



## An Overview of the Food Security Situation in Chin May 2009

### Introduction

Chin state is located in the north-west part of Myanmar, bordering India and Bangladesh. Most of the state is hilly and mountainous having an average height of 4,000 ft. The main livelihood activity is agriculture and shifting cultivation or slash and burn farming, is widely practiced.

In Northern Chin State, the economic activities are mostly agriculture activities (vegetable and fruit production), livestock, weaving, small trade and seasonal labor work. Regarding food security, the Northern Chin State is representative of upland agriculture systems and the farming systems are based on rotational fallow method to allow time for the regeneration of soil fertility. Over the last twenty years, most of the villages have faced a marked reduction of the fallow period (from 15 years to 6-9 years) due to the increased pressure on agricultural lands. Consequently both natural resources management and agricultural production have been significantly affected.



In May 2009 WFP conducted a monitoring exercise across seven townships in Chin state. The below map depicts the areas of coverage. The data collected while not statistically representative does provide an overview of the food security situation across seven townships. The main purpose of this report is to

1. Obtain a clearer idea of the casual factors of food insecurity
2. Identify linkages between various factors and their affect on household food security
3. Provide critical input for policy makers that could act as a logical starting point for future interventions.



## Main Findings

- 1) The main cause of household food security in Chin is the decline in agricultural yields leading to a decline in available food and income at the household level. The lack of employment opportunities add to the problem.
  - 2) Nearly half the sample reported relying on purchase in order to source their staple food attesting to the lack of reliance by households (HH) on agriculture to source even staple foods.
  - 3) Approximately 26% of the sample reported sourcing staple foods on credit, by borrowing, by exchanging items for food and / or working for food. It should be noted that these activities are to a greater or lesser degree – coping strategies.
  - 4) Health problems and medical expenses are a considerable burden to three-fourth of the sample.
  - 5) HHs are mainly concerned with food, health and education. Very few HHs in the sample report any other expense; yet majority of HHs are unable to afford even these basic necessities and are forced to rely on loans.
  - 6) Eighty five percent (85%) of the sample reported currently being in debt and needing to repay their loan. The most common reason for undertaking a loan was to purchase food.
  - 7) The problem of reimbursing debt and the loss of crops to rodents were the 2 most widely reported HH shocks.
  - 8) Based on data collected during the course of this monitoring exercise, HHs in the townships of Htantlang, Tiddim and Tonzang are more likely to be food insecure than HHs in other townships.
- A continuing decline in agricultural yields (be it due to crop losses on field or post-harvest) will result in reduced availability of staple foods resulting in rising prices. Given the weak road / transport infrastructure in Chin, the importing of food from nearby states will not be a viable solution as transport rates will be high which in turn will increase the price of imports.
  - In the present scenario, the reimbursement of debt is the main problem or shock that HHs cope with. Any gains made in sourcing income in the near future will almost certainly be spent in repaying debt. Thus even assuming a better than average harvest in the near future, HH will still be unable to spend substantially on better quality food, health or education as any monies earned would need to go towards repaying debt.
- *HHs are unable to meet basic needs and rely on loans to meet even these basic necessities. While more information needs to be collected on the health and nutrition situation (in particular nature of HH health expenses), it is clear that there is a need for interventions that address the following issues:*
    - a) *Reduce the burden of household expenditure on food*
    - b) *Help improve the household nutritional status (in particular women and children)*
    - c) *Increase agricultural productivity*



- *The state of the agriculture sector is the main concern and needs to be addressed immediately. The following recommended actions are aimed at improving agricultural productivity and overall food security.*
  - Initiation of Food-for-Work (FFW) interventions that can encourage communities to build and rehabilitate agriculture related community infrastructure (e.g., storage facilities, pest management, farmland management)*
  - Extension activities that help propagate better practices and advise farmers on managing pests & pathogen outbreaks; soil & water conservation and minimizing post harvest losses.*
  - Assist farmers in gaining access to key agricultural inputs such as improved varieties of seeds, N-P-K fertilizers and pesticides, especially rodenticides..*

## Demography

Approximately 15% of the households (HH) in the sample were female headed and a similar pattern was seen across townships.

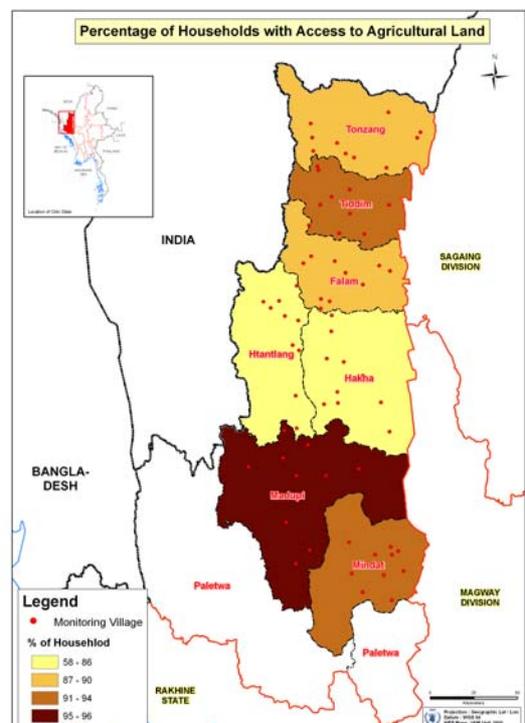
The average number of members in a sampled household was 6. However variation in HH size is seen across townships with Falam and Tiddim having an average of 5 and 7 members respectively. Upon comparing data on HH sizes with average number of income earners per family, it can be hypothesized that HHs typically consist of 2 members who generate income and four economically dependent members – in other words children and /or the elderly who are unable to contribute to household incomes.

## Availability

### Agriculture

Across townships access to land was relatively high and similar; with the exception of Htantlang. Between 6 and 8 % of HHs across townships reported not having access to land. However, in Htantlang 42% of the sampled HHs reported having no access to land but it should be noted that this could be a function of the sample and not necessarily a trend characteristic of the township

Amongst HHs reporting access to land, the average size of land is slightly less than 2 acres with the single largest reported plot of land being 11 acres. There is slight variation seen between townships with respect to average plots of land with HHs in Hakka reporting an average size (1.4 acres) markedly lower than the sample average (1.9 acres). This is to be expected given the peri-urban nature of the township as compared to other townships.



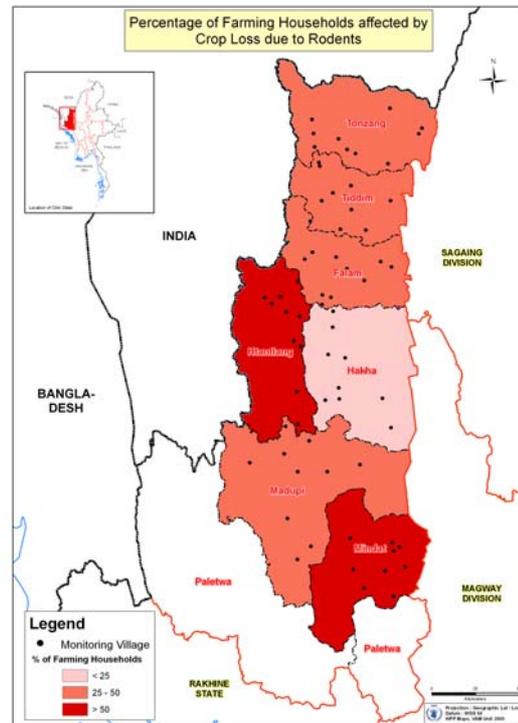
A household's access to land is not to be equated with HH food security or even a corresponding increase in food availability in Chin. The most commonly reported constraints to agriculture have one common attribute in that they adversely affect yields obtained per acre and thus reduce HH agricultural productivity. Thus, while a HH may enjoy relatively good access to land, the amount of yield obtained is low due to one or more of the following factors:

1. Loss of standing crop and storage losses due to rodents, pests & pathogens
2. Crop loss due to adverse weather conditions (recent droughts / floods)
3. HH cannot afford rental fees
4. Crop loss due to plant diseases

While the problems of rodent infestation is widely known and first reported in late 2007; it is significant to note that this continues to be a major constraint to agriculture. In May 2009) nearly 40% (on average) of the sample with access to land reported rodents to be their main constraint to agriculture.

As can be seen from above, three of the most commonly reported constraints to agriculture directly impact agricultural productivity. This results in HHs deriving less food and incomes from their main occupation. The net outcome being

- (a) Reduced HH food security
- (b) HHs unable to source income to meet essential non-food expenses
- (c) HHs unable to expand agricultural activities (cannot afford rental fees)
- (d) HHs are unable to afford key agricultural inputs especially rodenticides and pesticides



### *Irrigation*

Only 24% of all sampled HHs (with access to land) reported having access to irrigation. This is a worrying statistic as it indicates that

- (a) Over 76% of agricultural HHs have no regular access to irrigation and instead depend on natural sources. Thus any delay in rains, change in weather conditions would have direct and far-reaching effects on livelihoods. This relates to the second most commonly reported constraint.
- (b) HH members would have to spend significant time and effort to source water for agriculture (esp. during the planting season).
- (c) Lack of access to sufficient irrigation could result in HHs being forced to cultivate only a portion of their land, thus being unable to maximize their food and income generating potential.

Disaggregating by townships it is seen that nearly all farming HHs in Htantlang, Mindat and Tiddim reported a lack of access to irrigation. Hakha and Falam depict a relatively higher access to irrigation when compared to rest of sample.

### Livestock

Livestock plays a crucial role in household food security as it provides a source of income and nutrition as well being a key asset (especially during times of extreme crisis). Approximately 67% of the sample reported owning some livestock. The townships of Madupi and Mindat had the highest percentage of HHs reporting livestock ownership. Htantlang on the other hand reported the lowest ownership of livestock.

### Source of Food

Households were asked the primary source of their staple food consumed during the prior month (April 2008, ending of lean period). The most commonly reported sources were:

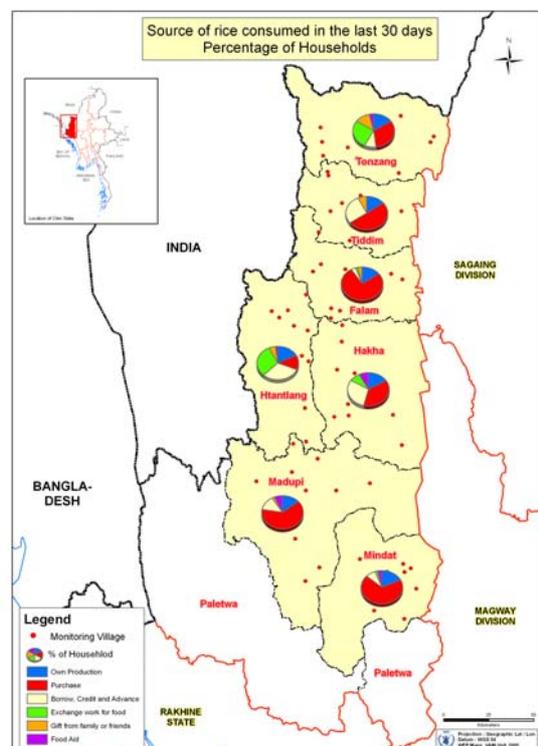
- (a) Purchase (46 % of all sampled HHs)
- (b) Borrowing / Rice obtained on credit (17 %)
- (c) Own production (16 %)
- (d) Exchanging work for food (9 %)

Thus, nearly three-fourth of the sampled HHs across the state obtained their staple food through outright purchase, on credit or agree to do work and be paid in kind. Even though access to land is relatively high across townships (with the exception of Htantlang); only 16% of the sample reported a reliance on own production. This lowered reliance is further testimony to declining agricultural productivity. It should be noted that data was collected in April which is typically a lean season period. The wide disparity between the percentage of HHs practicing agriculture and those able to produce maize / rice for their consumption is a strong indicator that yields across the state are low. Thus HHs obtain low stocks which are not sufficient to tide them over the entire duration of the lean period.

Furthermore, approximately 26% of the sample reported sourcing food on credit, by borrowing, by exchanging items for food and / or working for food. It should be noted that these activities are to a greater or lesser degree – coping strategies. The fact that 26% of the sample resort to these activities to source a staple food points to significant problems in availability and access to food (which could be a function of poverty, low yields, high prices and lack of employment opportunities).

Disaggregating the data across townships:

- It can be seen that the percentage of HHs who report depending on their own production is similar across all 7 townships with little variance – approximately 16%.



- For the sample, Falam had the highest percentage of HHs who rely on purchase for their food needs. Nearly three-fourth of all sampled HHs in this township reported purchasing food; followed by 64% of HHs in Mindat township.
- Htantlang had the highest percentage of HHs (60%) relying on borrowing or exchanging work for food. This is to be expected given the low access to land amongst sampled HHs in this township.

### *Assistance*

Only 7 % of the sample reported receiving any food assistance. However it should be stressed that the sample for this study is a product of random sampling in 7 townships across the state.

### **Access**

#### *Source of Income*

Based on data collected on income generation, it is seen that 63% of the sample had 2 sources of income while only 22% reported sourcing income from 3 or more sources. Typically HHs sourced income from agriculture and wages with the majority of the sample reporting one of these activities as a source of their primary or secondary incomes.

HHs were asked about their income sources in terms of priority (primary, secondary and tertiary income sources). Approximately 37% of the sample reported agriculture to be their primary source of income. This is relatively low keeping in mind the comparatively high access to land and the lack of other viable and steady income generating opportunities. This is further testimony to the low productivity of agriculture in that HHs are unable to source a steady income or rely solely on crop production for income.

Based on all household responses (irrespective of priority) it is seen that there is a similar dependence on agriculture and wages to source income. The 5 most common sources of income (based on all responses) reported by HHs can be seen in the below table.

Table: Most Common Sources of Income Reported in Order of Priority

	<b>Income Activity</b>
1	Agriculture
2	Wages / Casual labor
3	Livestock
4	Wood /Bamboo cutting
5	Petty trade / Small business

Thus it can be hypothesized while that most HHs practice agriculture; only a small percentage can obtain food and incomes from the activity. Most often HHs rely on agriculture to source some of their staple food needs and rely on casual labor for incomes. Furthermore, as seen elsewhere in this report, by the end of the lean season HHs are unable to even source staple food from agriculture and hence their reliance on wage-generation increases. This hypothesis is further strengthened by the fact that majority of sampled HHs report being in debt with the main reason for under taking debt being the buying of food (see section on Debt).

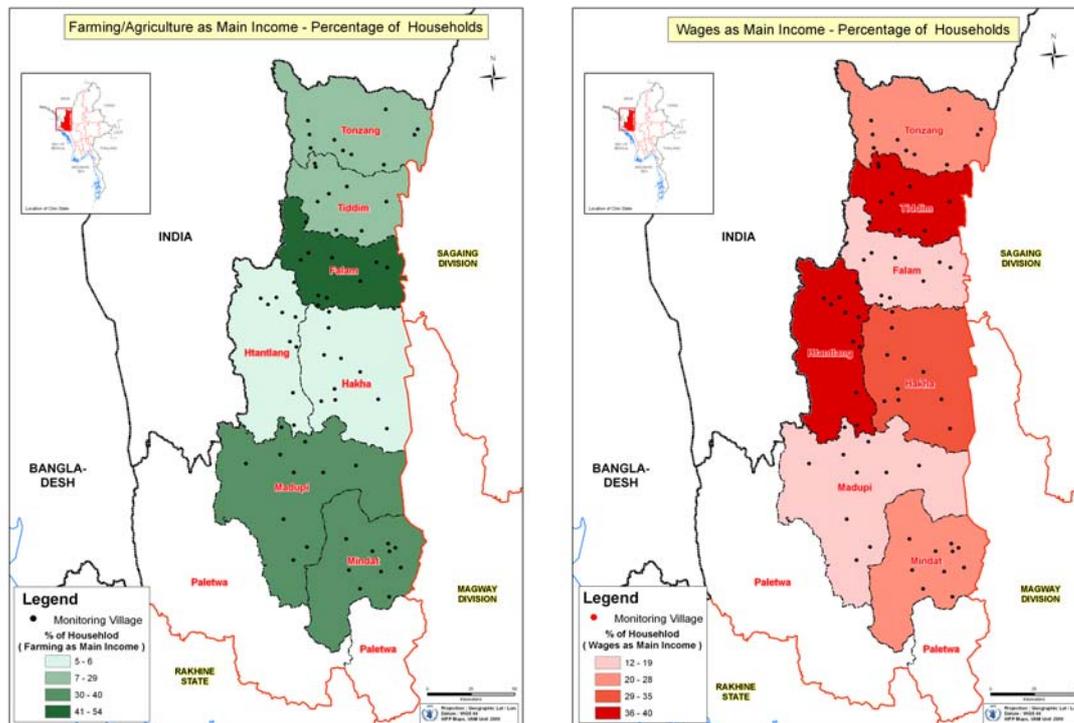
Data was collected on the number of HHs members currently earning an income and the number of members earning an income 6 months ago. This information was then analyzed to ascertain if



there had been an increase in employment. The data for the sample shows negligible change with average number of earners remaining constant at 2 per HH.

Disaggregating the data across townships:

- HHs in Htantlang and Hakha have the highest reliance on wages and lowest reliance on agriculture to source incomes.
- Approximately 90% of the HHs in Falam and Mindat source some income from agriculture.
- The highest reliance on livestock to source incomes was amongst HHs in Mindat.
- The highest reliance on wood & bamboo cutting to source incomes was amongst HHs in Htantlang.



### Sources of Expenditure

Sampled households were asked to list their three main sources of expenditure. For 80% the sample, food was the primary expenditure item.

Expenditure on health was reported to be the second most common source of expense with 72% of the households reporting it to be one of their three main expenses; followed by expenditure on education (nearly half the sample).

Expenditure on clothes, farm inputs, social inputs etc are negligible strongly reinforcing the view that HHs income is largely utilized to try and meet basic needs.

Thus nearly the whole sample reports having to spend on food and 80% of these households report expenditure on food as their biggest expense.

Despite the opportunity cost of non-food expenses being high, nearly three-fourth of all sampled HHs reported some 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.

Nearly all sampled HHs in Htantlang and Tonzang townships report expenditure on health. More information needs to be urgently collected on nature of health problems affecting HHs in chin and reasons for this high expenditure on health across the state.

### Household Debt

*Eighty five percent of the sample reported currently being in debt and needing to repay their loan.* This is an extremely high figure and indicates that the majority of HHs are unable to source enough food or incomes in order to meet just their basic needs. *The reliance on debt to source food is extremely high and needs to be addressed immediately.* Given the dearth of formal financial institutions, HHs necessarily depend on informal sources of credit with the result that their debt burden is almost certainly higher than in an urban centre such as Yangon.

	Main Reason for Undertaking Debt	Percentage of Sample *
1	To buy food	60 %
2	To meet health expenses	18 %
3	To meet education expenses	8 %
4	To purchase livestock	3 %

\* - Amongst HHs reporting debt (85% of sample)

More than 90% of all sampled HHs in the townships of Hakha, Htantlang, Tiddim and Tonzang report having a debt / loan to repay at the time of survey.

Note: It should be noted that less than 1% of the sample reported the reimbursement of debt as expenditure. The fact that less than 1% of HHs report debt repayment as an expense while 85% report being in debt could mean that (a) HHs undertake long-term debt and typically pay of loans at end of harvest or once in 6 months, or (b) HHs enter a debt cycle wherein they repay an outstanding debt by undertaking a greater loan amount from a different source / money-lender. More information needs to be collected on HH debt and frequency of debt across the state.

### 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).

The most commonly reported shocks affecting HH food security across the 7 townships if Chin state were:

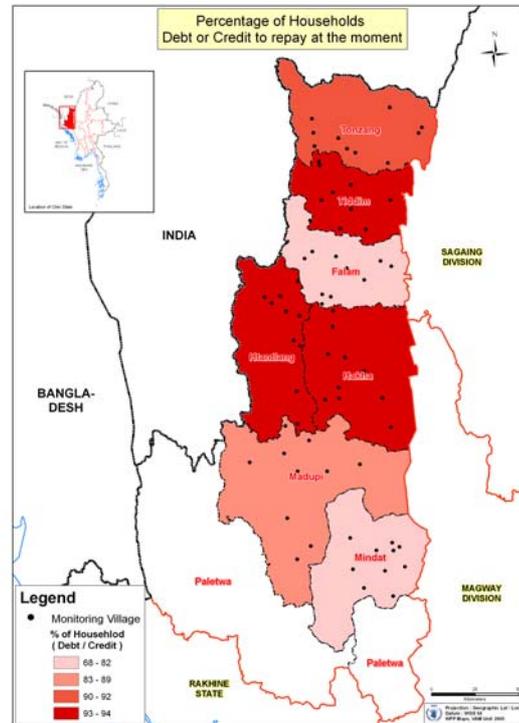
1. Reimbursement of debt
2. Crop loss due to rodents
3. Reduced salary / wages , Under & Unemployment
4. Health problems



The above most widely reported shocks are all closely related to each other. For example, the reimbursement of debt, the most widely cited shock is closely related to a under-employment, a reduction in salaries and loss of crop due to rodents. The latter shocks result in reduced food and incomes available to a HH resulting in the HH forced to rely on loans and undertake debt. Similarly health problems not only result in greater expenditure of the HH but also incapacitates members from earning incomes resulting in Hs needing to obtain loans.

Disaggregating the data across townships:

- Mindat and Tonzang are the townships that report a high percentage of HHs facing a shock of rodent infestation..
- Tonzang and Htantlang, both report a high percentage of HHs affected by loss of wages and / or reduction in salaries.
- Tiddim, Falam and Madupi seem to be the townships most affected by health problems of a household member.



### Health Education

The sampled population seemed to have a relatively high awareness on general health and hygiene information. Approximately half the sample reported having had some basic education and / or training on hygiene practices.

Only 11% of the sample reported not treating their drinking water. The remaining sample treated their water by boiling.

## Conclusion

- A. From the above data it is clear that the main cause of household food security in Chin is the decline in agricultural yields leading to a decline in available food and income at the household level. The lack of employment opportunities and low salaries add to the problem making a bad situation worse. Other factors such as soil fertility, access to land, irrigation or labour do not have a similar adverse impact. This is not to say that these factors are immaterial; rather their role in a household being forced to depend on reduced food or incomes is relatively lower.
  - B. It is most likely that an increasing number of HHs are being forced to depend on casual labour or other temporary income generating activities. Larger HHs may yet be able to depend on agricultural for some of its staple food needs while other HH members source incomes through labour. However smaller HHs will not able to practice such a strategy to ensure food security. If agricultural yields continue to decline, such HHs will be forced to rely on wages and loans to survive.
  - C. A continuing decline in agricultural yields (be it due to crop losses on field or post-harvest) will result in reduced availability of staple food resulting in rising prices. Given the weak road / transport infrastructure in Chin importing of food from nearby states will not be a viable solution as transport rates will increase prices.
  - D. Health problems pose a serious threat to HHs across the state and medical expenses are a considerable burden to three-fourth of the sample.
  - E. HHs are mainly concerned with food, health and education. Very few HHs in the sample report any other expense; yet, majority of HHs are unable to afford these 3 basic necessities and are forced to rely on loans. The reliance on debt to source food is extremely high and needs to be addressed immediately.
  - F. In the present scenario the reimbursement of debt is the main problem or shock that HHs cope with. Any gains made in sourcing income in the near future will almost certainly be spent or repaying debt. Thus even assuming a better than average harvest in the near future, HH will still be unable to spend substantially on better quality food, health or education as any such monies would need to go towards repaying debt (as these are obtained from informal source, delays in repayment would lead to substantial increases in amount to be repaid in most cases).
  - G. HHs in the townships of Htantlang, Tiddim and Tonzang are more likely to be food insecure than HHs in other townships and these areas would be logical starting points for any future interventions.
- *HHs are unable to meet basic needs and rely on loans to meet even these basic necessities. While more information needs to be collected on the health and nutrition situation (in particular nature of HH health expenses), it is clear that there is a need for interventions that address the following issues:*

- d) *Reduce the burden of household expenditure on food*
  - e) *Help improve the household nutritional status (in particular women and children)*
  - f) *Increase agricultural productivity*
- *The state of the agriculture sector is the main concern and needs to be addressed immediately. The following recommended actions are aimed at improving agricultural productivity and overall food security.*
    - a) *Initiation of Food-for-Work (FFW) interventions that can encourage communities to build and rehabilitate agriculture related community infrastructure (e.g., farmland management, storage facilities, pest management,)*
    - b) *Extension activities that help propagate better practices and advise farmers on managing pests & pathogen outbreaks; soil & water conservation and minimizing post harvest losses.*
    - c) *Assist farmers in gaining access to key agricultural inputs such as improved varieties of seeds, N-P-K fertilizers and pesticides, especially rodenticides.*

For questions or comments concerning any aspect of this report, please contact

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