scale commercial aquaculture in areas of high potential where these rules are currently implemented strictly (e.g. Mon State), provide protection for the large numbers of small farms which currently operate without Form 39, and result in negligible cumulative reductions in the area under rice cultivation.**

- Large areas of ponds, particularly in Ayeyarwaddy Region, appear to have been constructed on land appropriated from farmers with pre-existing land use rights by companies with close ties to the military. **Future policy should ensure that: 1) no land is appropriated for the purpose of constructing ponds against the wishes of existing users with the right to occupy it; 2) legitimate claims for compensation brought by farmers displaced by the appropriation of land for pond construction are settled in the favor of the claimants, at market rates and/or through the return of land formerly operated.**

- In many areas of Ayeyarwaddy Region, the construction of ponds has taken place on wetlands. Although these are officially regarded as "vacant", "fallow" or "wastelands", they perform an important function in providing ecosystems services which are of critical importance to the livelihoods of large numbers of landless households (e.g. wild fish, fodder, fuel). **The importance of wetlands should be fully recognized, and their conversion to ponds or other agricultural uses should be more strongly regulated in order to maintain the ecosystem services and biodiversity which they support.**

Annex 3

Briefing Note: Myanmar Pulses and Beans sector

Background

As a follow up to the initial agricultural sector and food security diagnostic carried out by Michigan State University in collaboration with MDRI-CESD from October 2012 to May 2013, a targeted diagnostic of the pulses and beans sector was undertaken in 2014 as it represents Myanmar's largest crop export sector in volume and value terms.

Key Findings

1. *Past growth*: pulses and beans (especially black gram, green gram, pigeonpea and chickpea) were the first crops to be liberalized in 1988. Farmers and traders responded in dramatic fashion with exports rising from less than 100,000 tons to 1.4 million tons by 2010, generating $1 billion in export earnings. Myanmar's climate is well suited to pulse production with black gram and green gram dominant in the Delta Zone, and a more diversified set of production systems, including pigeonpea, in the Dry Zone. Domestic trade is undertaken entirely by nationals and most exports are handled by a small number of international buyers.
2. *Current challenges*: since 2005 the sector has been subject to increased volatility due to a range of factors, especially the fact that exports are almost entirely in raw form with heavy dependence on a single buyer – India. Production increases have been driven almost entirely by area expansion with limited use of improved varieties and crop management practices. Marketing systems are competitive but costly due to multiple handling, lack of quality incentives, and limitations on foreign direct investment in processing and procurement. The domestic market is very limited and hence there is no "shock absorber" for export demand shocks.
3. *Future opportunity*: regional and global markets for pulses and beans are growing steadily. To break out of the status quo Myanmar must increase productivity and quality at the farm level, and increase the share of pulse and bean exports in processed rather than in raw form. Success will bring increased incomes for up to 3 million farm families, increased employment in processing, and growing domestic consumption of nutritious food.
4. *What it will take* to increase the share of exports in processed form: international companies with extensive global and regional export networks need incentives to invest in procurement and processing activities in Myanmar. Government should lift restrictions on international companies trading in local currency (at present they can only purchase on an FOB basis in US dollars from local traders) and engage in dialog with both international and domestic companies on policies and private-public partnerships to stimulate investment in processing.
5. *What it will take* to enable farmers to respond to increased demand for quality raw material: Burmese farmers need access to seed of improved varieties, improved pest management practices, improved post-harvest handling and mechanized services (for early planting). National research and extension capacity on beans and pulses is minimal and needs reinforcing through partnerships with international organizations (AVRDC, CIAT, USAID FTF Legume Innovation Lab).

Conclusion

Myanmar faces a choice about the pulses and beans sector. With an intentional strategy to promote investment in processing and increase farm-level productivity the sector could make important contributions to the incomes of millions of farmers and thousands of workers, and remain a significant source of foreign exchange. Without such a strategy the sector will likely face continued volatility, decreased profitability as rural wages rise, and eventual decline.

Annex 4

Agricultural Land Use in Myanmar: Fish Ponds and Rice

Ben Belton, Paul Dorosh and Emily Schmidt

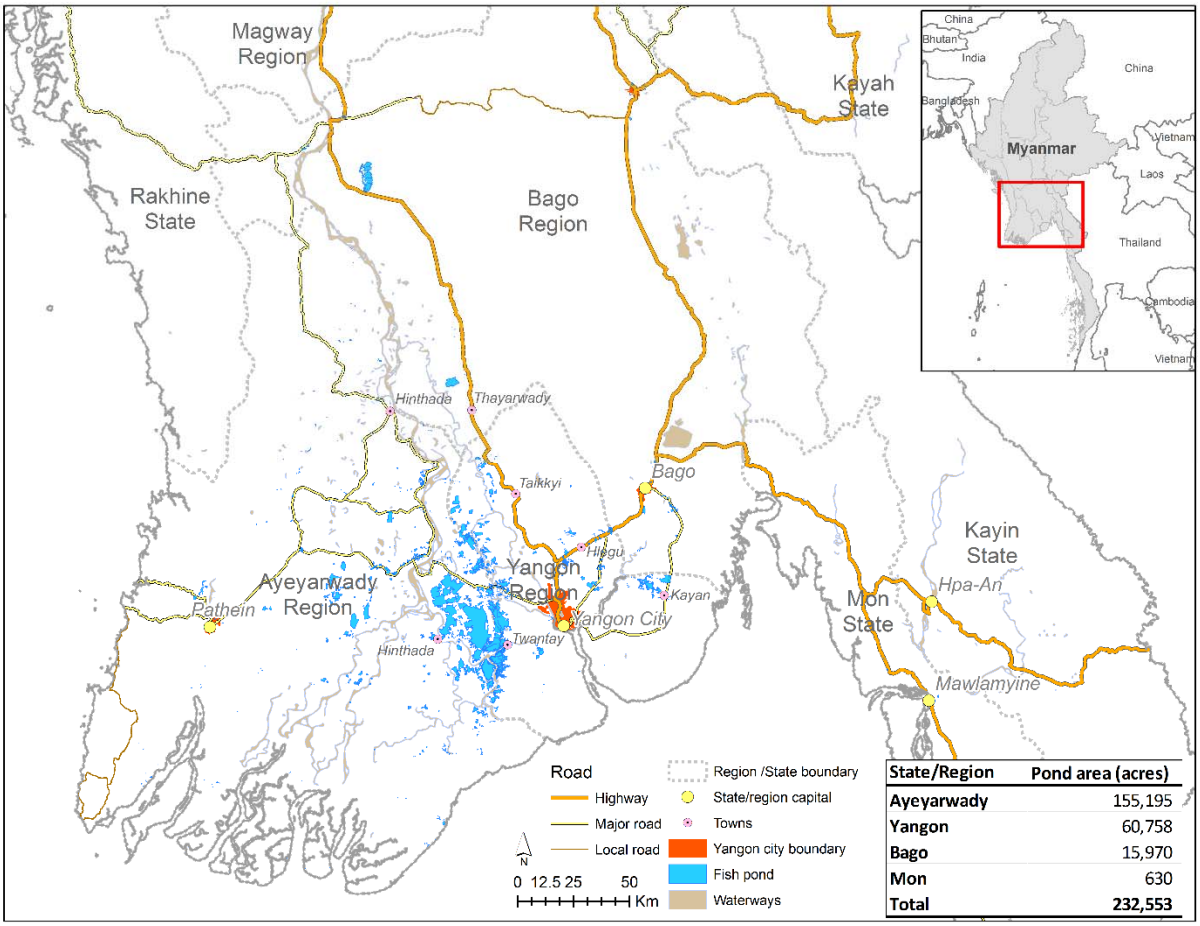
- After years of stagnation, favorable rice growing conditions and a heavy policy focus on rice productivity over the last decade have translated into an exportable surplus of rice for Myanmar (Haggblade et al., 2013).
    - However, self-sufficiency has not brought increased agricultural incomes or 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)

	Shrimp Pond Area	*Fish Pond Area*	*Total Pond Area*	*Shrimp Pond Area*	*Pond Fish Area*	*Total Pond Area*	*Growth Shrimp Pond Area*	*Growth Fish Pond Area*	*Growth Total Pond Area*
	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)

Figure 1: Fish pond area in Myanmar



Source: MDRI/MSU (2015)

- Myanmar rice paddy area and production has also increased over time[3] (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.

Table 2: Rice paddy production and area

	Rice Area (000 ha's)	*Rice Area (000 ha's)*	*Growth Rice Area*	*Rice Prod (000 tons)*	*Rice Prod (000 tons)*	*Growth Rice Prod*	*Rice Yields (tons / ha)*	*Rice Yields (tons/ ha)*	*Growth Rice Yields*
	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%**
Bago	1087.0	1423.3	5.5%	4099	5671	6.7%	3.77	3.98	1.1%
Yangon	566.2	564.5	-0.1%	1814	2075	2.7%	3.20	3.68	2.8%
Ayeyarwaddy	1911.8	2023.5	1.1%	7731	8643	2.3%	4.04	4.27	1.1%
Mon	313.6	411.6	5.6%	1081	1525	7.1%	3.45	3.71	1.5%
Other	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).[4]
        - 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).[5]

[3] 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).

[4] 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 expanse of paddy.

[5] 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

- As a result, the fish pond area to rice area ratio increased from 0.027 in 2001/02 to 0.032 in 2010/11.

Table 3: Share of fish pond area to paddy area

	Total Pond/Rice Area	*Total Pond/Rice Area*	*Fish Pond/Rice Area*	*Fish Pond/Rice Area*
	2003-04	**2013(2010)**	**2003-04**	**2013(2010)**
Myanmar	0.022	0.023	0.010	0.011
Bago	0.006	0.007	0.006	0.007
Yangon	0.041	0.050	0.034	0.043
Ayeyarwaddy	0.024	0.034	0.016	0.023
Mon	0.002	0.002	0.001	0.001
Other	0.026	0.020	0.002	0.002
	(2001-02)	**(2010-11)**	**(2001-02)**	**(2010-11)**
Bangladesh	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 5: Sample Success Story 1

USAID Burma funded partner Michigan State University Aids in Flood Recovery Strategy

Flooding in Burma (also known as Myanmar) is an annual event, typically brought on during monsoon season. The farmers plan for it and deal with it the best they can each year. The spring of 2015 was a different story.

A trifecta of events brought on some of the worst flooding the country has seen in over 60 years. The monsoon season along with higher-than-average rainfall and the appearance of Cyclone Komen led to heavy flooding, killing over 100 people and affecting more than 1,000,000. Burma's Ministry of Agriculture reported that more than 1.4 million acres of farmland and 33,000 acres of fish ponds were affected, along with more than 22,000 head of cattle lost. Originally the areas affected were in the north and west parts of the country. Over the weeks and months, as the water traveled south to the Irrawaddy Delta, otherwise known as the "rice basket" of Burma, this region also suffered major losses.

The flooding occurred during Burma's rice growing season, which led to a series of conversations about how the country can better deal with disasters like the floods of 2015, while ensuring they have a secure food supply.

Michigan State University's (MSU) USAID-funded Feed the Future Innovation Lab for Food Security Policy Burma project in partnership with the Myanmar Development Resource Institute – Centre for Economic and Social Development (MDRI-CESD) is working to solve this problem.

"There are short, medium and long term ways of helping of helping Burma tackle the flood recovery work, while moving them to a more food secure future" said Duncan Boughton, Co-Director of the Innovation Lab for Food Security Policy.

The first order of business has been to assess the damage and get a better understanding of the losses incurred. MSU faculty and staff have rolled up their sleeves and jumped right into damage loss assessments in both the rice growing region and the more remote regions of the country.

In looking towards the future and at medium to long-term goals, the Innovation Lab for Food Security Policy in partnership with MDRI-CESD is working to offer up and implement a series of recommendations that would better position Burmese farmers to handle natural disasters, like floods, in the future.

“For example, one of the things we are doing is working with farmers in the rice basket region to replace rice with higher value crops like legumes”, said Ben Belton, Assistant Professor at MSU working in Burma. “This is an opportunity to help farmers increase their economic livelihoods, while producing a product with more nutritional value than rice.”

One of the struggles that Burma has faced is the ability to put a dollar amount of the damage that was caused by the floods – not just the loss that happened because of the floods, but also the future potential earnings of the farmers. This is another issue being tackled by the MSU and MDRI-CESD team. They are working closely with farmers to determine the actual losses, capitalizing on the project’s earlier work figuring out how to best inventory the farmland and fish ponds and its economic value in Burma.

“Having accurate statistics and economic numbers will not only help in flood recovery efforts, but also in long-term planning for building a food secure future for Burma”, said Aung Hein, a research coordinator at MDRI-CESD. “This will allow us to build back better for a more resilient future.”

MSU has a long history of doing this type of work across the world.“ Whether there is a natural disaster, like the floods in Burma, or a military coup or a civil war, our goal remains the same”, said Boughton. “We work with local partners to find long-term solutions to ensure there is a safe, secure, economically viable food supply. Our work in Burma is no different.”

Annex 6: Sample Success Story 2

USAID Burma funded partner IFPRI Increases Civil Society Capacity for Policy Engagement.

Civil society organizations play an important role in the policy process due to their engagement at the grassroots level. This is particularly true in developing countries, where donors and governments rely heavily on such organizations to implement their projects. While civil society organizations have valuable local knowledge and expertise, they often lack a proper understanding of the policy process, and skills to engage with policymakers. Thus, it is important to increase the capacity of these organizations to understand and analyze the policy process, and consequently build effective communication and advocacy strategies. An initiative in Myanmar, described below, is a good example of a successful capacity strengthening activity in this regard, which is widely applicable to other country contexts as well.

Earlier this year, Michigan State University, International Food Policy Research Institute, and University of Pretoria, offered a capacity strengthening workshop on **Strengthening Policy Systems through Communications and Advocacy** as part of USAID's Food Security Program. This workshop was organized for the Food Security Working Group which is a part of the multi-donor fund called Livelihood and Food Security Trust Fund. The group has representatives from various international and local NGOs, media organizations and other prominent food security advocacy groups.

Photo Credit: Food Security Working Group

The purpose of the workshop was to improve the participants' capacity to understand and analyze the policy process in Myanmar, and to develop policy advocacy and communication strategies. The training process was based on the Kaleidoscope model which encouraged participants to systematically break down the policy process into stages and sequentially focus on the key variables that emerge at each stage. In the model, one can see that the underlying variables of the policy process remain unchanged, but some factors may have disproportionately more influence on the process than others (Resnick et al, 2015). The training focused on exposing participants to identifying such factors and developing advocacy strategies in accordance with them.

key activities of the training program were to identify relevant issues and opportunities for future policy engagement and advocacy through reflections from the past; analyze the policy environment (actors and factors) and map decision-making processes of targeted individuals, organizations, ministries/departments and committees; select effective strategies for influencing beneficiaries and stakeholders; develop inputs for the revision of current advocacy strategy and action plan for 2015-2017; and lastly to encourage partner and member organizations to embed advocacy actions in their strategies to facilitate collective action and synergistic results. The workshop was interactive and included a number of hands on activities such as, mapping primary and secondary audiences, and identifying their belief, attitude, knowledge and interests; improving legitimacy by networking; and delivering framed messages effectively.

As a result, the workshop strengthened the capacity of the participants to understand the policy process and develop effective communications and advocacy methods to support their collective efforts to improve Myanmar's policies in the food and agriculture sector.

Reference:

Resnick, Danielle; Babu, Suresh Chandra; Haggblade, Steven; Hendriks, Sheryl; Mather, David. 2015. *Conceptualizing drivers of policy change in agriculture, nutrition, and food security: The kaleidoscope model*. IFPRI Discussion Paper 1414. Washington, D.C.: International Food Policy Research Institute.

Annex 7

SURVEY WORKPLAN OCTOBER 2015-MAY 2016 DRAFT 29 September 2016

								MON				DELTA		
							2015	Livelihoods	Hope	Rubber	Horticulture	Fish/Paddy	Inputs	Policy Outreach
MONTH	Su	Mo	Tu	We	Th	Fr	Sa							
September	30	31	01	02	03	04	05							
	06	07	08	09	10	11	12							
	13	14	15	16	17	18	19							
	20	21	22	23	24	25	26		Define obj, analysis plan	Define obj, analysis plan, sampling plan-	Define obj, analysis plan, sampling plan-	Define obj, analysis plan, sampling plan-	Define obj, analysis plan, sampling plan-	
October	27	28	29	30	01	02	03	Prepare survey bud		repare survey budget	repare survey budget	Prepare survey budgets	Prepare survey budgets	
	04	05	06	07	08	09	10	TECHNICAL REPORT						
	11	12	13	14	15	16	17							
	18	19	20	21	22	23	24					Sampling design…		
	25	26	27	28	29	30	31					DRAFT QUEST/		
November	01	02	03	04	05	06	07					TRANSLATION		
	08	09	10	11	12	13	14		PRETEST			TRANSLATION		
	15	16	17	18	19	20	21		PRETEST			PRETEST		AQUACULTURE
	22	23	24	25	26	27	28		Discussions with			PRETEST		
December	29	30	01	02	03	04	05	Writing camp 1	Jeff Bloem			FINALIZE QUEST		
	06	07	08	09	10	11	12	Writing camp 2	DRAFT QUEST			FINALIZE QUEST		
	13	14	15	16	17	18	19		Translation					
	20	21	22	23	24	25	26		Video					
January	27	28	29	30	31	01	02	LIVELIHOODS REPORT	Video editing			Develop data entry	Rapid Reconnaissance	
	03	04	05	06	07	08	09	Stakeholder	Testing			application (tablet)		
	10	11	12	13	14	15	16		Testing	Scoping, design, data collection	Scoping, design, data collection	Testing (5 weeks)		
	17	18	19	20	21	22	23		Finalize protocol			Training of Trainers		MON LIVELIHOODS
	24	25	26	27	28	29	30		Training			Recruitment		
February	31	01	02	03	04	05	06		Training					
	07	08	09	10	11	12	13		Data collection	Stakeholder validation/outreach	Stakeholder validation/outreach	Training		
	14	15	16	17	18	19	20							
	21	22	23	24	25	26	27							
March	28	29	01	02	03	04	05					Data collection	Data collection	
	06	07	08	09	10	11	12						in survey areas	
	13	14	15	16	17	18	19							
	20	21	22	23	24	25	26							
April	27	28	29	30	31	01	02							
	03	04	05	06	07	08	09							
	10	11	12	13	14	15	16							
	17	18	19	20	21	22	23							
	24	25	26	27	28	29	30	Draft Rural Dev Strategy						
May	01	02	03	04	05	06	07							MON STATE RDS
	08	09	10	11	12	13	14							
	15	16	17	18	19	20	21					Data Processing and		
	22	23	24	25	26	27	28					Analysis		
June	29	30	31	01	02	03	04							
	05	06	07	08	09	10	11							
	12	13	14	15	16	17	18							
	19	20	21	22	23	24	25							AQUACULTURE
July	26	27	28	29	30	01	02							
	03	04	05	06	07	08	09							
	10	11	12	13	14	15	16							
	17	18	19	20	21	22	23							
	24	25	26	27	28	29	30							
August	31	01	02	03	04	05	06							
	07	08	09	10	11	12	13							
	14	15	16	17	18	19	20							
	21	22	23	24	25	26	27					Stakeholder validation/outreach	Stakeholder validation/outreach	INPUTS
September	28	29	30	31	01	02	03							