

Myanmar Livelihood Baseline Profile

Thazi Rainfed Lowland Livelihood Zone

December 2011¹

Zone Description

Thazi Township is located in Mandalay Division in the eastern part of the central Dry Zone of Myanmar. Villages in the western plain of Thazi Township fall into two different livelihood zones, depending on access to formal irrigation schemes. The irrigated villages have access to the schemes and in years with adequate water availability can grow multiple seasons of crops on their land. However, they are quite restricted in the crops that they are allowed to grow on irrigated land (paddy rice and cotton). The rainfed villages are more dependent on rainfall, but have more flexibility in terms of the crops that they grow. The irrigated and rainfed villages are often next to each other, so market access in both zones is similar. The Yangon-Mandalay railway passes through the zone, as does the Meiktila to Taunggyi highway, which is the main road to Shan State.

This profile outlines the livelihood patterns in the rainfed villages where Oxfam works. Even within the rainfed zone, there are some differences from one village to the next due to specialisation. Because local crop production is erratic, villages have been quite innovative in finding local alternative income sources. Amongst Oxfam's project villages in the rainfed zone, one is widely known throughout the township and beyond for collecting bamboo and producing bamboo products. In another village, almost every household contains at least one person skilled in masonry. Other villages are near the Meiktila industrial area and many households obtain low-paid employment or sell firewood there. There are also some differences in cash crop production. One village specialises in onion production using water from tube wells, while other villages produce watermelons or flowers.

Despite these differences, it is possible to give a general picture for the zone. Crop production, livestock production, local and migrant wage labour and self-employment are the basis of livelihoods in the Thazi Rainfed Lowland Livelihood Zone. The rainy season runs from May to October and average rainfall in the period 1993-2010 was 32 inches per year. The soils are sandy and only moderately productive. The main crops grown are paddy, chilli, chickpeas and sesame. Small quantities of sunflower and groundnuts are also grown. In terms of staple food crop (i.e. rice) production, this is a food deficit zone. Fields are tilled using oxen for draught power or hand tractors and farmers use urea and livestock manure as fertilizer. Most farmers keep their own seed or purchase seed from the market. The main crop pests are anthracnose (affecting chilli), nematode (affecting paddy rice) and bore worm (affecting chickpeas). The main constraints to crop production include irregular rainfall, insufficient capital for inputs, shortage of draught power for timely land preparation, and a lack of knowledge on good cultivation practices.

The main livestock kept are cattle, primarily raised for draught power. Only a very small proportion of households keep goats or pigs. Cattle are fed on grass, sorghum (which is grown by larger farmers for fodder), and oil seed residue (after oil extraction). Cows are milked and most of the production is sold as milk or cheese. Few livestock diseases were reported and expenditure on livestock drugs is minimal.

The poorest households in this zone are landless and are highly vulnerable to fluctuations in the price of staple foods, due to low cash incomes and a heavy dependence on market purchases. Low-paid local agricultural labour (by both men and women) is the most important income source for landless households and much of this is done in nearby wealthier rainfed villages or in irrigated villages. Other income sources for the poor include local off-farm labour, migrant labour (for building construction, road

¹ Field work for the current profile was undertaken in October-November 2011. The information presented refers to December 2010 – November 2011, an average year for food security by local standards. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for at least five years (i.e. until at least 2016). All prices referred to in the document are for the reference year.

construction, mining, agriculture and factory work) and various types of self employment. The self-employment options vary considerably from one village to the next, depending on locally available resources and market access, and include bamboo, firewood and charcoal sales and recycling metal.

Access to credit is an important livelihood strategy in this zone, for poor and better off households alike. Sources of credit include the Agricultural Development Bank, moneylenders, traders, grocery shops and better off farmers. Rates of interest vary considerably (from 1.5% per month with the ADB to 10% per month with moneylenders), as do the terms of repayment (with the ADB less flexible than other sources). Village-level grocery shops generally do not charge interest, but they charge high prices. Only farmers can borrow from the ADB and the size of loan depends on the number of acres owned. Mortgaging of land, pawning of assets such as gold, and selling crops in advance of the harvest (at relatively low prices) are also common when households face problems. Poorer households can also be paid in advance for farm labour by better off farmers.

Water sources include shallow wells, deep wells, open ponds and seasonal pools. Humans and livestock generally share the same water sources. There is no payment for water in this livelihood zone.

Markets

Market access in this zone is fairly good. A tarmac road from Meiktila to Shan State runs through Thazi Township and other roads in the zone are dirt. The main market in the township is in Thazi town, which is located in the middle of the livelihood zone. Every village has road access to Thazi market. The township has a system of rotating markets every five days, which ensures local access to markets and encourages trade. Some dirt roads become impassable to vehicles in the rainy season, but access by motorcycle, bicycle and ox cart is year-round.

The irrigated areas of Thazi Township do not produce enough paddy to meet local demand. Rice is imported into the township from surplus areas around the country by a number of large traders based in Thazi town, who both sell to consumers directly and supply smaller traders. A wide variety of different types of rice are sold, with prices in Thazi town in November 2011 ranging from 525 kyat per *pyi*² for the cheapest to 1,550 kyat per *pyi* for the most expensive. Prices at any given point in time vary according to variety, quality and age of the rice. Seasonal and year-to-year fluctuations in prices depend on production conditions (both local and national) and on the government's export and exchange rate policies.

Chillies, the main cash crop, are purchased by traders and exported from the township to Yangon and Mandalay. The final market is country-wide and chillies are also exported from Yangon to Thailand and from Mandalay to China. Most farmers sell immediately after harvesting and drying their chilli crop, usually in October-November. Storing the harvest and selling in later months can be risky in terms of price fluctuations because different parts of the country harvest chillies at different times of year. Chilli production has been declining in Thazi in recent years (since 2009), mainly because of crop disease.

Chickpeas are sold by farmers to traders in Thazi town and exported from the township to Mandalay or Yangon. There is some demand for chickpeas within Myanmar, but much of the production is exported to India. The local price obtained by farmers is very dependent on export demand and the international price. Most farmers sell soon after the harvest and the traded volume peaks in February-March.

The market for livestock is small and mostly local, with some sales to Meikhtila Township.

Local casual work is the most important income source for very poor and poor households, but migration of at least one household member for a few months of the year is common. The usual destinations for migration are Nay Pyi Daw, Shan State, Bago Region, Kachin State and (closer to home) Meikhtila. The

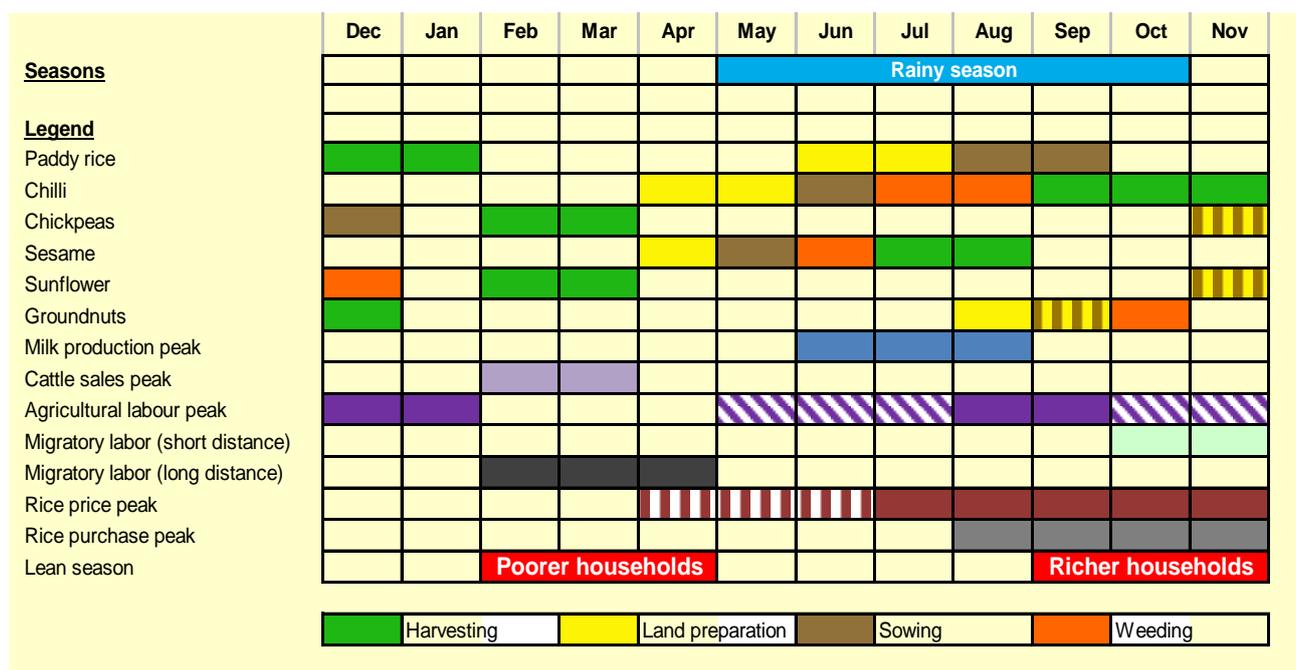
² *Pyi* is a unit of volume. One *pyi* of rice weighs about 2kg. In contrast, a *viss* is a unit of weight. One *viss* weighs 1.63 kg. Rice is usually sold by *pyi*. Other foodstuffs (including oil, vegetables and meat) are sold by *viss* or by *ticals*. A *viss* contains 100 *ticals*.

most common period for long-distance migration is February-April, the local lean season for poorer households.

Reference Year

All of the information presented in this profile refers to the period December 2010 – November 2011, an average year for food security by local standards. In interviews at community level, key informants were asked to rank the seasons over the last five years, with '1' indicating a poor season and '5' indicating an excellent season for household food security. The average ranking for the rainy season in 2010 was '3', as was the winter season 2010-11. With some local variation, production and prices for paddy, sesame and chickpeas were average in 2010-11. Chilli production was below average due to disease. The total rainfall during 2010 was above average at almost 38 inches, but more than half of the rain fell late in the season, in September-October.

Seasonal Calendar



The reference year starts in December because that is when the main crop, paddy rice, is harvested. This marks the start of the consumption year. Groundnuts are also harvested in December. There are other harvest periods during the year: chickpeas and sunflower are harvested in February-March, sesame in July-August and chillies in September-November. Chickpeas, sesame and sunflower are short-cycle crops, while paddy rice and chillies are long-cycle. Chickpeas and sunflower are intercropped, while paddy is single stand.

Casual agricultural labour opportunities are readily available throughout the year, except for February-April, when work is limited. Although there are some differences from crop to crop, most land preparation, nursery preparation, and application of fertilizer, manure and pesticide is done by men. Most transplanting, sowing and weeding is done by women (except where weeding cotton, which is done using oxen and which is men's work). Harvesting is sometimes shared (paddy, sesame, groundnuts), sometimes mostly done by women (chillies, cotton, chickpeas) and sometimes mostly by men (pigeon peas).

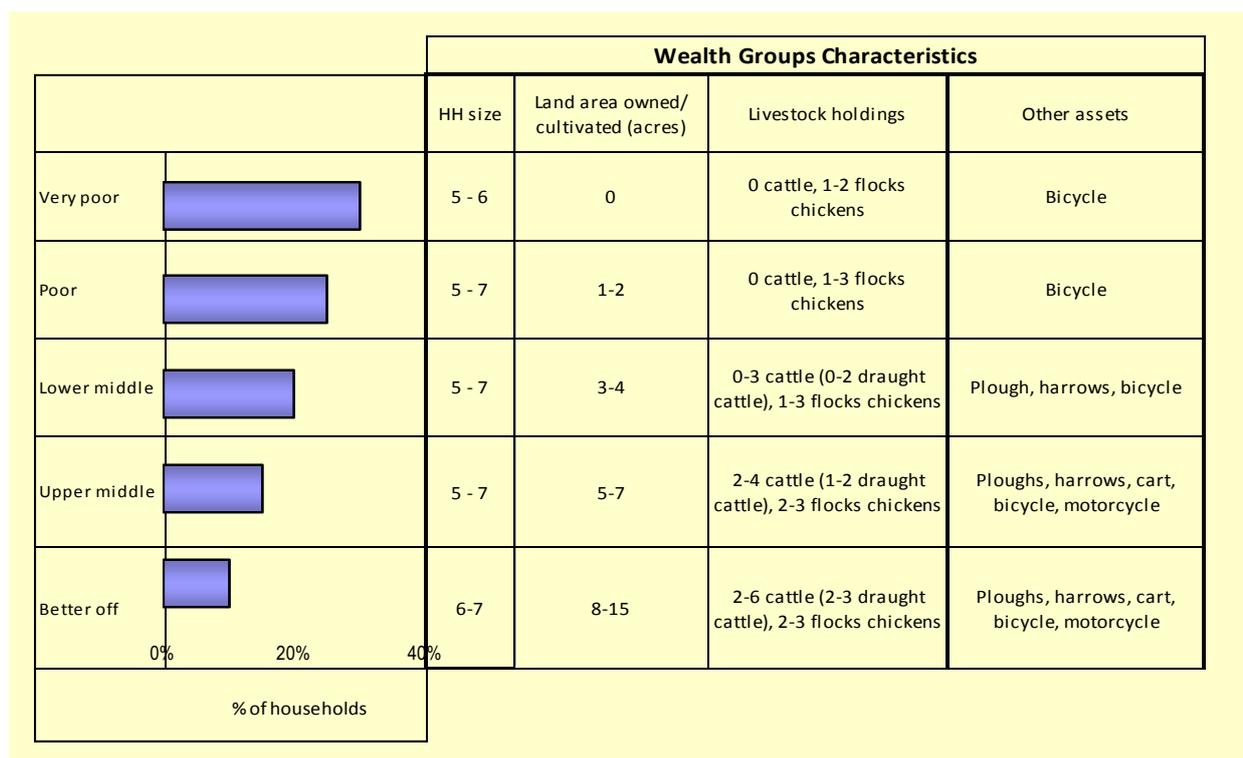
Milk production peaks during the rainy season, while cattle sales peak during February-March, when agricultural loans have to be repaid to the Agricultural Development Bank. Milking and herding cattle is the work of men and boys.

Long-distance labour migration peaks in the period February-April, the period when local work is less

available. Both men and women migrate. Road construction is a common activity, with women carrying stones and sweeping and men crushing stones, levelling and spreading tarmac. Building construction is another type of dry-season activity, with women carrying bricks, stones and sand and men doing most other activities. Other types of off-farm activity such as firewood or bamboo collection and charcoal burning are mainly done by men, with women more involved in the selling.

Unusually, there are two lean seasons in this livelihood zone. The peak of the lean season for poorer households is from February-April, when local agricultural work opportunities are limited. For better off households, the peak of the lean season is just before the paddy harvest in September-November.

Wealth Breakdown

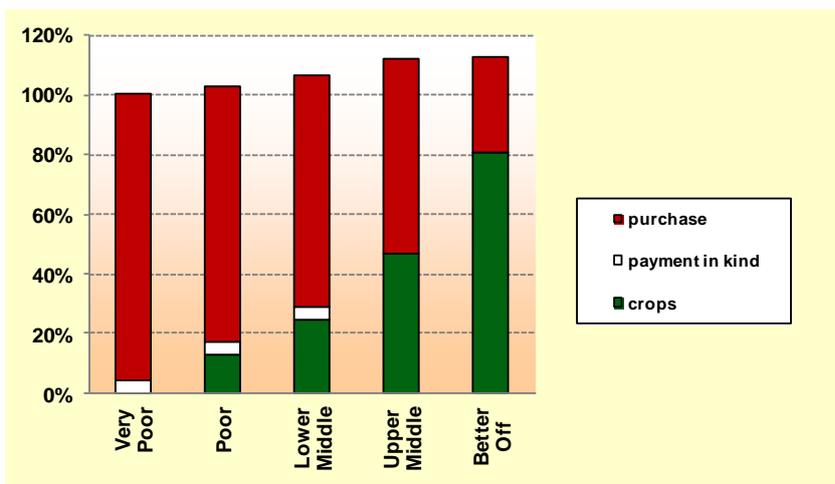


The main determinants of wealth in this zone are the area of land owned and cultivated and the number of livestock owned (particularly oxen for ploughing). The area of land owned and cultivated increases with wealth: the very poor group is landless, the poor own 1-2 acres, the lower middle 3-4 acres, the upper middle 5-7 acres and the better off 8 or more acres. Households typically cultivate about half (or just under half) of their total land with paddy rice. Household size increases slightly with wealth. Most households rear chickens and farmers prioritise cattle ownership for draught power rather than for milk production or for sale. A few households keep goats or pigs, but it is not typical for any wealth group in this livelihood zone.

Renting land or sharecropping between groups is not very common, but does exist. The usual arrangement is for the land owner to receive one-third of the harvest, while the person actually cultivating the land (who provides all inputs) keeps two-thirds. This arrangement can occur from poorer to richer households or vice versa and often occurs when the landowner is elderly and cannot cultivate. There is a system for livestock sharing between households, known as *mwe beh*, but it is not very widely practised. The usual arrangement is for the first offspring to be kept by the livestock borrower and the second offspring to be given to the owner, if both parties can wait that long. If the offspring is sold, the money is shared equally between the owner and the borrower.

Sources of Food in the Reference Year (2010-2011)

The graph presents the sources of food for households in different wealth groups in the livelihood zone for the period December 2010 -November 2011. December represents the start of the consumption year since it is when the paddy harvest begins. The proportion of food obtained from own crop production (in green) increases with wealth.



The contribution of own crops could be much higher if households didn't sell so much of their production (often under pressure to repay agricultural loans). For example, poor house-

In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

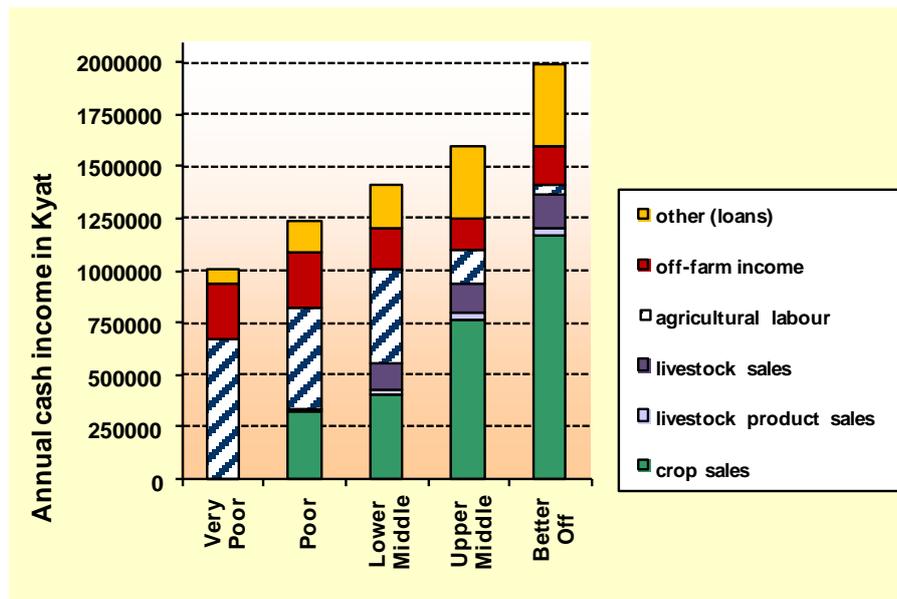
holds produce enough paddy, chickpeas and sesame to meet about half of their food needs. But this does not appear in the graphic because they sell a large proportion of what they produce (up to two-thirds of their paddy production and almost all of their chickpea and sesame production). As a result, for most of the year, they purchase food from the market.

Market purchases are the main source of food for all wealth groups except the better off. Items purchased include rice, cooking oil, dry and fresh fish, beef, pork, lab lab beans, potatoes and vegetables. The quantities of oil, potatoes and vegetables purchased are fairly similar across the wealth groups, but the quantities of meat and fish purchased increase with wealth. Rice is purchased by *pyi* or by bag and other items are purchased by *viss*. Most purchases are made at the rotating market every five days.

The payment in kind in white in the graph above primarily represents food that is eaten by migrant labourers while they are away from home. In addition, in some villages casual labourers are provided with a meal in addition to a cash payment for a day's work.

Milk from own livestock is rarely consumed in this livelihood zone. It is mostly sold.

Sources of Cash in the Reference Year (2010-2011)



The graph provides a breakdown of total cash income according to income source.

	Very poor	Poor	Lower middle	Upper middle	Better off
Annual income (kyat)	800,000 – 1,200,000	900,000 – 1,500,000	1,000,000 – 1,800,000	1,200,000 – 2,000,000	1,400,000 – 2,600,000

(hair processing, machine weaving, industrial work) and self-employment activities like bamboo, firewood and charcoal sales. On average they earned about 1,500 kyat per day for agricultural work in the reference year and a similar amount per day from other sources. The agricultural activities that require the most labour are transplanting paddy, and harvesting of paddy and chilli.

Households obtained substantial income from loans in the reference year and many households borrowed from multiple sources. This partly has a consumption smoothing effect, allowing households to have an income source when other sources are lacking. Ultimately, however, more has to be paid back than is borrowed.

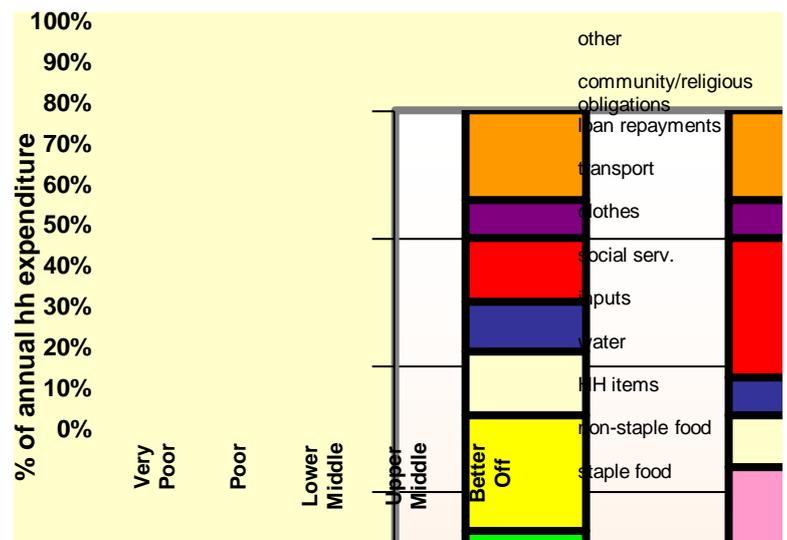
The graph presents income sources by wealth group for the reference year December 2010 – November 2011. Income from crop sales increases steadily with wealth, as do income from livestock and livestock product sales.

Better off households obtain better prices for the crops and livestock that they sell because they are able to wait slightly longer to sell (and are less likely to sell their crops in advance of the harvest). Most production is sold at or soon after the harvest.

Poorer households obtain most of their cash income from agricultural labour, off-farm labour

Expenditure Patterns in the Reference Year (2010-2011)

The graph presents expenditure patterns for the reference year December 2010 – November 2011. While total expenditure increases with wealth, the expenditure breakdown by percent in this graph demonstrates how much expenditure is spent on different categories. The proportion of expenditure on staple food (which is rice, in dark green in the graph) decreased with wealth, from one-third of annual expenditure for very poor households to less than 5% for better off households. Combining staple and non-staple food, very poor households spent about two-thirds of their income on food, declining to about a quarter for the better off.



The graph provides a breakdown of total annual cash expenditure according to category of expenditure.

Middle and better-off households spent much more, in absolute terms, on most other items. The main household items purchased (in yellow) are tea, soap (bar soap and washing powder), and other toiletries (including *thenika*), and these are a similar percent of total expenditure across the wealth groups. Firewood and water were generally not purchased in the reference year. 'Social services' (in pale yellow) included school and medical expenses (including formal and traditional medicine). Primary school was often free and school expenses included uniform, stationery and pocket money. 'Other' items (in orange) included betel leaf/nuts, alcohol, tobacco and entertainment (mainly paying to watch videos).

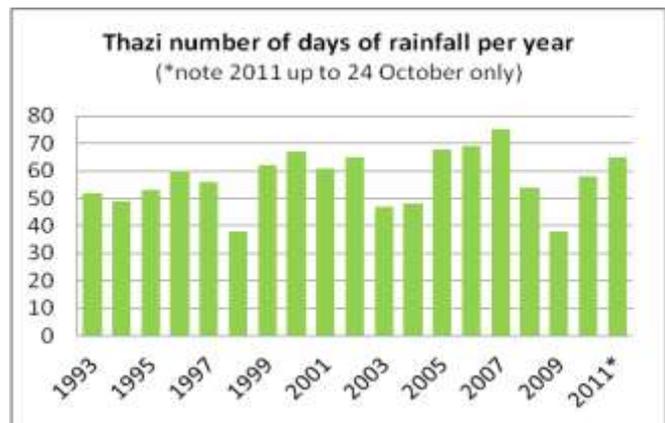
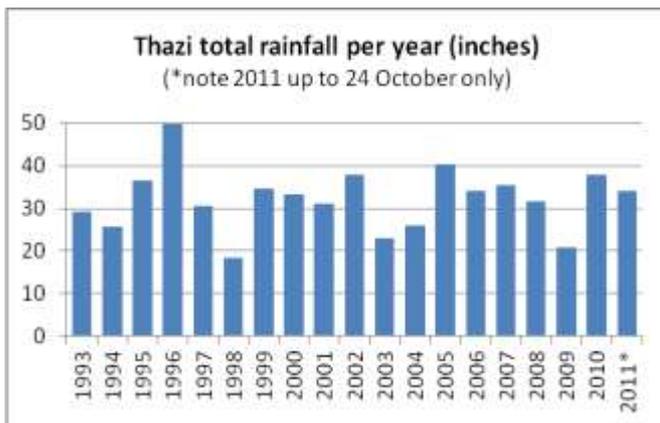
Inputs (in pink) were a significant expenditure item for middle and better off households. Hiring labour was the largest component (50-60%) of this category of expenditure for middle and better off households, which also included expenditure on seeds, tools, fertiliser, pesticide, livestock drugs and, in some cases, fodder. Poor and lower middle households also spent money on hiring labourers (even though they also earn substantial income from this source) and this made up a third to half of their expenditure on inputs. Paying for land preparation by rented oxen was another substantial component of input expenditure for these groups.

Households repaid part of their debts (in red) in the reference year, but generally ended the year with higher levels of debt than they started it. Levels of debt at the end of the reference year (November 2011) varied widely but were in the following ranges by wealth group: 0-200,000 for very poor, 100-300,000 for poor and lower middle, 200-700,000 for upper middle and 250-500,000 for better off households. Note that the end of the reference year was just before the main paddy harvest, the point at which farmers have the highest levels of debt during the year.

Hazards

The main hazard that occurs in this livelihood zone is irregular and inadequate rainfall (see graphs below³). As the farmers in this zone have little access to irrigation, poor rains result in crop failure, forcing households to resort to other income-generating activities to purchase food.

³ Source: Thazi Township MAS.



Other hazards include crop pests and diseases (such as anthracnose affecting chilli, nematode affecting paddy and bore worm affecting chickpeas), unpredictable fluctuations in market prices (particularly for crops that are exported) and, less frequently, livestock diseases (such as foot and mouth and blackleg, both affecting cattle).

Copings Strategies

The coping strategies used in bad years vary by wealth group.

Very poor and poor: The main coping strategy when income from agricultural labour is low due to crop failure is to increase off-farm activities such as migration, bamboo, firewood and charcoal sales and wild food collection. Very poor and poor households also increase loan taking in bad years. Reducing expenditure on expensive foods (meat, fish and oil), clothes, social obligations, and non-essentials (like alcohol, betel, tobacco and entertainment), in order to purchase more food, is another commonly used coping strategy. A damaging strategy that is sometimes exploited in bad years is to remove children from school and send them to work. When the situation is very bad, whole households migrate in search of work outside the township.

Middle and better off: Middle and better off households increase livestock sales in bad years. There is a limit to how many animals a household can sell without negatively affecting future production and livelihoods. Sometimes this strategy takes the form of selling a large ox and purchasing a smaller one. As for the poorer groups, additional strategies for these groups are to migrate in search of work and to increase loan taking in bad years. Sometimes the latter takes the form of mortgaging land or gold, commonly with a three-year repayment period. Non-essential expenditure is reduced or cut-out entirely in bad years, and middle and better off households have more scope to exploit this strategy compared to the very poor and poor since they have higher levels of expenditure. A potentially damaging coping strategy that is sometimes exploited by households with land is to reduce investment in crop production by reducing the area cultivated.

Key Parameters for Monitoring

The key parameters listed in the table below are things that make a substantial contribution to household food and income sources in the Thazi Rainfed Lowland Livelihood Zone. These things should be monitored to indicate potential losses or gains to local household economies, either through ongoing monitoring systems or through periodic assessments.

Item	Key Parameter – Quantity	Key Parameter – Price
Crops	<ul style="list-style-type: none"> • Paddy • Chilli • Chickpeas • Sesame • Groundnuts 	<ul style="list-style-type: none"> • Paddy • Chilli • Chickpeas • Sesame • Groundnuts
Livestock	<ul style="list-style-type: none"> • Cattle • Milk • Chickens 	<ul style="list-style-type: none"> • Cattle • Milk • Chickens

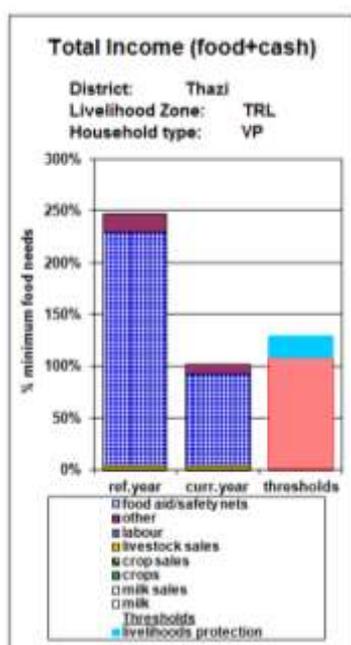
Other food and cash income	<ul style="list-style-type: none"> • Agricultural labour • Migration • Off-farm labour and self-employment • Loans 	<ul style="list-style-type: none"> • Agricultural labour wage rate • Migration wage rate • Off-farm labour wage rate and self-employment profit • Loans interest rate
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It is also important to monitor the prices of key items on the expenditure side, including rice prices.

Scenario Analysis

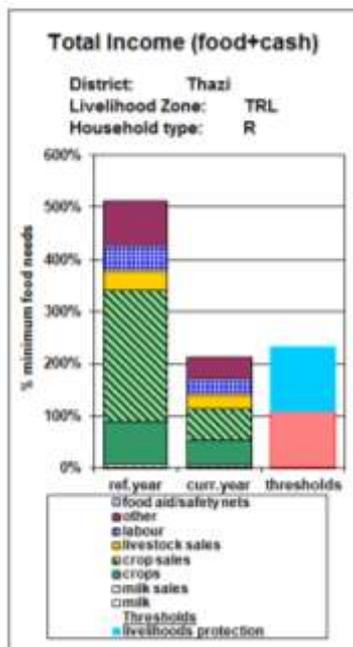
The livelihoods baseline outlined above can be used to examine the impact of various types of change on people’s livelihoods, including changes related to weather, markets, policies and interventions. At the heart of this analysis is the contention that in order to predict the effects of any shock or in order to understand the potential benefits of any development intervention, you first need to be able to understand the ways that people piece together their livelihoods.

The following graphs use the Livelihoods Impact Analysis Spreadsheet (LIAS) to analyse a scenario. In this analysis, the extent to which a household can increase access to food and income in response to a shock excludes the resort to negative coping strategies, such as unsustainable livestock sales, reduction in consumption beneath minimum consumption requirements, or eliminating social services expenditure. To illustrate the type of analysis that can be conducted, the following shock is considered for very poor households: a 50% loss of local of local labour income and a doubling of staple food prices. Everything else is considered unchanged in this scenario.



The graphic on the left illustrates this scenario for very poor households (‘VP’). The bar with pink and blue on the right represents the two thresholds – the top of the pink section is the survival threshold and the top of the blue section is the livelihood protection threshold. This is the equivalent of the ‘expenditure’ bar in the graph on page 5. The other two bars represent household food plus cash income – the bar on the left is for the reference year, while the one in the middle is for the scenario (labelled ‘current year’). In these charts, food and cash income have been added together and, in this case, expressed in food terms. (The results could also be expressed in cash terms).

Very poor households end up just below the survival threshold in this annual analysis, despite employing coping strategies like doubling labour migration and switching expenditure from non-essential items to staple food. They can cope with a doubling of staple food prices (in the absence of any other changes), but the combination of these two shocks together causes problems in terms of a small survival deficit and a large livelihood protection deficit. The deficit is the difference between the middle bar and the thresholds bar on the right. A separate seasonal analysis indicates that the timing of the deficits is likely to be in December-January and August-November.



For better off households, the following shock is analysed and illustrated on the left: a 50% crop failure and a doubling of staple food prices. Better off households end up just below the livelihood protection threshold, suggesting that they would not be able to afford all of the items in the livelihood protection basket under this scenario. These items include agricultural inputs, the cost of education and health care, and basic items related to maintaining a minimally acceptable standard of living and a diversified diet. Better off households can cope with either shock in isolation (a 50% crop failure or a doubling of staple food prices), but a combination of the two shocks together has negative implications towards the end of the consumption year.

Note that the pale blue part of the graph (the livelihood protection threshold) is much larger for better off than for very poor households because of the high cost of inputs for crop production.

Other scenarios can be examined for any of the wealth groups if decision makers are interested in different assumptions regarding: inclusion of coping strategies, components of the survival or livelihood protection baskets, prices, or quantities of income-related items (crops, labour, livestock).

Programme implications

The longer-term programme implications suggested below include those that were highlighted by the wealth group interviewees themselves and those made by the assessment team following detailed discussions and observations in the field. All of these suggestions require further detailed feasibility studies.

Agricultural production support: Crop production is the economic base of livelihoods in this zone and the opportunities to support agricultural production are plentiful. Apart from irregular rainfall, the main constraints to crop production include: insufficient capital for inputs at an affordable cost, a shortage of draught power for timely land preparation, and a lack of knowledge of good cultivation practices. A number of the suggested development ideas relate to improving agricultural production: providing affordable and flexible capital for crop production, processing and storage; setting up crop insurance schemes; supporting innovative ideas like onion and watermelon production through technical assistance and exchange visits; providing access to hand tractors or additional draught cattle for timely land preparation; and constructing water reservoirs/ponds for small-scale irrigation. However, the challenge is to ensure that the benefits of such support also reach the poorest households, which are made up of landless labourers.

Marketing support: Farmers tend to sell their crops before or at harvest time at the lowest possible price. Loans repayments to the Agricultural Development Bank are due soon after harvest time, which contributes to this practice. Providing affordable and flexible capital to farmers, combined with good storage techniques, may help to alleviate this problem. The regular provision of market price information may also help farmers in their negotiations with traders.

Income diversification: This is a priority for very poor and poor households since they are currently very dependent on low-paid local agricultural work. The challenge is to find local income-generating opportunities that are reliable and can provide a higher income per day. Livestock keeping may be one possible contribution to poorer households, but a preliminary detailed analysis of whether or not it is profitable is required.