An Analysis of the Food Security Situation in Selected Areas across Wa

Vulnerability Analysis & Mapping Unit (VAM)
June 2010
ACKNOWLEDGEMENTS

This report is the outcome of a collaborative process and would not have been possible without the contribution of many individuals and organizations.

The WFP would like to thank the Wa Bureau of Agriculture, Irrigation and Forestry. In particular, thanks go to the below list of agencies that assisted WFP by providing field monitors and / or logistics support during the data collection phase:

AMI (Aide Medicale Internationale), Malteser, CARE, TdH (Terre des Hommes), WHH/GAA (Welthungerhilfe/German Agro Action)

For questions or comments concerning any aspect of the survey and this report, please contact:

Mr. Chris Kaye  Country Director  Chris.Kaye@wfp.org
Ms. Sarah Gordon-Gibson  Deputy Country Director  Sarah.Gordon-Gibson@wfp.org
Mr. Siddharth Krishnaswamy  VAM Officer  Siddharth.Krishnaswamy@wfp.org
EXECUTIVE SUMMARY

- It is seen that approximately 33% of the sample can be classified under the ‘Acceptable’ food consumption group, forty three percent (43%) of the sample as being ‘Borderline’ and 25% as ‘Poor’.

- The overall food security situation has improved since November 2008 (time of previous WFP assessment). However it is important to note that food insecurity in Wa is mainly limited to a few pockets, with some townships depicting a higher percentage of HHs with poor or borderline food insecurity. Thus concentrating food assistance programs in these areas will ensure that the overall food insecurity and vulnerability at the household level in Wa will decrease markedly.

- Fifty percent (50%) of the sample reported currently being in debt and needing to repay their loan. This is a far lower figure that that of 84% (Dry Zone, Dec’09), 83% (NRS, July’09), 74% (Kachin, Dec’09) and 66% (Lashio, March’10).

- Based on food consumption patterns, the following trends can be seen across townships:

| 1 | Townships with highest percentage of HHs (within that township) depicting **POOR** food consumption patterns | Yin Pang  
Nam Kham Wu  
Aik Chan  
Hsawng Hpa |
|---|---|---|
| 2 | Townships with highest percentage of HHs (within that township) depicting **BORDERLINE** food consumption patterns | Man Man Hseng  
Nar Kawng  
Naung Kit  
Yawng Lin  
Pang Yang  
Long Htan |
| 3 | Townships with highest percentage of HHs (within that township) depicting **ADEQUATE** food consumption patterns | Ho Tawng  
Mong Hpen  
Mong Pawk  
Pang Hkam |

- Furthermore upon analyzing various food security indicators – consumption, expenditure, access to land, debt, shocks etc, the following townships can be considered most food insecure and vulnerable:
  1. Yin Pang  
  2. Nam Kham Wu  
  3. Aik Chan  
  4. Hsawng Hpa  
  5. Yawng Lin

It is thus recommended that WFP Sub-office prioritize the above six townships and ensure that these any assistance programs necessarily include these areas.

Agriculture
There is severe disparity in land access in terms of size (acres). Sixty percent of farmers had access to less than two acres of land while the remaining forty percent (40%) of the farmers reported accessing 3 or more acres of land.

By far the most commonly reported constraint was the lack of sufficient labor. This problem is compounded by the loss of harvests due to natural disasters, pets and pathogens. The lack of access to inputs prevent the farmers from increasing yields (seeds, fertilizers) or reducing loss to pests (pesticides, rodenticides).

The above factors results in farmers being unable to maximize agriculture and hence derive less food and incomes from their main occupation.

Methodology & Household Demography

Map 1: Sampled Area
A sample of 310 HHs was selected from 14 townships in the region. Villages were randomly selected and households in villages were selected by systematic random sampling based on village lists obtained from village / community leaders.

Data collection was undertaken by 31 enumerators. The fact that WFP could access the services of this significant number of qualified field enumerators is largely due to the timely assistance from various agencies working in Wa and the efforts of our sub-office staff (See Acknowledgement).

VAM conducted the field enumerators training over the course of 2 days at our sub-office in Pang Kham. The training included a module on food security, intensive training on the questionnaire, group work, role play and a feedback session. The questionnaire was also pre-tested by WFP Field Staff. Following this improvements were made to the questionnaire and upon finalization of the same, teams began the data collection process.

Data entry & cleaning was carried out by 3 data entry personnel under the supervision of the VAM unit in Yangon.

Across the sample it was seen that 10% of households were headed by women. It is seen that the highest percentage of female headed HHs was Mong Hpen and Pang Yang Township.

The average number of family members was 6 with Aik Chan township in particular having an average household size of only 4 and Mong Pawk reporting an average of 7 members per HH.

**Availability**

**Land Availability and Access**

Access to land was very high and uniform across townships. Overall, for the sample it was seen that 98% of the HHs reported some access to land.

The entire sample reported access to land by virtue of ownership.

**Land Size**

While land access is relatively good, the amount of land accessed in terms of acres is low across the sample. On average a HH had access to 2 acres of land. However a wide disparity in land access is seen.

Sixty percent of farmers had access to less than two acres of land. Amongst these farmers, 22% accessed less than one acre. Forty percent (40%) of the farmers reported accessing 3 or more acres of land. These figures show a clear disparity with the majority of farmers having to rely on 2 or less acres to source food.
Townships with the highest percentage of HHs reporting less than one acre of land were:

a) Aik Chan – 20%

b) Yawng Lin – 14%

c) Hsawng Hpa – 11%

1) Upland cultivation accounted for 56% of all land cultivation:

2) Wet Paddy Land (or irrigated paddy land) – Approximately 32% of all cultivated land was wet land.

3) Rain-fed flatland land accounted for the remaining 13% of acreage.

Crops

Rice is the most important crop in Wa accounting for 82% of all the sown area. The next most common crop cultivated was maize, which accounted for 11% of all land under cultivation. Very little diversity is seen, with other crops accounting for less than one percent of sown area each.

Cropping Patterns

As is evident from above, there is very little large scale multi-cropping practised in Wa. Very few farmers grow three or more crops. Forty percent of the farmers reported the multi-cropping of two crops. Typically, farmers would grow rice and use a very small percentage of their land to also grow another crop (chilli, pulses, cassava) mainly for own consumption.
Figure 3: Number of Crops Cultivated by a HH

Number of Crops Cultivated

- Four and above type
- Three type
- Two type
- Only one type
- Not growing

% of HH

Irrigation

On average nearly half the sample (48%) had access to irrigation. Townships with the highest percentage of farmers reporting access to irrigation were Mong Pawk, Ho Tawng and Long Htan. In these townships approximately 87% of all sampled HHs reported access to irrigation. By contrast townships with the highest percentage of HHs (average of 80%) without access to irrigation were Yin Pang, Pang Yang and Nam Kham Wu.

Figure 4: Access to Irrigation, by Township

Access to Irrigation

- No
- Yes
Livestock – Ownership was high (96% of sample) and uniform across all townships with the exception of 2 townships – Yawng Lin and Yin Pang. The most commonly owned livestock was poultry, pigs, buffalo and cows; in that order. Thirty five percent of HHs reported ownership of cows (35%) and forty eight percent (48%) for buffalos. This is a relatively high figure as both these assets are far more valuable than other livestock. Cows and buffalos not only provide food to the HH but are an important asset and can act as a buffer to sudden shocks affecting the HH.

Constraints to Agriculture
The main constraints to agriculture were:

1. The lack of sufficient labor – 38% of farmers
2. Loss of harvests to natural disaster – 22%
3. Loss of harvest to pests & diseases – 11%
4. The inability to afford basic agricultural inputs -8%

By far the most commonly reported constraint was the lack of sufficient labor. Since almost every HH sampled in the region had access to land, this is not surprising. Most HHs would thus have a single earner who works their land and hence casual labor is not in abundant supply. HHs with access to larger areas of land will this be hampered by the lack of sufficient labor availability. Furthermore, the gap between the demand and supply of labor would result in driving labor wage rates up thus further reducing access to labor for many HHs.

Loss of harvest – Food availability across Wa has been adversely affected by the loss of harvests due to natural disasters, pets and pathogens. This problem is compounded by the lack of access to inputs which prevent the farmers from increasing yields (seeds, fertilizers) or reducing loss to pests (pesticides, rodenticides). Since 60% of farmers have access to less than 2 acres of land, it is this group that will be the worst affected by the loss of harvest.

The above factors results in farmers being unable to maximize agriculture and hence derive less food and incomes from their main occupation.
Disaggregating the data by township the following is seen:

Table 1: Major Constraints to Agriculture, By Township

<table>
<thead>
<tr>
<th>Township</th>
</tr>
</thead>
<tbody>
<tr>
<td>Townships with highest percentage of HHs (within that township) reporting the lack of sufficient labor to be a major constraint</td>
</tr>
<tr>
<td>Man Man Hseng</td>
</tr>
<tr>
<td>Mong Hpen</td>
</tr>
<tr>
<td>Naung Kit</td>
</tr>
<tr>
<td>Townships with lowest percentage of HHs (within that township) reporting a the loss of harvests to natural disasters as a major constraint</td>
</tr>
<tr>
<td>Pang Hkam</td>
</tr>
<tr>
<td>Ho Tawng</td>
</tr>
<tr>
<td>Mong Pawk</td>
</tr>
<tr>
<td>Townships with lowest percentage of HHs (within that township) reporting a the loss of harvests to pests / pathogens as a major constraint</td>
</tr>
<tr>
<td>Aik Chan</td>
</tr>
<tr>
<td>Nar Kawng</td>
</tr>
</tbody>
</table>

Food Access

Source of Staple Food

Map 2: Own Production as a Primary Source of Staple Food (Rice)
Households were asked the source of rice consumed during the prior month. The most common means by which HH sourced rice for household consumption was:

1. Own Production – 58%
2. Purchase – 17%
3. Exchange work for food – 14%

Purchase, which is usually the most common method of accessing rice (in areas where subsistence agriculture is not possible) accounts for only 17% of the sample. Data from Wa saw a far greater percentage of HHs reporting the sourcing of rice by exchanging work for food.

Figure 6: Source of Rice

Sources of Income

Households were asked to list their sources of income and it is seen that the most common source for households was income derived from wages. Thus despite there being reported a shortage of labor availability, it can be seen that casual labor is the most common source of incomes. From the data is it is clear that present amount of labor availability is insufficient with respect to the demand for it.

Thirty seven percent (37%) of the sample reported income derived from wages being one of their main sources of income. Agriculture as a source of income was reported by 14% of the sample. This reliance on agriculture to source incomes is similar to that seen in other parts of the country. For example it is seen that 14% of sampled HHs in NRS relied on some income from agriculture while in the Dry Zone this was 23%.
Disaggregating the data across townships the following is seen:

Table 2: Common Sources of Income;

<table>
<thead>
<tr>
<th></th>
<th>Township</th>
</tr>
</thead>
</table>
| 1 | Townships with highest percentage of HHs (within that township) reporting a reliance on wages as a source of income | Yawng Lin  
Ho Tawng  
Mong Hpen |
| 2 | Townships with lowest percentage of HHs (within that township) reporting a reliance on wages as a source of income | Mong Pawk  
Hsawng Hpa  
Nar Kawng |
| 3 | Townships with highest percentage of HHs (within that township) reporting a reliance on agriculture as a source of income | Long Htan  
Mong Pawk |
| 4 | Townships with highest percentage of HHs (within that township) reporting a reliance on sales of livestock as a source of income | Long Htan  
Yawng Lin |
| 5 | Townships with highest percentage of HHs (within that township) reporting the sourcing of incomes from a combination of temporary activities | Man Man Hseng  
Naung Kit  
Nam Kham Wu |
**Sources of Expenditure**

Data on expenditure for food and non-food items, such as education, health transport, etc. were collected to better understand household resource allocation. Food, as a primary expense of the HH was reported by 62% of the sample. The next main expense item was health (16%) followed by expenditure on shelter and/or clothes (7%).

Fifty seven percent (57%) of the sample reported some monthly expenditure on health. Lack of access to quality and affordable health care can result over time in widespread health problems across the area and also result in HHs being forced to divert scarce incomes on medicines and doctor’s fees. However some townships reported a far higher percentage of HHs incurring some monthly health expenditure than the average of 57%, particular Ho Tawng and Mong Pawk townships.

Despite the fact that 98% of the sample had access to land, expenditure on farm inputs was reported by only 8% of the sample.

Approximately one fourth of the sample reported spending more than 75% of their income on food. This is an improvement compared to other areas where it’s seen that more than half the sampled HHs spend up-to three-quarter of their income on food.

Amongst HHs reporting some health expenditure, it was seen that typically such HHs spent an average of 37% of their monthly income to meet health expenses.

Amongst HHs reporting some expenditure on education, it was seen that typically such HHs spent an average of 25% of their monthly income to meet expenses related to education (books, uniforms, school fees etc). This is a higher figure than those seen in other parts of the country and strongly implies that these HHs are food secure as they can afford to divert a substantial amount of their income to education of their children.

**Economic Dependency Ratio**

This ratio is calculated based on the number of earners in an HH and the total members in the HH. The EDR was calculated for all sampled townships and it is seen that in the townships of Hsawng Hpa, Nar Kawng and Pang Yang the Economic Dependency Ratio was very high; greater number of HH members dependent on a relatively fewer number of income earners as compared to other townships.

**Access to Credit & Debt**

*Fifty percent (50%) of the sample reported currently being in debt and needing to repay their loan. This is a far lower figure that that of 84% (Dry Zone, Dec’09), 83% (NRS, July’09), 74% (Kachin, Dec’09) and 66% (Lashio, March’10).*
Figure 7: Main Reasons for Household Debt

<table>
<thead>
<tr>
<th>Main Reason for Debts</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>To buy food</td>
<td>36%</td>
</tr>
<tr>
<td>To cover health expenses</td>
<td>32%</td>
</tr>
<tr>
<td>For construction of house</td>
<td>14%</td>
</tr>
<tr>
<td>Loans undertaken to buy agricultural inputs</td>
<td>8%</td>
</tr>
</tbody>
</table>

The following townships had the highest percentage of HHs (approximately 60%) reporting the undertaking of debt to buy food:

a) Aik Chan
b) Nam Kham Wu
c) Yin Pang
Food Consumption

Food Consumption Score (FCS)
Information was collected on the dietary diversity of the HH with respondents being asked to list the number of days a particular food item was consumed by the HH in the 7 days prior to the interview. Thus a ‘0’ for Fruits would indicate that a HH did not consume any fruit in the previous 7 days while a ‘4’ would indicate consumption 4 days out of 7 etc. The mean food consumption score for a 7 day period for the sample was then calculated.
Food Consumption Groups were formulated and it is seen that approximately 33% of the sample can be classified under the ‘Acceptable’ food consumption group. Forty three percent (43%) of the sample can be classified as being ‘Borderline’ and 25% as ‘Poor’. Thus the majority of the sample depict neither very poor nor good food consumption patterns.
It should also be noted that food security in some townships were markedly worse off than other areas. Analyzing food consumption data across townships it can be seen that food consumption patterns in the townships of Yin Pang, Nam Kham Wu, Aik Chan and Hsawng Hpa were the worst off across all townships.

The below table depicts food consumption patterns across townships

Table 3: Food Consumption Scores – By Township

<table>
<thead>
<tr>
<th></th>
<th>Township</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Townships with highest percentage of HHs (within that township) depicting <strong>POOR</strong> food consumption patterns</td>
</tr>
<tr>
<td></td>
<td>Yin Pang</td>
</tr>
<tr>
<td></td>
<td>Nam Kham Wu</td>
</tr>
<tr>
<td></td>
<td>Aik Chan</td>
</tr>
<tr>
<td></td>
<td>Hsawng Hpa</td>
</tr>
<tr>
<td>2</td>
<td>Townships with highest percentage of HHs (within that township) depicting <strong>BORDERLINE</strong> food consumption patterns</td>
</tr>
<tr>
<td></td>
<td>Man Man Hseng</td>
</tr>
<tr>
<td></td>
<td>Nar Kawng</td>
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<tr>
<td></td>
<td>Naung Kit</td>
</tr>
<tr>
<td></td>
<td>Yawng Lin</td>
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<td></td>
<td>Pang Yang</td>
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<tr>
<td></td>
<td>Long Htan</td>
</tr>
<tr>
<td>3</td>
<td>Townships with highest percentage of HHs (within that township) depicting <strong>ADEQUATE</strong> food consumption patterns</td>
</tr>
<tr>
<td></td>
<td>Ho Tawng</td>
</tr>
<tr>
<td></td>
<td>Mong Hpen</td>
</tr>
<tr>
<td></td>
<td>Mong Pawk</td>
</tr>
<tr>
<td></td>
<td>Pang Hkam</td>
</tr>
</tbody>
</table>

Note: Data available for 14 townships.

It can be summarized that across Wa there are pockets of food insecurity notably in the above mentioned townships that have a high percentage of HHs with poor food consumption. WFP’s assistance programs should thus focus on these townships (and townships with a high percentage of HHs with borderline food consumption patterns).

**Shocks**

Respondents were asked to list the 3 main shocks or difficulties faced by their household in the past 6 months. Once the respondent had listed the shocks he or she was then requested to list the shocks in order of severity from 1 (most severe) to 3 (less severe).

Table 4: Main shocks faced by Households – Across All Townships

<table>
<thead>
<tr>
<th></th>
<th>Shock</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sickness of HH member/ High health Expenditures</td>
<td>27%</td>
</tr>
<tr>
<td>2</td>
<td>High post-harvest losses</td>
<td>18%</td>
</tr>
<tr>
<td>3</td>
<td>Inability to earn sufficient incomes / low job opportunities</td>
<td>15%</td>
</tr>
<tr>
<td>4</td>
<td>Unable to practice agriculture</td>
<td>15%</td>
</tr>
</tbody>
</table>

Note: Figures based on the cumulating of multiple responses.
Access and availability of food is affected by sickness of HH member; HHs are forced to divert scarce resources to meet medical expenses. This also means that in many HHs, if it is an adult who is sick, then the income generating potential of the HH is adversely affected.

A significant percentage of farmers are affected by post harvest losses which results in them earning less incomes and / or obtaining less amount of food for their own HH consumption.

It should also be noted that only 8% of the sample cited the reimbursement of debt as a significant constraint to HH food security. This figure of 8% is much lower than that seen in other areas.

Analysis of Shocks by Townships

Data on shocks to HH was disaggregated and the following pattern is seen

Table 5: Most Commonly Reported Shocks – By Township

<table>
<thead>
<tr>
<th>Township</th>
<th>Most Commonly Reported Shock(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aik Chan</td>
<td>Sickness of HH member/ High health Expenditures</td>
</tr>
<tr>
<td>Pang Yang</td>
<td></td>
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<tr>
<td>Nar Kawng</td>
<td></td>
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<tr>
<td>Pang Hkam</td>
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<td>Pang Yang</td>
<td></td>
</tr>
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</table>