

Emergency Market Mapping and Analysis (EMMA)

Rice Market System
Paletwa Township, Chin State, Myanmar

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International Rescue Committee

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1. Executive Summary

In June 2012 the International Rescue Committee conducted an EMMA assessment of the rice market in Paletwa Township, southern Chin State. The EMMA was carried out within the framework of a program entitled “Building Community Resilience to Disaster Risk through Community Driven WASH and Livelihoods Projects,” funded by the Swedish International Development Cooperation Agency (SIDA). Unlike most EMMAs, which are conducted after an emergency and seek to understand how market systems have been affected by the crisis, the Myanmar EMMA was targeted at mapping a baseline market under normal conditions. IRC anticipated that a better understanding of the baseline market for rice, and target communities’ interactions with this market, would provide insights on how to improve their livelihoods and food security in times of stress. IRC also hoped that the EMMA would yield useful insights into how EMMA as a tool of assessment and analysis might be applied in a DRR context more generally.

The EMMA focused on 35 villages in Paletwa Township, a remote and impoverished area on Myanmar’s western border. The EMMA’s key findings were as follows:

- The target communities produce rice but their production is insufficient to meet their consumption needs for 12 months a year. They are thus net consumers of rice, and typically face shortages in their home production for five months a year.
- To fill the gap, rice is purchased by target communities through a supply chain that originates in Kyauk Taw Township, and involves a system of market actors that includes Kyauk Taw growers and wholesalers, Paletwa village tract wholesalers and retailers, and village level small retailers.
- At the household level, a range of coping strategies is available to generate income during times of stress, when normal home production of rice and other foods is disrupted. Many of these strategies are based on use of the area’s abundant natural resources; some of them lead to degradation of the environment or are unsustainable in the long term.
- The market system that provides rice to Paletwa Township is not well integrated with other regional markets, but the Kyauk Taw farmers regularly produce a surplus that is sufficient for Paletwa as well as other areas. Kyauk Taw lies outside of the usual cyclone zone of coastal Myanmar, and the supply of rice to Paletwa thus appears to be relatively secure.

In the course of the EMMA it was determined that the target area of Paletwa Township is not susceptible to large scale disasters. While it does suffer from chronic poverty, resource depletion (due to human and natural causes) and underdevelopment, which are pronounced even in the Myanmar context, respondents were unable to envisage or recall a disaster that overwhelmed communities’ ability to cope. Recommendations following from the EMMA’s key findings, then, are not immediately applicable to DRR, but rather concern potential development or relief programs more generally.

Key recommendations include:

- Given a supply system for rice that is functioning reasonably well, any development or relief programs targeting Paletwa Township should seek to engage market actors so as to avoid doing harm. In particular, the interests of small retailers in Paletwa villages should not be overlooked.

For example, a voucher scheme would be preferable to direct distribution of rice, which has potential to undermine the existing market and harm local retailers.

- Livelihoods support in the target area should focus on developing strategies that are more sustainable, diversified, and profitable for beneficiaries. The area is rich in natural resources and potential, but these resources are threatened by unsustainable practices and poor awareness of the consequences of environmental degradation.

Throughout the EMMA it was notable how many gaps still remain in our understanding of community level and household economic life. While the EMMA was able to paint a reasonably clear picture of the market system for rice, important questions concerning such issues as land use and ownership, borrowing, lending, and saving, gender roles, and the market for casual labor went unanswered. These issues are highlighted in the body of the EMMA report. Taken collectively, they suggest a need for a more comprehensive study of the target area than the EMMA methodology is able to provide.

2. Context

Chin State, on the western border of Myanmar, is characterized by chronic underdevelopment and poverty. According to a 2008 UNDP Human Development report, over 80% of the population of Chin State lives below the poverty line, putting Chin State at the very bottom in UNDP's rankings of rural vulnerability.¹ Even in the Myanmar context, where social investment levels are among the lowest in the world (less than \$1 per person per year), Chin State falls near the bottom in most indicators of wellbeing. A 2010 IRC nutrition survey in Paletwa Township found stunting in more than half of the sampled population, and widespread malnutrition. Water and sanitation infrastructure is virtually non-existent: 70% of households do not have access to a latrine, and 60% drink water straight from the source without boiling or filtration.² Access to education and health services is limited. A key reason for the area's underdevelopment is its extreme isolation. In the target area of southern Chin, there are no roads that are usable year-round, and access to villages is possible only by river boat followed by treks through steep mountains of several hours or days.

Livelihoods in southern Chin are almost entirely agricultural, with nearly 100% of IRC's target villages in Paletwa Township reporting rice cultivation for household consumption. As throughout Myanmar, rice is a staple food and provides the majority of daily calories.³ Approximately 60% of cultivated land in the target area is used for rice paddies, with the vast majority upland rice (more than 90%), cultivated through slash-and-burn farming (taungya). Rice harvests are subject to disruption from pests, disease, and irregular rain fall, with exceptionally low yields. Recent events such as the 2007-2010 50-year rat infestation, and untimely rains in late 2011, depressed rice harvests leading to higher than normal

¹ "The Human Development Initiative of UNDP Myanmar: Targeting the Most Vulnerable," UNDP, May 2008, pg. 5.

² IRC Rapid WASH assessment, May 2010.

³ The people of Myanmar are the world's biggest rice consumers. While exact data on per capita rice consumption is not available, it is estimated that, on average, people in Myanmar consume in the range of 500 grams of rice per person per day. (See "Revitalizing Agriculture in Myanmar: Breaking Down Barriers, Building a Framework for Growth," Ash Center for Democratic Governance and Innovation, Harvard Kennedy School Ash Center, July 21, 2010.) In the target area of Paletwa Township, rice consumption is even higher, at 580 grams per person per day on average.

shortfalls in home rice production. While the area's rich natural resources provide a range of coping strategies during periods of shortfall, many are unsustainable and threaten irreversible damage to the environment.



Slash and burn paddy farming in Paletwa Township.

At the national level Myanmar typically generates a rice surplus. In 2011, Myanmar exported 1 million tons of rice, and is expected to export 600,000 tons in 2012.⁴ In addition to regularly producing a surplus for export, it is reported that the government of Myanmar keeps emergency rice stocks. Myanmar's rice yields are the lowest in the region, falling far below the productivity seen in Vietnam, Thailand, and Indonesia.⁵ At the same time, the people of Myanmar receive a higher

portion of their food energy from rice than people of any other country in the

world – estimated by the USDA at 182 kg per person per year, or roughly 1,800 calories per person per day.⁶ While the government of Myanmar has been known to intervene in the rice market by requiring some farmers to grow rice, or by banning rice exports in times of national crisis, the domestic rice market is by and large subject to market forces. In particular, the target households in IRC's program area are not restricted in what crops they may grow, and are free to purchase rice on the market from a range of sources, at free market prices. Rice sold in the target area is grown in the lowlands of Kyauk Taw Township, which in normal times produce sufficient surplus for export to various domestic markets.

3. EMMA Methodology

The EMMA is a rapid market analysis designed to be used immediately after a sudden onset crisis. Its rationale is that a better understanding of the most critical markets in an emergency situation enables decision makers (i.e. donors, NGOs, government, other humanitarian actors) to consider a broader range of responses.

This Myanmar EMMA was non-traditional in several ways. First, in a departure from usual practice, the EMMA was used as an assessment tool in a non-emergency context. While there is widespread poverty in the target area, there was no recent emergency or disruption to the rice market. Absent such a shock, the EMMA was primarily aimed at understanding the baseline market for rice under "normal"

⁴ USDA Foreign Agricultural Service, Global Agricultural Information Network (GAIN) Report, 3/9/2012.

⁵ "Revitalizing Agriculture in Myanmar: Breaking Down Barriers, Building a Framework for Growth," Ash Center for Democratic Governance and Innovation, Harvard Kennedy School Ash Center, July 21, 2010.

⁶ *Ibid.*, pg.. 15.

conditions. Second, the EMMA was carried out within the framework of a Disaster Risk Reduction program implemented by IRC in the target areas. The goal of the EMMA, then, was to inform IRC's ongoing DRR programming with a better understanding of a critical market and how the target population interacts with it. It was IRC's hypothesis that EMMA could be a useful tool for helping vulnerable communities better understand and manage the risks that threaten their health and wellbeing. Finally, due to the inability of foreigners to visit the project site in Chin State, and the long travel times needed to reach remote target areas, the EMMA data collection was carried out by only national staff field teams that had been trained in Yangon, but were unable to reconvene in the field during the assessment work itself. Thus, the iterative nature of EMMA, where preliminary assumptions and market maps are continually adjusted as new information arrives, was constrained. This was a departure from standard EMMA practice, in which the EMMA leaders and data collectors would work collaboratively to cross-check information, analyze findings in real time, and identify new market actors or environmental factors that may need investigation. In this way, the Myanmar EMMA tested a remote management approach to fieldwork, and sought to better understand the limitations this approach might have for future EMMAs.

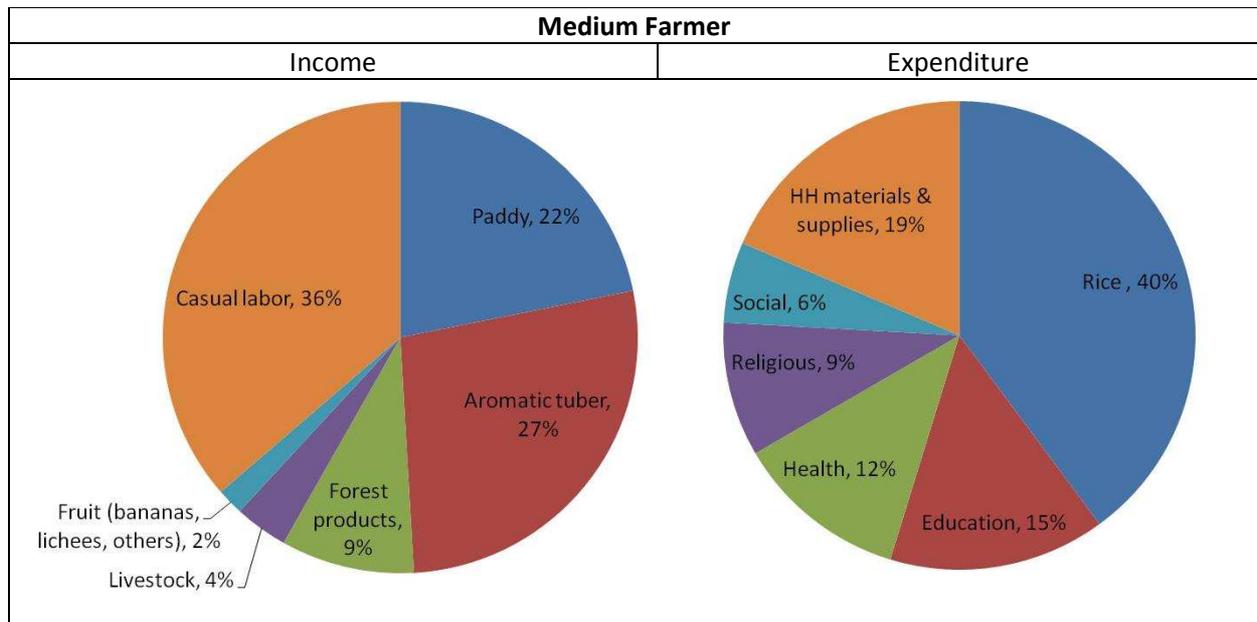
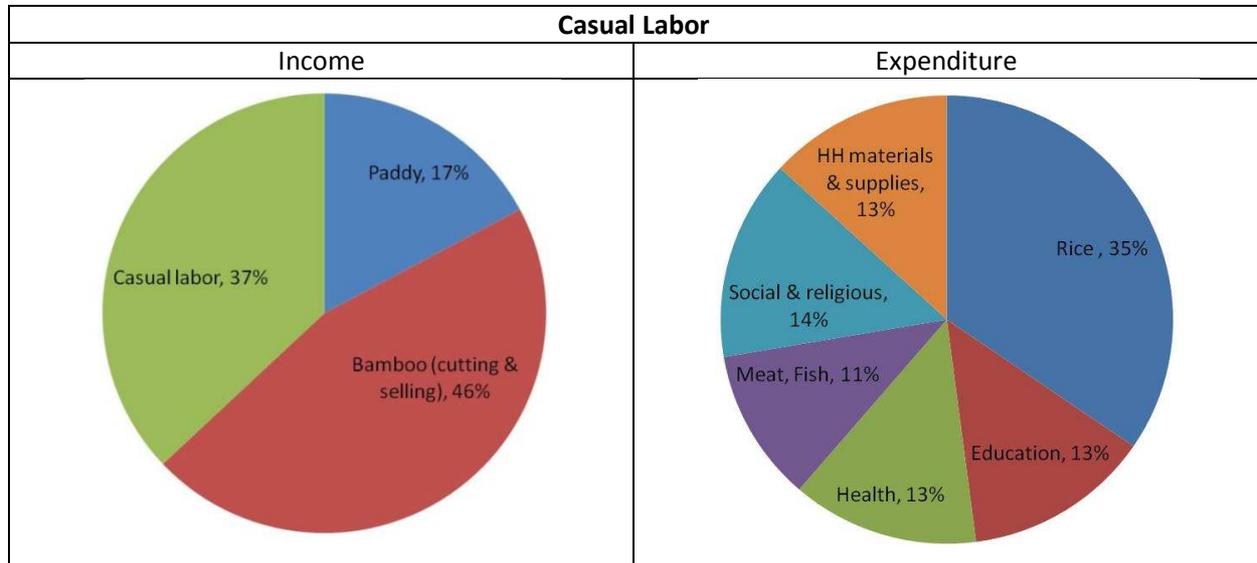
The Myanmar EMMA consisted to 2.5 days of EMMA training in Yangon (May 29-31), followed by data collection between June 2 - 6 in target villages of Paletwa Township, Paletwa town, Kyauk Taw town, and Yangon. On June 7-9 the EMMA team met in Sittwe, in Rakhine State, to review findings and develop the market map using field data. The EMMA team consisted of 8 IRC national staff with livelihoods programming backgrounds, and two internationals. In addition to desk research and extensive discussions with IRC's national staff (many of whom are from the target area and have backgrounds in farming or trading there), the assessment included interviews with rice farmers and millers in Kyauk Taw, rice wholesalers in Kyauk Taw, rice retailers and wholesalers in Paletwa town, Paletwa village retailers, and Paletwa village rice consumers (target households). The EMMA team also spoke with local representatives of the Ministry of Agriculture in Kyauk Taw and, in Yangon, the Rice Sellers' Association and FAO.

4. Target Population

The target group for the EMMA was the population of the 35 Paletwa Township villages that IRC is assisting under the SIDA program. The total population of the villages is 8,735 people, comprising 1,846 households. As noted, IRC's earlier assessments indicated that the population suffered from chronic poverty and malnutrition, lack of infrastructure, and extremely limited access to health services or education.

Livelihoods in the target area are almost entirely agricultural, or based around use of natural resources (wild plants and animals). All households cultivate rice for their own consumption, while the amount of land under cultivation varies from less than 1 acre, to more than five. On average, households cultivated 3 acres of land for upland paddy, with an exceptionally low yield of 13 baskets of paddy per acre. (This can be compared to 69 baskets per acre in Kyauk Taw, and a national average of 60 baskets per acre.) Paddy is cultivated almost entirely using a slash-and-burn method, on non-irrigated land (upland paddy).

The EMMA carried out household surveys with several representatives of two types of households: casual labor (families with less than 1 acre of land), and medium-sized farmers (1-3 acres of land). The breakdown of income and expenditures for these households is as follows:⁷



⁷ It should be noted that these findings represent a small number of households, interviewed in groups over a period of two days. In discussing the initial results, the EMMA team recognized the limitations of the EMMA methodology for analyzing household level information, and also noted several important areas that are still poorly understood. In particular, large questions remained related to: lending, borrowing and repayment (whether cash, food, or labor); gender roles in household economies; the use of “forest products” for both income and consumption; and the market for casual labor. Further research is needed to fully understand these important aspects of household economic behavior and coping strategies.

While the EMMA team recognizes that these snapshots of household economies are limited, it is possible to make a number of observations:

- Despite the fact that households in Paletwa Township are often described as being “food insecure,” they appear to possess a range of viable coping strategies to help them survive during years when the rice harvest is poor, or during the gap period when home production of rice is insufficient to meet their need. Many of the strategies make use of the abundant natural resources that are still available in the area. Options for income generation include: collection of elephant yams for sale, cultivation of aromatic tubers for sale, cutting and sale of bamboo, collection and sale or use of other forest products (such as wild animals), and sale of casual labor. Some of these strategies may cause environmental harm, or are unsustainable in the long term (such as use of some forest products). Others, such as sale of bamboo or the possible cultivation of elephant yams, could be developed into more profitable livelihoods options.
- As a result of the apparent abundance of coping strategies in this area, the EMMA team reported that even during the so-called “hungry period,” when home production of rice is insufficient, households do not actually go hungry. Rather, they utilize the various strategies available to them to raise the money they need to purchase rice on the market. In one notable example, even during the 50-year rat infestation of 2007-2010, which devastated the paddy harvest, it was reported that families in Paletwa Township did not reduce their consumption of rice. Instead, they collected and sold more elephant yams than usual, nearly depleting the area of yams for the next several years.
- It appears that households have access to a range of foods in addition to rice, including fruits, vegetables, meat from pigs and chickens, and fish (albeit not in abundance). While rice is clearly the most important source of calories, other foods appear to be part of the diet as well, though this is not well understood. At the same time, chronic malnutrition and stunting are widespread. More research at the household level is required to better understand the causes of chronic malnutrition⁸, which may result more from dietary choices, poor sanitation and care practices than from availability of nutritious food.
- In Paletwa Township, unlike parts of northern Chin State, it is reported that ample land is available. While the traditional practice of slash-and-burn farming poses a clear threat to the environment, and also, over time, undermines the viability of existing coping strategies, at the current time there is no shortage of land. Reform of land ownership laws is underway at the national level, but as yet this has not reached Paletwa Township. At the same time, it is clear that some households make use of more land, and some less. Furthermore, the incomes of both the “casual labor” and the “medium farmer” categories of beneficiary included approximately the same portion of income from casual labor. The EMMA was not able to illuminate traditional practices around land use, or fully explain the market for casual labor in the target area. Further research is needed to understand these important aspects of household economies.
- Household assessments revealed that borrowing is common. Beneficiaries reported borrowing money or rice from relatives or neighbors, and repaying in money, labor, or paddy from their

⁸ Found in IRC nutrition survey of the area.

own harvests. In normal times, the main use of borrowed funds was reported to be health expenses. When borrowing from relatives or neighbors, it was reported that repayment is without interest. Households repay their debts annually, and do not carry an increasing debt load. While these findings were based on a limited sample of beneficiaries, it is notable that borrowing appears to be both widespread and manageable – households are not caught in a pattern of ever-increasing debt.

The target population is strongly affected by the seasonal calendar, both because of role of agriculture in their livelihoods, and because of their geographic isolation, with access to wider markets dependant on the water flow in the Kaledan river.

Based on focus group discussions with residents of the target villages, the following seasonal calendar was developed:

Paletwa Township Seasonal Calendar

Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Rainy season						[Blue bar]						
Slash and burn land preparation (rice)	[Red]	average farmers										[Red] large farmers
Planting					[Blue bar]							
Weeding						[Blue bar]						
Harvesting									[Red]	[Blue bar]		
Home rice production (milling)										[Blue bar]		
Consumption of home production	[Blue bar]									[Blue bar]		
Lean period (rice purchased)					[Blue bar]							
Price of rice	Low price		Normal price			High price				Low price		
Income from casual labor	[Red] Land prep	[Blue bar] Growing of paddy			[Blue bar] Weeding				[Orange] Harvesting	[Orange] Prep		
Big expenditures	New Year											X'mas
Credit	[Blue] Repay				[Orange] Borrow							[Blue] Repay
Road disruption						[Blue bar] Rainy Season (normal)						
River access disruption	[Blue bar] Shallow water (higher transport costs)											
Turmeric			[Blue bar] Land prep		[Blue bar] Planting							[Blue bar] Harvest
Elephant Yam (Collect)					[Blue bar]				[Blue bar]			
Aromatic tuber (Cultivate)	[Blue] Harvest		[Blue bar] Land preparation		[Blue bar] Planting							[Blue] Harvest

The seasonal cycle is defined by a rainy season that stretches between May or June and September, and the planting and harvesting of paddy that occurs around this. Land preparation for home paddy farming begins in December for those with more land, and in February for those with less. Planting follows, in the months of May and June, immediately before the rainy season. The rainy season roughly coincides with the so-called “lean period,” when the winter harvest of home production is depleted, and families must buy rice from the market. During this period families turn to a range of income generating strategies, as noted above. When the harvest of home produced rice is brought in, in October and November, debts are paid, and families are typically able to store paddy for home consumption that will last for the next 6-7 months. The large majority of target households in Paletwa Township are Christian, and December and January correspond with their religious holidays when expenditures are high.

Following the holidays, the annual cycle begins again with land preparation in the early months of the year prior to the onset of the rainy season.

While transportation links are affected by the amount and timing of rainfall, there is no period when the target villages are completely cut off. Even when the Kaledan river is at its lowest point, boats can be brought upstream from Kyauk Taw (though with more difficulty and expense).

5. Critical Market Systems

Rice was selected as the critical market system for study because it is a staple food, cultivated by nearly all households in Paletwa Township. Approximately 60% of cultivated land in the target area is used for rice paddies, with the remainder used for aromatic tubers (20%), orchards (15%), and other crops such as sesame, ground nut, chili, etc. (5%).⁹ At the same time, household production of rice for home use is inadequate to meet needs, and families are compelled to purchase rice on the market.

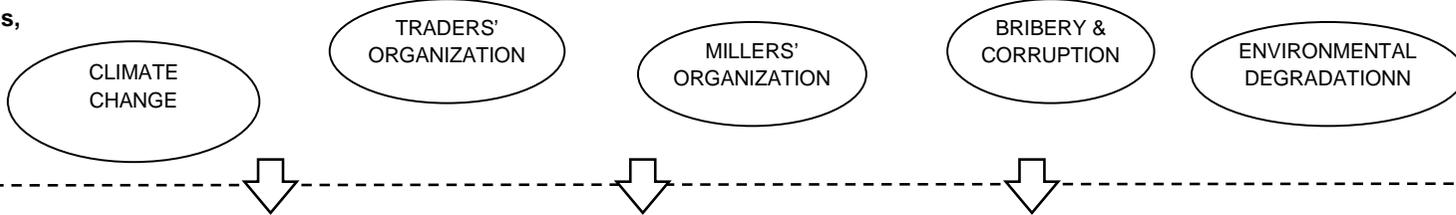
Because Paletwa households are net rice consumers, the rice market was studied as a supply market system. Initial discussions and IRC's earlier assessment work in the area strongly suggested that the market was not well integrated, as a result Paletwa's isolation and the weak transportation links to wider markets. IRC anticipated that a better understanding of the market chain that supplies rice to Paletwa would reveal weak points, where outside interventions might create better market access for the target population. An additional consideration was the fact that humanitarian assistance planned for food-insecure families in Southern Chin is expected to include distribution of rice rations, or food-for-work projects. To ensure that such interventions do not disrupt the rice market, doing harm to key market actors such as local retailers or traders, it is important to understand the baseline supply chain.

6. Baseline Market-System Map

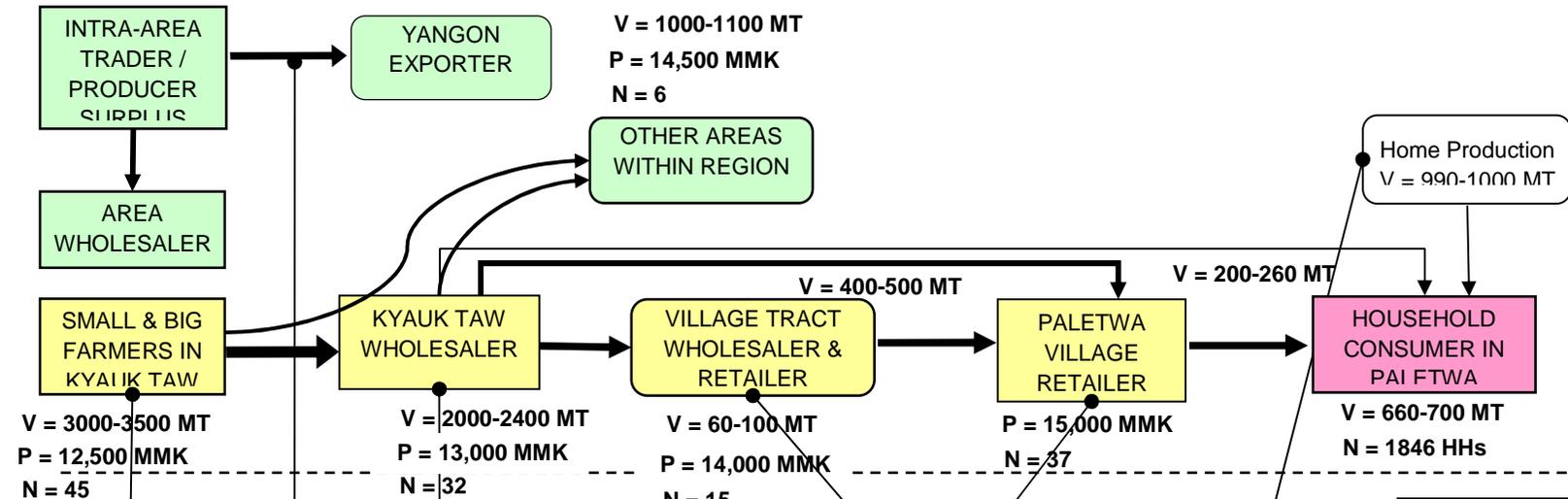
⁹ IRC Environmental Impact Assessment, March 2012, pg. 15.

Paletwa Village Rice Supply Chain - Baseline

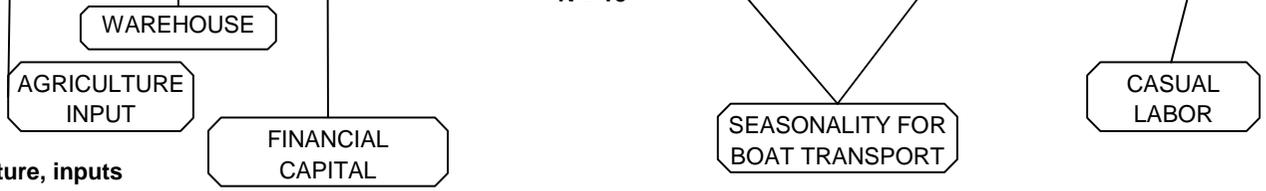
The market environment:
institutions, rules,
norms & trends



The market chain:
market actors & their linkages



Key infrastructure, inputs
and market-support services



Color key

- Target groups (Pink box)
- Supply chain actors (Green box)
- Value chain actors (Yellow box)

Rice Supply Chain: Key Actors

IRC's target communities have two sources of rice: home production and purchase. In a normal year, home production yields enough rice for around 7 months of consumption.¹⁰

The balance of rice consumed in the target villages is purchased on the market, through a supply chain that begins with **rice farmers in Kyauk Taw Township**, in Rakhine State. In contrast to the target areas of Paletwa Township, where the vast majority of household rice cultivation is upland rice, on non-irrigated land, Kyauk Taw farmers are able to cultivate lowland rice with significantly higher yields (69 baskets



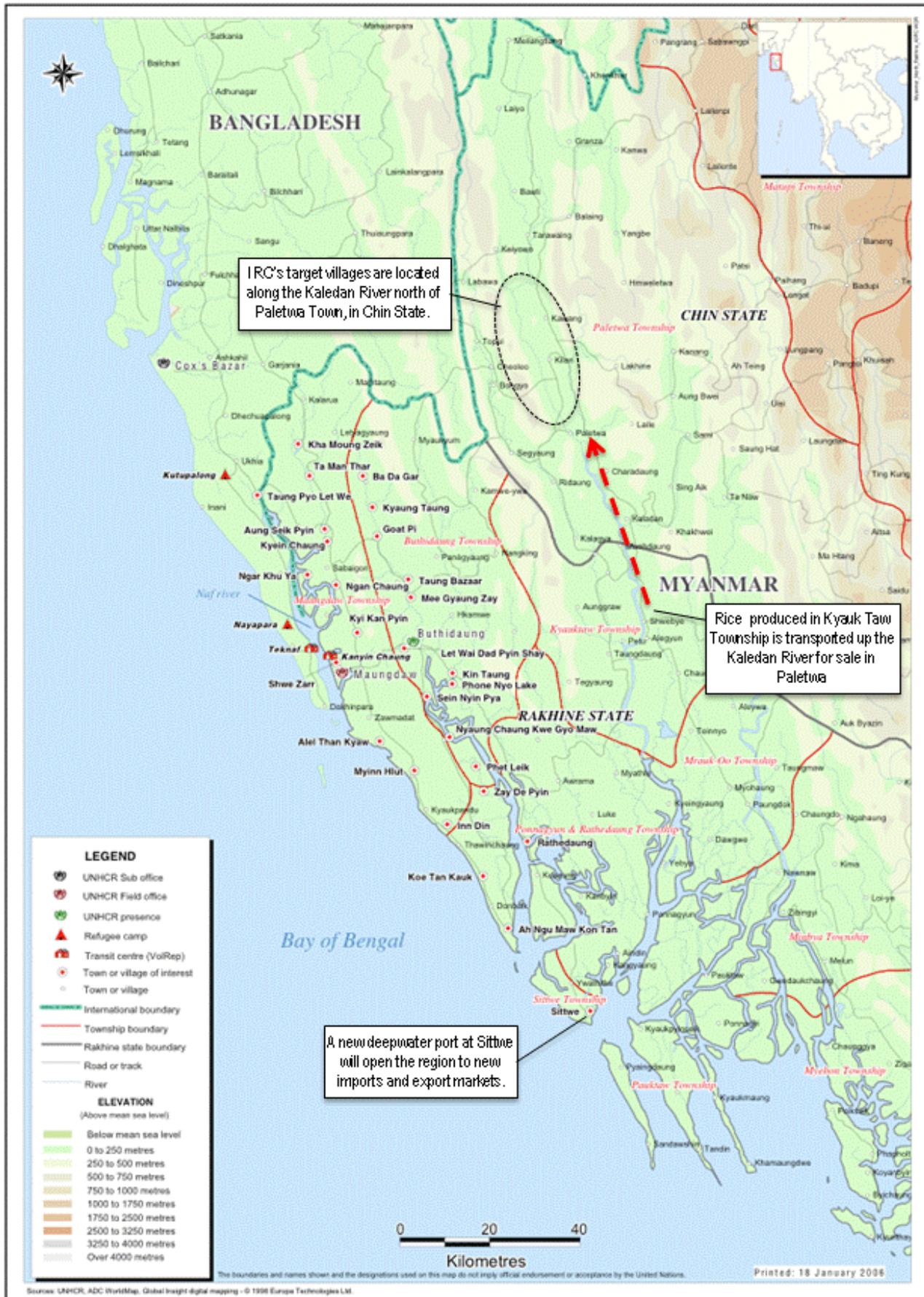
A rice trader in Kyauk Taw.

of paddy per acre). Kyauk Taw rice farmers produce a surplus of rice, which is sold to consumers in Paletwa Township as well as other regional markets, through traders in Kyauk Taw town as well as Buthi Taung, Maung Daw and Sittwe towns. Kyauk Taw rice is only sold regionally, within Chin and Rakhine States. Myanmar's extremely poor transportation infrastructure makes further domestic distribution, or transport to Yangon for export, prohibitively expensive.

Kyauk Taw farmers sell 20-25% of their rice to IRC's target villages, through a supply chain involving Kyauk Taw wholesalers, Paletwa village tract wholesalers and retailers, and Paletwa village retailers. IRC's target households are able to access rice from various points along the market chain.

Kyauk Taw wholesalers buy rice from area farmers (both small and large), and distribute both to southern Chin and other areas within Rakhine State. There are approximately 32 wholesalers operating in Kyauk Taw, and many of these are also farm owners and operators of rice mills for processing paddy. Kyauk Taw wholesalers pay farmers an average price of 12,500 MMK per 50 kg bag of rice. This price and others along the market chain fluctuate by roughly 500 MMK per 50 kg bag of rice, depending on the season (prices are higher during the rainy season of June – September). Rice is transported up the Kaledan river to Paletwa township exclusively by boat. While river travel is more challenging during the dry season of December – April, it is never totally disrupted. Transportation costs range from 500-1,000 MMK per 50 kg bag of rice, depending on the distance, with an additional "jetty tax" of 1,000 MMK per

¹⁰ Home production figures are based on an average of 3 acres of paddy land per family, with a yield of 13.6 baskets of paddy per acre. At a milling ratio of 44% (paddy to rice), this comes to almost 600 kgs of rice produced per family per year (12 50 kg bags). Consumption is based on an average of 580 grams of rice per person per day, which, for a family of 5, is equivalent to approximately 1 ton of rice consumed per year.



IRC's target villages are located along the Kaledan River north of Paletwa Town, in Chin State.

Rice produced in Kyaik Taw Township is transported up the Kaledan River for sale in Paletwa

A new deepwater port at Sittwe will open the region to new imports and export markets.

boat for both the Kyauk Taw jetty and the Paletwa Town jetty; the latter is paid to use the town jetty or to pass it by for points further up the river, where IRC's target villages are located.

In Paletwa Township, Kyauk Taw wholesalers sell rice both to **village tract wholesalers and retailers** (N=9), located at three village tracts along the river, and to **small village retailers** (N=37). There are additionally some households who travel to Kyauk Taw to purchase rice directly from wholesalers. Roughly a third of the rice consumed by target households is purchased by them in Kyauk Taw, with the remainder distributed through the village tract sellers or small village retailers. (IRC's target villages do not purchase any rice at Paletwa town.) The normal price of 50 kg of rice at the village tract and small village retailer is 14,000 and 15,000 MMK respectively, with the higher price attributable to additional transportation costs associated with bringing rice further from the river.



A village retailer in Paletwa.

Price data collected during the EMMA suggested relatively small profit margins along the market chain, with an initial price of 12,500 MMK per bag at source, and a retail price of 15,000 MMK in Paletwa villages. The retail price of 15,000 MMK for Kyauk Taw rice can be compared to a price of 14,500 MMK in both Buthi Taung and Sittwe. The higher cost per bag of rice in Paletwa villages appears to be reasonable markup considering the additional transportation expenses involved.¹¹ As illustrated in the market map, the market system that provides rice to Paletwa villages appears to be entirely regional, without

links to other rice producing areas of Myanmar. While national staff EMMA team members could imagine a scenario in which Kyauk Taw wholesalers might source rice from other regions, in normal times, with Kyauk Taw farmers regularly producing a surplus, this is not the practice. Such a disconnected regional market system is open to the possibility of overly concentrated market power in one actor – in this case, the Kyauk Taw wholesalers seem the likeliest candidate. The EMMA was unable to fully evaluate this question, due to the difficulty of comparing rice price and quality across regions: the rice purchased by Paletwa households was said to be of the lowest quality – too low to be sold in other areas. The role of the Kauk Taw wholesalers and their market power thus merits further research.

Market Environment / Infrastructure

In the baseline market system, the factors “above” and “below” the market chain correspond to what one would expect to find in Myanmar’s economy. In the market environment (“above the line”),

¹¹ Although market integration seemed poor across the regions, it was difficult to understand how far the Kyauk Taw traders were exploiting the situation, as the rice that was supplied to IRC villages was apparently of such poor quality that there was nothing comparable in the markets of Yangon.

corruption and “unofficial taxes” are present, though they appear to be predictable and integrated within a functional system of business costs. Traders’ and millers’ organizations were identified as important forces in the market environment, and government licensing of such activities and regulation of these organizations likely provide an opening for corruption and anti-competitive behavior. (However this was not highlighted as a major concern during the EMMA.) The most significant environmental factor identified through the EMMA was climate change, and its effects both on household livelihoods and on rice production in Myanmar generally. While the effects of climate change are not well understood in Myanmar, it is clear that changes in the traditional pattern of the rainy season, with rains coming at different times or intensities than usual, or a more violent monsoon season, all have important impacts on rice production.

In the realm of infrastructure and services (“below the line”), poor physical infrastructure and high cost of agricultural inputs were identified as major constraints. High input and internal transportation costs affect Myanmar’s ability to sell rice on the world market at competitive prices. In particular, the recent rise of India as a major exporter of rice is a potentially significant threat to Myanmar’s rice production. At the time of the EMMA, Indian rice was reportedly selling on the export market for \$300 per MT, compared to Myanmar rice at \$335 per MT (for similar, very low, quality). As a result of poor transportation infrastructure, Kyauk Taw and Paletwa producers are currently protected from the threat of low priced imports. However, a new deepwater port under construction at Sittwe has the potential to dramatically change the rice market in the area, as it will expose local rice producers to previously unknown competitive forces. The new port is scheduled for completion in 2013, and its affects on the local economy, positive and negative, as well as the Myanmar government’s policy responses, remain to be seen.

7. Key Findings and Recommendations

Though not well integrated with other domestic or international markets, the baseline market for rice in IRC’s target area appears to be stable and accessible to target households at manageable prices. While home production of rice is insufficient to meet consumption needs for 12 months per year, other livelihood strategies are available to fill the income gap, and a nearby area, Kyauk Taw, produces sufficient surplus to fill demand. Unlike other regions of Myanmar, the target area of southern Chin State is not susceptible to large-scale disasters such as cyclones, floods or conflict, that overwhelm communities’ ability to cope or disrupt the market system. Even in times of unusually low home rice production, coping strategies that include gathering forest products for sale allow households to maintain normal rice consumption levels. The rice producing areas of Kyauk Taw are similarly insulated from disaster risk, located well to the north of the usual cyclone zone (Kyauk Taw was not affected by either cyclones Giri or Nargis).

In the context of Disaster Risk Reduction, then, the EMMA did not reveal any clear points where immediate interventions in the rice supply market are warranted to improve community resilience in Paletwa Township. As throughout Myanmar, the rice market in Kyauk Taw and Paletwa is negatively affected by high input costs, low yields, poor infrastructure, a deficit of modern growing and processing technology, corruption at various levels, an uncertain policy environment, and the effects of global

climate change. However, even given all these constraints, Myanmar regularly produces a rice surplus, and households in IRC's target area can access it without undue difficulty. While rice production in Myanmar surely needs significant support to reach its full potential, it is beyond the scope of the EMMA to provide recommendations for developing this sector of the national economy.

For Paletwa Township, the EMMA did reveal a number of insights that may inform potential future interventions:

- ⇒ Given a functioning rice supply market that involves a significant number of Paletwa wholesalers and retailers, to avoid doing harm, any food or cash-based assistance in Paletwa should seek to involve local level market actors. For example, in a food-for-work program, rather than purchasing rice in Kyauk Taw or at another regional supply point, humanitarian agencies should procure at least some rice from local Paletwa distributors, or consider a voucher scheme that allows beneficiaries to purchase the rice themselves. IRC should research these options to be prepared with an appropriate response plan should the need arise.
- ⇒ While target households in Paletwa Township have access to a range of livelihood and income generating strategies, many of these could be further developed. For example, both bamboo and elephant yams are currently collected from the forest. Both could be cultivated, to be more sustainable and profitable. Along similar lines, there appears to be a dearth of information about market opportunities and prices. One example frequently cited in interviews was the recent boom in cultivation of aromatic tubers, which are sold to Chinese traders for unknown purposes (it is said to be used in Chinese medicine). After an initial season of high prices and a rush to grow the tubers by many households in Paletwa, a flood of aromatic tubers on the market caused the price to collapse. Better information about such marketing opportunities and risks could benefit the target communities.
- ⇒ There is a clear need for improved agricultural practices in Paletwa. The current slash-and-burn method of paddy cultivation not only destroys the local forest, leading to other problems such as soil erosion and flooding, but the paddy yields are exceptionally low even by Myanmar's low standards. Similarly, the risks from environmental degradation caused by this practice, as well as by uncontrolled use of forest resources more generally, do not seem to be widely recognized among the target population. IRC's current SIDA-funded program in Paletwa includes work to introduce more environmentally sustainable farming practices in place of slash-and-burn, as well as to raise awareness about the importance of soil conservation and land stewardship more generally. However, to ensure that new practices are adopted and maintained, there is a need to expand these efforts and promote greater education on the benefits of environmental conservation for long term development.

The effects of Myanmar's ongoing political transition do not appear to have impacted livelihoods in Paletwa Township in any measurable way. However, two developments on the horizon have the potential to significantly change established practices and markets: first, a land reform law that is currently in development will eventually bring land privatization throughout the country. Depending on the final form of the law and its implementation, this has the potential to change land use practices both in Paletwa and in the rice-producing areas of Kyauk Taw. Second, the imminent

completion of the Indian-financed deepwater port at Sittwe will dramatically expand market access for the entire western part of Myanmar, connecting the region to vital new import and export markets. In both cases, the local economy and market systems are likely to be affected in important but as yet unpredictable ways. IRC Myanmar should keep abreast of these issues and look for ways to be proactive and responsive to these developments as they begin to affect target beneficiaries more substantially.

Finally, the EMMA revealed how much still remains to be learned about the livelihoods and household economies in Paletwa. While the research was able to provide some insights into how these communities interact with the rice market, in the course of the EMMA fieldwork it became apparent how many large gaps still remain in our understanding. Many of these gaps, such as those related to borrowing, gender roles, and the full range of coping strategies available to households in times of stress, have been noted above. Unfortunately, due to the short amount of field time available, and the limitations inherent in the remote management approach to conducting the EMMA, it was impossible to probe more deeply into many of these intriguing questions. A more comprehensive study of household economic life, and village-level capacities and support mechanisms, is likely to provide critical insights for the design of future development or relief programs in the area.