

**Emergency Market Mapping and Analysis of the Red Rice Market System  
Kilinochchi and Mullaitivu Districts, Northern Province, Sri Lanka  
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## I. Introduction

Red Rice is the primary staple food consumed by households in Northern Sri Lanka. In Kilinochchi and Mullaitivu district, red rice paddy is widely cultivated to keep for farmers' own consumption and to sell in neighboring districts where red rice production is not as strong. Although this assessment has found that the majority of the population of Kilinochchi and Mullaitivu produce enough red rice to meet their own consumption needs, there is a significant group of households without access to land and who rely on the market to meet their red rice food needs. This market analysis seeks to better understand the availability of red rice supply in local markets for net consumers and any constraints facing the market system in delivering adequate red rice to those households who need it.

Specifically, this market analysis will consider three key analytical questions regarding the red rice market system:

1. What is the capacity of the red rice market system to meet the need of the target population?
2. What are the constraints for the target population to meet their needs for red rice after resettlement?
3. What are appropriate interventions to support the target population to meet need for red rice after phase out of food aid?

The results of this analysis will show that Kilinochchi and Mullaitivu districts produce net surpluses of red rice, and indeed send roughly 50% of the production from these districts to neighboring districts with lower levels of production. As a result, the supply in Kilinochchi and Mullaitivu is sufficient to meet the need of the target population, but consumers have limited access to this supply due to low purchasing power.

A series of recommendations are provided to strengthen the red rice supply market system in the two districts and to ensure consumers have sufficient availability and access to red rice now and in the future. These recommendations include cash for work activities to improve drainage and irrigation infrastructure to increase purchasing power and improve production; support for income generation activities and household-level production; indirect interventions to strengthen farmers' cooperatives; advocacy to end food aid and transition to cash or voucher-based food assistance; and lastly to advocate for equal wage payments for both men and women to support female-headed households in meeting food and household needs.

## II. Current situation and Context

More than three decades of armed conflict between the Sri Lanka Armed Forces (SLA) and Liberation Tigers of Tamil Elam (LTTE) led to a steady deterioration of the food security situation along with social and economic infrastructure in Northern Province of Sri Lanka. Kilinochchi and Mullaitivu are two districts in the north that were severely affected in the final phase of the war

during January to May 2009. The final war displaced nearly 300,000 people, kept in the transit camps located in 'Menik farm' in the Vavuniya district. In mid-2009, resettlement programs began returning those displaced in the war to their home communities in Kilinochchi and Mullaitivu, and as of February 2012 around 6,000 IDPs (1800 families) remained in the Menik-farm camps awaiting return to their homes<sup>1</sup>.

Returnees have had access to basic relief services in terms of shelter material, food, and water and sanitation facilities, in order to re-start their lives and livelihoods<sup>2</sup>. While basic relief services have helped improve protection and resume the livelihood activities, poverty levels in these areas remain high, and the household-level income generated by returnees is far below the poverty line. Surveys in 2011 found that returnees from Kilinochchi earned a per capita income of only 2,189 per month and around 26% live below half the poverty line<sup>34</sup>. Expenditure patterns reveal that average households spend nearly 60% of income on food, mainly rice, vegetables and fish, while other expenditures include education, debt repayments, household consumables and transport<sup>5</sup>.

As a result, up to 25% of the population of Kilinochchi District is highly food insecure with a similar proportion likely in Mullaitivu District once food distributions cease<sup>67</sup>. Although food is available, prices are high and communities living in the North have low incomes, which lead to very low purchasing power and limited access to the available food items. Lack of sufficient production and income sources have resulted in large reductions of household assets (between March 2010 and March 2011, families who reported owning jewelry dropped dramatically from 80% to 5% in Kilinochchi and from 80% to 41% in Mullaitivu<sup>8</sup>) and an increase in indebtedness, reinforcing risks and occurrence of food insecurity.

The population of Kilinochchi and Mullaitivu largely pursue livelihood strategies in three areas – agriculture (including livestock), fishing, and wage labor. The two districts are primarily agricultural areas that cultivate lowland irrigated rice, highland crops such as groundnut and green gram, and vegetables. Ocean and lagoon fishing also provides significant livelihood opportunities for nearly 3,000 households. Lastly, recent food security study estimated that 24% of household income is generated by non-agricultural daily wage labour, representing the third largest livelihood activity.

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<sup>1</sup> OCHA Joint Humanitarian and Early Recovery Update, February 2012 – Report #40.

<sup>2</sup> Detailed account of the relief interventions by the humanitarian actors can be found in the Joint Humanitarian and Early Recovery Update by OCHA, February 2012.

<sup>3</sup> Food Security in the Northern, Eastern and North Central Provinces: Food Security Assessment Report, Sri Lanka, April 2011, by Ministry of Economic Development, HARTI and WFP

<sup>4</sup> The National Poverty line for the period March 2011 is LKR3, 318.

<sup>5</sup> *ibid*

<sup>6</sup> *Source: Food Security in Northern, Eastern and North Central Province, WFP, Ministry of Economic Development and Hector Kobbekaduwa Agrarian Research and Training Institute, May 2011*

<sup>7</sup> The termination of WFP general food distribution six to nine months into the resettlement period results in a reduction in available sustenance of families in Kilinochchi and Mullaitivu.

<sup>8</sup> *Source: Food Security in Northern, Eastern and North Central Province, WFP, Ministry of Economic Development and Hector Kobbekaduwa Agrarian Research and Training Institute, May 2011*

### III. Methodology

EMMA (Emergency Market Mapping and Analysis) is a rapid market analysis approach designed to be used in the short-term aftermath of a sudden-onset crisis. It is premised on the rationale that a fuller understanding of the most critical markets in an emergency environment enables key decision makers (donors, NGOs, government policy makers, etc.) to consider a broader range of responses based on market realities. The methodology used for this study adapted the standard EMMA approach to the post-war and resettlement context of Northern Sri Lanka, but nevertheless followed closely the EMMA 10-step process including a focus on key critical market systems and a combined gap, market, and response analysis. Comparison to a baseline market system was not used in this analysis. Due to the duration of the war, and the significant changes in the market environment, reference to a pre-displacement market system is not possible or appropriate. Instead, market maps illustrate the market system as it is currently functioning and in certain cases, how it is anticipated to function in the future.

The EMMA team was made up of 17 members from three organizations – Oxfam (lead), Danish Refugee Committee, and NGAGDO – and four external consultants, including two value chain specialists, a financial systems specialist, and one lead facilitator providing overall technical support for market analysis and reporting. Six of the team members were EMMA-trained prior to this assessment. In addition, a four-day training in the EMMA tools was provided for two members of each critical market system prior to the start of fieldwork. The team was divided into five sub-teams, and each sub-team was responsible for analyzing one critical market system.

This assessment took place from 1-18 May, including seven days of desk-based secondary research and EMMA refresher training in Colombo, and 11 days of field work in Kilinochchi and Mullaitivu districts, Northern Province, Sri Lanka. The fieldwork portion of the assessment collected primary data using focus group discussions with farmers' organizations and consumer households, and semi-structured key informant interviews with key market actors, government officials, and market service providers.

### IV. Target population

The target population for this analysis is war-affected and resettled population in Kilinochchi and Mullaitivu districts, Northern Province, Sri Lanka, totaling 230,800 people. Red rice is a staple food for the population of Mullaitivu and Kilinochchi districts, and as such, this paper analyzes the red rice market system as a supply market critical for the food security of consumers in the two targeted districts. As per information gathered from Department of Agriculture and Department of Agrarian Development, 51,110 households, the majority of the population of the two target districts, are farming households producing red rice. These households cultivate an average of 3 acres of paddy land during the main maha season (see seasonal calendar below) and

can their annual household red rice needs through this one harvest alone. In general, households with land produce more than their household food needs during the maha season.

Those households who rely on the market to purchase red rice to meet their staple food needs are either landless or lack access to sufficient land to produce red rice for household needs. This group of red rice market consumers represents a specific focus for this analysis. This group includes those resettled families of Kilinochchi and Mullaitivu districts who currently depend solely on local market supplies for red rice as well as the families that are yet to be resettled and who will begin to rely on the red rice market system for food in the coming months. The former, constituting 11,456 households<sup>9</sup>, received food aid for first nine months after resettlement, but this assistance has ended and the households are expected to meet their own consumption needs but lack the land, income, and/or asset to cultivate enough to meet their needs. The latter group, constituting 2,950 households, is currently still located in displacement camps. Once resettled they will receive a food aid package including 50kg of white rice per month for nine months. However, the assessment has shown that even food aid recipients are active participants in the red rice market system. White rice provided as food aid is widely traded with millers and traders for red rice, often at a very high loss (1.5 kg of white rice will trade for 1kg of red rice), meaning that households receiving food aid are still engaging in the red rice market system and reliant on its functioning to meet their food needs.

#### Seasonal calendar for Red rice cultivation in Kilinochchi and Mullaitivu districts in Sri Lanka

Activity, Food or Income Source	Who?	J	F	M	A	M	J	J	A	S	O	N	D
Land preparation	M/W				✓	x				x	x		
Direct sowing	M					✓	✓			x	x		
Transplanting	M/W						✓					x	
Weeding/Fertilizer application	W							✓					x
Harvesting	M/W		x	x					✓	✓			
Selling red paddy	M		x	x	x					✓	✓		
Rainfall													
Drought													
Employment- Locally (mainly paddy season)	M/W	x			x					x	x		
Employment outside-casual labour	M/W			x	x	x				x	x		
Paddy Supply in the market												L	L
Price of red paddy			L	L								H	H
Vegetable cultivation at highland													
Cropping pattern (saline soil)													

(Key: ✓: Yala season cultivation which accounts for only 40 % of main season rice; X: Maha season which is main season rice; M: Men; W: Women; H:High and L:Low)

<sup>9</sup> Source: District GAs office in Kilinochchi and Mullaitivu

## V. Selection of critical market systems

Five critical markets were selected for this study using a three-step approach during the EMMA refresher training and fieldwork preparation phase prior to the start of data collection. Market selection focused on identifying those market systems that were most critical for ensuring survival, for promoting and protecting livelihoods, and for ensuring income for the target population.

First, a long list of market systems critical was generated for each of the three primary livelihood groups in the two target districts (wage labour, agriculture, and fishing). These lists were then prioritized based on how critical each market is for the food security, livelihood, and income needs of each livelihood group. In total, a long-list of 84 market systems for wage labour, agricultural, and fishing livelihood groups was prioritized into 21 market systems. Those prioritized include: red rice, coconut oil, dhal, bicycles, mamoty (hoe), farm labour, fishing labour, construction labour, cassava, wheat flour, eggplant, corrugated tin sheeting, kitchen utensils, sugar and tea, canned fish, chili, coconut, brinjal, tomato, okra, and transitional shelter materials.

These 21 markets were then ranked according to six criteria to determine which markets were most appropriate for each livelihood group. The criteria used for ranking were:

1. The market is related to significant or urgent need
2. The market system is affected by the emergency
3. The market system fits the agency mandate
4. Seasonal factor and timing are appropriate
5. The market system is consistent with government or donor plans
6. Programming options in the market system are likely to be feasible

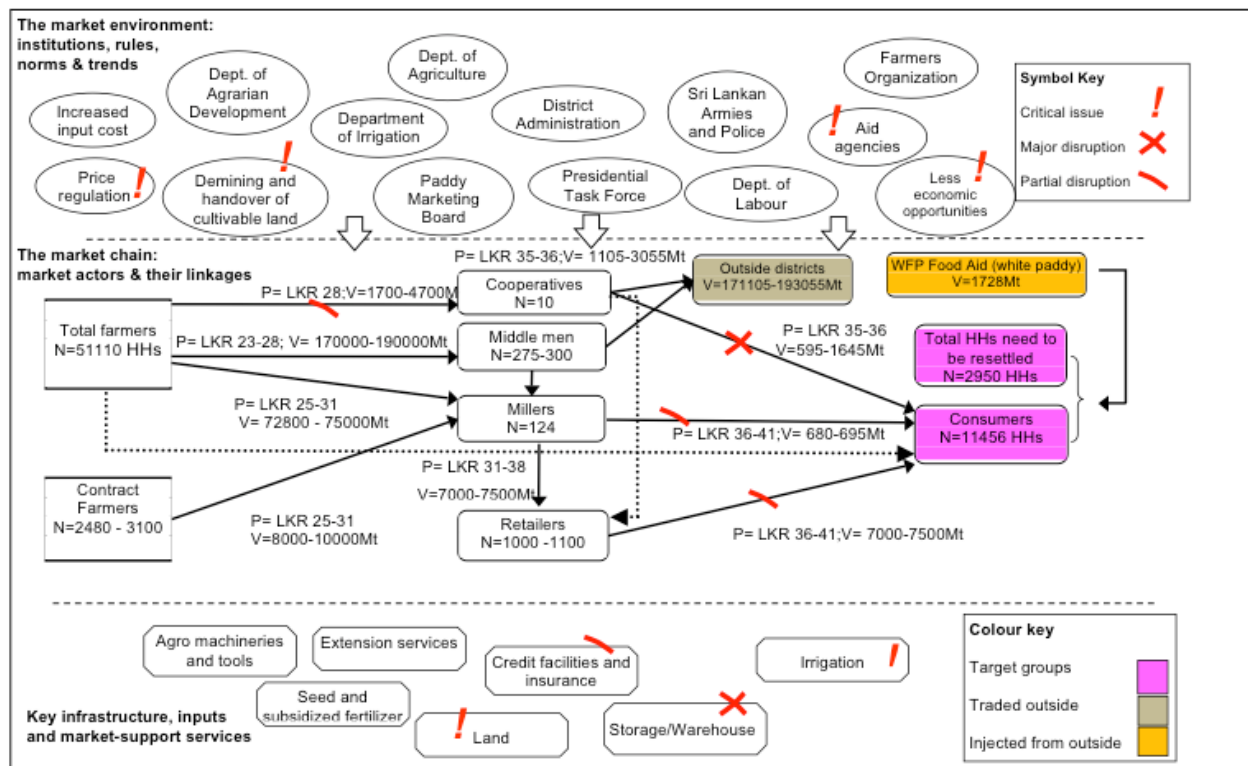
The high-ranking market systems were then compared across the three livelihood groups and there were several market systems that overlapped, being critical for multiple livelihood groups. The five highest-ranking different market systems were deemed to be the most critical for the target population and selected for this study.

The five critical markets examined by this EMMA team are: 1.) Red Rice – supply market; 2.) Groundnut – income market; 3.) Credit services – supply market; 4.) Masonry labour – income market; 5.) Milking cow – supply market.

## VI. The Market system

The market map below is a visual depiction of the red rice market system in Kilinochchi and Mullaitivu districts. It depicts the linkages and functioning of the market as it currently is, including key constraints affecting the market system. Notably, the market identifies the relative quantities of red rice traded between different actors and the prices. The following sections

analyze how this market is currently functions to meet the food needs of those households dependent on the market to supply sufficient amounts of red rice for consumption.



### Description of the Market Chain Actors

- Farmers:** As per the information provided by District Agrarian Services the total number of red rice producing farmers in the both the district is 51,110, which comprises almost 84-85 per cent of the households. Red rice farmers are the only source of red rice in the district, and produce a significant surplus during the main maha season and the yala season. During the maha season, producers cultivate an average of 3 acres (with paddy landholding range from 1 – 25 acres per household) and are able to meet their own red rice seed and cereal needs as well as sell a large portion of their harvests through cooperatives, directly to millers, and to middlemen. In general, one-half of an acre is sufficient to produce the red rice for farmers’ own consumption and seed for the next season. Even keeping this seed for own their own use, most paddy farmers still manage to sell 80% of their red rice production of the in external and local markets. During the yala season, when irrigation is required for production, only about 40% of the land area is cultivated and the majority of the paddy produce is sold to middlemen from Jaffna and Vavuniya where demand for red rice is high because it is not cultivated in those districts in yala season. The high demand in Jaffna coupled with a lack of paddy storage facilities in the target districts and farmers’ debt compels farmers to sell their produce immediately after harvest at lower price than what is guaranteed by the government. Cooperatives are the mechanism through which the government purchases red price at guaranteed prices, however in Kilinochchi and Mullaitivu these organizations are organizationally

weak and lack the capacity to purchase large quantities from producers. Red rice cultivation involves the entire family, with men primarily responsible for land preparation and irrigation, while women household members are involved in weeding and harvesting.

Red rice production has long been the traditional type of rice grown and preferred for consumption, however with the opening of the market access in the north following the end of the war, some producers are switching to white rice production for sale outside the districts. There is some worry among producers and officials that this shift to white rice production for sale outside the target districts, although and limited to a small land area, may expand and reduce production of red rice, which is preferred locally.

- **Cooperatives:** Prior to displacement, cooperatives provided inputs and credit at small scale to producers, and purchased paddy at guaranteed price to sell to local consumers and to outside markets. Six cooperatives in Kilinochchi currently purchase paddy at a government-set guaranteed price (pay slightly higher than middlemen), but their capacity to trade paddy is significant limited. In addition to struggling to re-start activities following the war, and having low financial capacity, most cooperative properties, including office buildings, warehouse storage facilities, lorries and other packing and transportation equipment, were destroyed or lost. Cooperatives in Kilinochchi are currently purchasing 1,400 to 3,000 kg per farmer, limited to their members only (prior to 2008, cooperatives purchased 3000 kg of red rice from both members as well as other farmers). The cooperatives in Mullaitivu are yet to recover and to start trading rice. They are focusing on trading other food items and fuel as they have higher demand and benefit from economies of scale compared to red paddy. The Dept. of Agrarian Development is providing interest free loans to the cooperatives for purchasing paddy from producers at the guaranteed price, but cooperatives do not have sufficient capacity to manage take advantage of the credit opportunity and to manage large-scale purchasing, storage, and sales of paddy.
- **Middlemen:** Around 300 middlemen are regularly involved in supplying red rice to millers in Kilinochchi, Mullaitivu, Jaffna, Vavuniya and to a lesser extent to Colombo. As per the middlemen almost 50 % of the red rice production in the target area goes to markets outside Kilinochchi and Mullaitivu, the majority to Jaffna followed by Vavuniya and Colombo. The vast majority of the 50% that remains in Kilinochchi and Mullaitivu is handled by local mills. Yala season production in Jaffna is very low compared to Kilinochchi and Mullaitivu, and as such, farmers get a higher price for their yala season production. The prices paid to producers by middlemen range from LKR 23-24/Kg for Maha season and 25-28/Kg for yala season red rice. Farmers prefer selling to middlemen because they do not need to transport paddy to market, but middlemen pay LKR 3-4/kg less than market value for paddy, except where the farmers' organization are strong. 100% of middlemen are men.



- **Miller:** 124 rice mills are operating in both the districts<sup>10</sup> with varying capacities. The millers are the main actor who is processing rice at local level and maintaining steady supply throughout the year. The millers store paddy and process according to the demand and sell milled rice to retailers and, to a lesser extent, directly to consumers. There is coordination among the millers and they actively transport rice from mills with surplus supply to those mills with low supply and high demand, however the millers can also hold paddy temporarily to influence prices, but this practice appears to be fairly limited due to the large number of milling actors in the market system. Although both districts currently have sufficient numbers of rice mills and most are operating under full capacity yet still meeting demand, the total number of mills is less than pre-war levels as many mills were destroyed or closed down during the war. Both women and men involved during milling process and the business, with men responsible for the milling and machinery while women manage the sales and business aspects.
- **Retailers:** Retailers are the primary source of milled red rice and other household supplies to majority of the consumers. Almost all the retailers sell multiple commodities for household requirement rather than selling only red rice. The majority of the retailers are suffering from debt, borrowed to purchase rice and other commodities, while their volumes of sales have decreased. Income and sales are lower than in the last few years because decreases in the price of red rice (as more people are resettled and lands demined, production levels continue to rise and local prices are slightly decreasing) as well as the weak purchasing power of consumer households. Retailers sell red rice in small quantities, but also in 10 and 50 kg bags at relatively cheaper price. Due to unavailability of cash at household level, most consumers purchase in very small quantity to meet their daily/weekly requirement. Food aid also depresses the volume of red rice sales for retailers.

### **Description of Key Infrastructure, Inputs and Market Services**

- **Storage/Warehousing:** Community and cooperative-level storage facilities are important in ensuring regular supply of rice in the local market. Almost every red rice producer sells his or her paddy immediately after harvest to middlemen at price lower than guaranteed price. Big landlords with more than 10 acres of land store their paddy to sell with higher price at the beginning of the yala season when demand from Jaffna increases. A lack of storage infrastructure limits cooperatives' abilities to purchase rice at the guaranteed prices and to support their farmer members. Almost all the cooperative-owned warehouses have been destroyed during the war, but some of them in Killinochchi have been rehabilitated with the support of aid agencies, particularly ILO and FAO.
- **Irrigation:** Irrigation is one of the major constraints for red paddy production in yala season. There is high demand for the yala season red paddy in Jaffna and farmers are paid LKR 1-3 more during this season than in the Maha season. Increasing yala season

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<sup>10</sup> Source: District GA Offices in Killinochchi and Mullaitivu Statistical handbook, 2010

production would also help in increasing supply in local market during November-December. Several small and medium scale irrigation schemes have been completely/partially damaged during the war. Major irrigation sources in Killinochchi are under repair or fully functional, however of about 50 minor tanks, 25 are completely non-operational. This lack of irrigation severely limits the yala-season production and supply of red rice (and income for farmers).

- **Land:** Land is critical as it is the main resource for improving economic opportunities for target group and increase red rice supply during scarce months. Access to land entitlement will also support access to credit for efficient supply of red rice.

### **Description of the Market Environment**

- **Aid agencies:** WFP is currently providing a full food ration, including white rice as the main staple, to recently resettled households for 6 to 9 months following resettlement. Households frequently exchange the food aid rice for red rice at local mills and retail shops, at a significant loss in quantity. Normally 1.5 kg food aid white rice is exchanged for 1 kg of red rice. The beneficiaries consider food aid white rice to a lower quality than local red rice, and complain that the food aid rice is not easy to digest easily. Larger families (>4 members) cannot afford the quantity loss when exchanged white rice for red, and thus consume the food aid rice. According to retailers, food aid enabled the price of red rice to remain stable, but the costs of transportation still increased as a result of increased in fuel and labour costs. Similar complaints were heard from miller and middlemen.
- **Lack of economic opportunities and credit services:** As the target consumers produce very little of their own red rice, merely ensuring production and the supply of red rice to the market may not be effective to fulfill the household need for red rice by the landless. These households have very little purchasing power and limited access to credit to start-up income generating activities, which constrains their ability to meet their food needs and limits market functioning – retailers face greater debt burdens because red rice sales are slow, which may limit retailers from stocking sufficient red rice to meet the needs of target population.
- **Presidential Task Force (PTF):** A high level task force led by President of Sri Lanka has been formed to oversee relief, recovery and development interventions in the Northern Province. The recovery and development approach espoused by the PTF guides the direction of interventions in the post-war north, including policies on agricultural development and market support. The PTF is likely to be a key player in the market system, however, it is still to be seen what impact it will have on the lives and livelihoods of the target population.
- **Price regulation:** Government of Sri Lanka annually fixes guaranteed price for red paddy as well as red rice, current set at LKR 28 for paddy and LKR 60 for processed red rice. GoSL

does not buy the product but give interest free loan to cooperatives to buy red paddy from farmers. However, only few cooperatives have been benefitted as they have limited storage and milling capacity. None of the actors interviewed with the exception of the cooperatives, mentioned that the price paid to farmers for paddy was equal or more than the guaranteed price, except in the case of yala season. The farmer organizations exist in most of the communities but most of them do not have capacity to bargain for fair price.

- **Demining and handover of cultivable land:** Almost 20 per cent of the cultivated lands are still under the control of SL army, and large portions of land have still not been demined. The demining process should be accelerated to expedite the resettlement process and the resettled families should have land entitlement.

## VII. Key findings

### Gap Analysis

The local market is providing sufficient production to meet the staple food needs of the consumers in Kilinochchi and Mullaitivu districts. Both Kilinochchi and Mullaitivu produce enough red rice to meet the demand from the two districts by cultivating red paddy in two seasons, except in villages where salinity and lack irrigation limit production to only during the Maha season. Despite the high levels of production, November and December are critical periods for the target population. During this time period prices rise by LKR 4-5 per kg due to low red rice supply in neighboring districts, and purchasing power is also very low because there are less labour opportunities during this time of year period and thus less household income.

The table below demonstrates the overall production surplus in the red rice market system in Kilinochchi and Mullaitivu districts. 51,110 farming families in both the districts produce around 260,000 MT and 120,000 MT of red rice in the Maha and Yala Seasons respectively. Around 50% of the total red rice produced in the two districts is supplied to Jaffna, Vavuniya and Colombo. Around 20-25% of the total production (95,000 MT) is consumed by the producers for household food requirement and a further 10,500-11,000 MT is used as seed paddy. Hence, around 72,800 – 75,000 MT of red paddy, equivalent to 47,320 to 51,000 MT milled rice (according to millers and cooperatives, the milling yield ranges from 65-69%, depending on the paddy variety and moisture content) is available in the local market annually.

Red rice Consumption requirements of the target population fit well within these levels of red rice availability, meaning the local market is capable of meeting the full red rice needs. According to Department of Agriculture around 15-16% of the families do not have sufficient land for paddy cultivation. Therefore around 14,000-15,000 families depend the local market to meet their red rice consumption needs. Additionally, focus group discussions revealed that an average household with 4 members requires 1.5 kg of red rice daily, making the total annual need for red rice to be 7,500 to 8,000 MT.

## Analysis of red rice need and local production

Target Group	Number of Households in Need	Household Need	Other aid received	Total requirements from the market	Total available in the market
Families receiving food aid and market-dependent households to meet food needs	14,406 (2950 to be resettled and 11456 landless depending on local market supplies)	7,779 – 8,644 MY  (45-50 Kg /month /household)	720 MT Food Aid Rice	7,059 – 7,924 MT	47,320-51,000 MT

### Household Income Gap

ACTED and PIN estimate that the monthly household cash requirement to meet household needs ranges from LKR 13,701 to 16,220, and that of this income 44-59% is spent on food.<sup>11</sup> Focus group discussions conducted during this EMMA estimated that LKR 2,250 – 2,500 per month was spent on red rice alone. The main sources of income for landless households to meet these needs is through agricultural labour<sup>12</sup>, and wages range from a minimum of LKR 600-750/day to LKR 1,200/day for skilled labour. Provided a labourer is fully employed 20 days a month at the minimum wage range of 600-750/day, monthly earning will range from 12,000 to 15,000, only partially within the range necessary to meet household needs. Additionally, the estimate of 20-days of work per month is likely to be overly optimistic. It does not take into account factors such as the seasonal nature of agricultural labour or the time needed for families to rebuild their own homes and resettle themselves, both of which suggest that actual employment is much less than 20-days per month throughout the year. For women-headed households, this situation is even worse as the daily wages paid to women are about 50% those paid to men for the same work, meaning that female-headed households cannot meet the minimum income requirements for food and livelihood needs.

### Market Analysis

<sup>11</sup> ACTED and People in Need (PIN). Expenditure Patterns of Cash-for-Work versus Non Cash-for-Work Households within a Food Security Context. June 2011

<sup>12</sup> Both focus group discussions conducted during this assessment as well as the previous EMMA of rice markets in northern Sri Lanka (see Meissner, Laura. Emergency Market Mapping & Analysis (EMMA) Report: Rice Market System, Northern Province, Sri Lanka. USAID/OFDA, March-April 2011) report roughly 30% of households depend on labour market, predominantly agricultural labour during the paddy season.

Although red rice production is sufficient for the needs in the district, the market is facing several key constraints that are limiting how well it can function to meet the needs of target consumers. These constraints on market functioning are listed below.

- **Household Purchasing Power:** The target population's reliance on inconsistent wage labour, particularly agricultural labour, is a constraint on the landless households' ability to access the red rice market system. There is ample supply of rice, but without the necessary income on a consistent basis accessing sufficient quantities of rice to meet household needs is challenging, particularly during November and December when prices increase (due to low supplies in Jaffna and neighboring districts) and labour opportunities are limited. Many households are in debt to retailers, from whom they purchase rice on credit and are unable to repay. Retailers too face reduced income and slower turnover of their stock, making it difficult to repay their supplier credit and restock.
- **Cooperatives** – Prior to the end of the war, cooperatives bought large quantities of rice at guaranteed prices from producers and sold this to millers and consumers at competitive prices, often slightly less than retail. However, these cooperatives are currently struggling to re-establish themselves following the war, and have lost personnel, management capacity, funds, trucks and transportation equipment, and storage facilities. Without this capacity, cooperatives are currently functioning at a very low level and cannot function as a reliable buyer or seller at the same scale. Cooperatives are currently selling only very little to consumers, and buying a fraction of the pre-war quantities of paddy from producers.
- **Warehousing and storage:** Almost all the cooperative-owned warehouses have been destroyed during the war, severely limiting cooperatives' abilities to function as a government subsidized buyer and seller of rice. Some cooperative warehouses have been reconstructed with support of aid agencies in Killinochchi, and are currently functioning at full capacity, however there are many more which have not been restored.
- **Land availability:** The cultivatable land still under the control of SL Army have yet to be demined. This limits further growth of red rice production and could have long-term consequences for the supply of red rice in the market. Further, sea water intrusion in the agricultural land is limiting red rice production only during maha season, making ground water inappropriate for irrigating paddy field due to high salinity. The impact of such deterioration of paddy land were observed in Killinochchi district.
- **Food Aid:** Food aid is influencing the market system by effectively reducing the demand for red rice and possibly contributing to a shift in dietary patterns away from red rice. Despite the significant surplus supply of red rice in the target areas, the less preferred white rice continues to be imported into Killinochchi and Mullaitivu as food aid. Food distributions reduce the need for households to rely on the market for food, dampening the livelihood and business opportunities for local retailers. Additionally, the long

duration of households consuming food aid rice (up to several years for those families who have not yet been resettled and remain in the IDP camps) has the potential to change dietary patterns and further reduce the demand for red rice.

### **Anticipated functioning of the market system in the future?**

For the most part, the market system is anticipated to continue exceeding the red rice market needs of the local consumers, and serve as a net red rice exporter to other districts where red rice is in demand. However, many farmers and officials worry about declining production in Kilinochchi and Mullaitivu due to a variety of factors including lack of sufficient livestock to naturally fertilize the land, very little red rice varietal improvements since the start of the war, and a small but potentially growing shift toward white rice production for sale outside the districts. Although red rice yields may decrease in the long-term without further developments, this is expected to be offset by new lands coming under cultivation as land is demined and resettled households re-start cultivation. There is a slight possibility that as food aid is completely phased out prices for red rice will rise and demand from the market increases, but food aid currently represents such a small percentage of the current market supply that the impact of its phase-out may be negligible. Overall, market prices for red rice will likely stay stable over the coming years.

### **Gender Analysis**

Both men and women are engaged in red rice cultivation, but the Paddy sector has been dominated by male members of the family from generation to generation. Men normally do planting whereas female involvement is high during the weeding periods and post-harvest activities like drying, rice pounding, and milling at very small scale. Despite this work, women are paid only 50 per cent of the normal wage rate for men. Throughout the red rice supply chain, the various actors are predominantly run by men, except for a small number of women involved in the retailing business. Women have limited control over income and in most of the cases men decided on how to spend the income. For these reasons, women-headed households face particularly difficulty in meeting their household food needs through wage labour in paddy field. This access to financial resources is further limited by male control over both farmers' organizations as well as the traditional land entitlement process within endows male household members with land ownership. Involvement in the farmers' organizations and land title are the prerequisites for accessing soft loans offered by various financial institutions as well as subsidized inputs from the Department of Agrarian Services, meaning that many women and in particular female-headed households face very tight financial and credit constraints.

## **VIII. Recommendations**

Based on the market capacity and the functioning of the market system, this analysis has identified several key opportunities for programming recommendations to improve the delivery of red rice to landless and recently resettled consumers.

Both direct and indirect interventions are necessary to improve household access and ensure continued availability of red rice. Direct support is recommended to increase consumer households' purchasing power using cash transfers, to improve income-generating opportunities through skill-building, and supporting homestead production such as gardens or poultry as a food and income source. Indirect interventions targeting market actors are recommended to improve the functioning of farmers' cooperatives and storage facilities, and to repair irrigation infrastructure. Additionally, this analysis shows the need to advocate for equal wage payments to women as well as a shift in food aid programming to cash or voucher transfers instead of imported food aid.

Detailed recommendations are outlined in the Recommendations Framework below.

<b>Recommended Response</b>	<b>Effect on market system and target group</b>	<b>Key risks and assumptions</b>	<b>Timing and feasibility</b>	<b>Remark</b>
Cash for work (small scale disaster mitigation structures and irrigation repairs)	Increases financial access to red rice market system, promote buying from local retailers, and increase yala season red rice supply through improved irrigation infrastructure	Possibility of inflation	Highly feasible and appropriate for June-August	Source of income for target group and support to production
Cash for income generation training and input support	Improve financial access to red rice and other household needs and provide support skill-building for income generating activities.	All trained beneficiaries may not adopt acquired skill	Highly feasible preferably prior to termination of food aid. Immediately for families not receiving food aid currently	Source of income
Rehabilitation of cooperatives' warehouse	Steady supply of red rice, and enable cooperatives to link with and take advantage of government-subsidized loan programs for buying paddy	The ware house may be used for other purposes by the cooperatives	High (to be completed by the harvest of maha season i.e January 2013)	Indirect response
Replace in kind food aid by a cash or voucher transfer programme to meet	Promote local market system and improve access to preferred food items	The local traders and cooperative agree to supply	Highly feasible before resettlement	Survival needs

food requirement for the families yet to be resettled		on negotiated price		
Support for homestead garden and poultry production (seeds, poultry and tools)	Possible to decrease spending on some food from market and to increase income generation opportunities	All beneficiaries for the intervention can allocate time	High, immediately	Livelihood needs
Advocacy for equal wage rate for men and women	Increase household income to meet food and livelihood needs, particularly important for female-headed households.	Men may be reactive unless they realize the benefits at HH level	Highly feasible and immediately	Livelihood needs

**Annex 1: Response Options Framework**



The response options framework is an EMMA tool to document the brainstorming process used in identifying the best response recommendations based on the market system. The table below contains the long list of ideas and concepts considered by the market analysis team when thinking through the most appropriate responses for the red rice market system.

Response Option	Advantages	Disadvantages	Feasibility (High, low, medium and why?) and timing (short, medium, long-term)
Cash for work (small scale disaster mitigation structures)	Choice to fulfill their immediate needs	Inflation	High for short term (June to August)
Cash for training for income generation training and input support	Increased financial access to red rice		High Immediately before terminating food aid
Rehabilitation of cooperative warehouse	<ul style="list-style-type: none"> <li>Fair price to farmers and continuous supply of red rice</li> <li>Opportunity for cash for work</li> </ul>	Does not guarantee fair price to the target group	High (to be completed by the harvest of maha season i.e January 2013)
Rehabilitation of cooperative rice mills	<ul style="list-style-type: none"> <li>Break monopoly of millers</li> <li>Rice bran as a by-product for livestock</li> </ul>	Less friendly to Environment	Low (prior to harvest season)
Conditional cash grant to repay debt	The consumers can repay their debt and have easy access to red rice from retailers and millers	The intervention may increase defaulters in long run	Medium (Prior to termination of food aid)
Voucher transfer for to families to be resettled	<ul style="list-style-type: none"> <li>Promote local market system</li> <li>Improve access to preferred food items</li> </ul>	Quality control may be tedious	High (immediately after resettlement)

	<ul style="list-style-type: none"> <li>Target group has been using food voucher at the distribution point</li> </ul>		
Support for homestead food production (seeds, poultry and tools)	Help meet the household food demand and promote economic activities		High Immediately
Advocacy for distribution of public land to landless families	The Target groups can produce red rice for their household requirement	The issue may be politicized	Low Long term (After the situation gets stable)
Rehabilitation of small scale irrigation (tanks and channels)	<ul style="list-style-type: none"> <li>Increase yala season cultivation to supply red rice in scarce months (Nov-Dec)</li> <li>Allow opportunity for cash for work</li> </ul>	As there is huge demand in Jaffna the paddy produced in yala season may not be available for target group	Medium Immediately before the yala season planting season (June 2012)
Motivate aid agencies to mobilize locally produced red rice for food aid	Reduce aid agencies cost of importing rice and target group get local rice as per their preference	Increase in demand may increase price of red paddy	High Immediately
Lobby to create enabling working environment for agencies	More funding opportunities to help recovery	Agencies with diverse interest might influence local people towards their agenda	Medium Immediately
Ensure access to market information system (MIS)	This will help regulate price and fair trade		Medium Before harvest season (January 2013)

Advocacy to expedite the demining process	Improved target group's access to land		Low Immediately
Advocacy for equal wage rate for men and women	Increase income of women by up to 50%		High Immediately
Conditional cash grant for rehabilitation of house	Expedite the resettlement process		Low After demining
Advocacy to compensate loss of cultivable land due to military encroachment	Ensure access to cultivable land		Low Immediately