CHAPTER - 3

DATABASE
3.1. Introduction

This chapter is devoted to Data source. In the absence of disaggregated data, e.g., according to farm size or family size, we have decided to collect primary data. The government statistics, concerning use of fertilizer is an aggregate and for the whole state. By aggregate we mean that the statistical data were given for the entire state in mln tons over the period of years. There is no data on fertilizer consumption according to the size of family of the farmers or the size of holding, in which we are primarily interested. However, there are plenty of short falls in collection of primary data. The preknowledge about the intensity of use of fertilizer per unit of crop area in any particular village or block is not available in the government published statistics and not even in the Block Development office. It is also quite impossible on our part to take up a pilot survey due to among other difficulties, the time and money constraints preceding primary data collection.

3.2. Choice of Blocks

In the absence of previous knowledge about the extent of use of fertilizer in any block in Meghalaya and
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in particular in any village according to the size of holding or the size of family, the present author has approached some Block Development Officers as well as some extension officers, to gain some knowledge about the intensity of fertilizer use in the block concerned. According to them, the farmers in Bhoi Area Development Block in Naya Bunglow and in Mylliem Development Block in Upper Shillong use more fertilizer both organic and chemical. We have, however, no other alternative reliable counsels other than the Block Development officers who have thorough knowledge about his block and adequately familiar about the agro-economic situation prevailing in his block.

3.3. Choice of villages

After having a formal discussion with the respective Block Development Officers, we have selected two villages in each selected block mentioned above. We have adopted a location criterion in selection of villages in each block. Since, distance is considered as impediment, and more so due to lack of transport facility which is pre-requisite to any economic activities including agricultural. Therefore, we selected one village nearer to Block Development Office and the other which is lying about 15-20 kms. away from the Block Development Office.
Under this criterion, we have selected Syadheh and Umroi from Bhoi Area Development Block and Mawkhan and Nongpyur from Mylliem Development Block. The socio-economic conditions of these four villages are described briefly in the following sub-sections. These informations are collected by ourselves from the respondents and from the Block Development Officer in the course of investigation.

3.3.1. Umroi Village

This village is situated at a distance of about twenty kilometre from the Block Development Office in Naya Bunglow. A new airport has been constructed about three kilometre ahead from the village to facilitate the 'Vayudoot' planes to operate to and from Calcutta. Near the village military consonment is being constructed.

The village has a total population of 1305 persons with 238 households, giving an average size of a family of 5.6 persons. The entire population of the village belong to schedule tribes (Khasi).

The main occupation of the people of the village is Agriculture. The principal crops grown by the villagers are paddy, maize, potato, and vegetables. A substantial area of the village is under ginger cultivation. The village falls
under Bhoic Area Development Block to which the village farmers turn for seeking advice and assistance not only for problems relating to agriculture but also for other allied occupations. The village block headquarters is 27 kilometre away from the village.

The crops grown are mainly wet cultivation. The cultivation is done in the stretched low lying areas between the hills where irrigation facilities are availed from the stream flowing through the village. Ginger also grown to a large extend and the cultivators are getting a good market for their produce. Chemical fertilizer used by the farmers are mainly urea, super phosphate and ammonium sulphate, which the cultivators procure from the selling agent from Shillong and retailers from ICAR. The cultivators of that particular village, are not so keen for application of chemical fertilizers but a few enthusiastic cultivators use chemical fertilizers to certain extent. This may be noted here that the village is too far from the centre of activity of that area, hence the problem of transportation impedes the incentive to use fertilizer.

On the other hand use of organic manure is predominant and is used almost by all farmers. The organic manures used mainly are cowdung and pigdung. Cowdung is
procured from outside the village, at a very high rate. In the village there is only market known as Umroi market situated at a distance of two kilometre from the heart of the village. There is a weekly market commences after every eight days. Vegetables and other local crops grown in the village are taken to the market for sale. Paddy and ginger are often sold in large stocks in the market.

The only means of transportation to the market is private transport buses which connects the village with Shillong headquarters of East Khasi Hills districts, which is about 29 k.m. away from the village.

There is only one middle English School in the village, which is upgraded to high school standard recently. Besides that, there is one lower primary school.

The level of literacy of respondents is comprehensibly low, about 95% of the respondents are illiterate and the other 5% are just literate with a level of schooling from lower primary to Matriculation standard.

3.3.2. Syadheh Village

Syadheh is another village under Bhoi Area Development Office at Naya Bunglow. According to the 1981 census the village had a total population of size 318 with 54 households,
this given an average size of household 5.8. The village is situated to the eastern side of the National highway (as well as B.D.O's office) at a distance of about two and a half kilometre. There is no motorable road to the village from the National Highway. The villagers, therefore, have to carry their goods for sale to the national highway on their heads. They either have to go to the Naya Bunglow market or to the Shillong market to sell their goods.

The use of organic manures, like cowdung, pigdung, and bonemeal are preferred to the use of chemical manures. About 29% of the farmers used chemical fertilizers too, for certain type of crops, such as potato and paddy. The chemical fertilizers are mainly urea, super phosphate, and ammonium sulphate which is procurable from the Shillong open market and from retail shops organised by MECOFED.

The villagers are all christian by religion. Almost all the people of the village are illiterate, studying upto lower primary level. There is one lower primary school in the village. The main occupation of the people is cultivation, where all the family members capable of doing useful work are engaged in the field. Since there is no other source of alternative employment, the situation is the same as in any rural parts of the country.
3.3.3. **Nongpyur Village**

This village is under the Mylliem Development Block. It is located in the Upper Shillong and about 5 k.m. from the Air force headquarters. There is no vehicular means of transport to the village except on foot from the main road. The population of the village is 708 with 138 household giving an average household size of 5.1 persons. The village is a Khasi village. The village is covered by the Mylliem Development Block situating at a distance of about 8 k.m. from the Block headquarters.

The economic condition of the villagers is very poor. The villagers are mostly cultivators and during off time they look for manual jobs occasionally available in construction and building sites. The village is hilly and the main cultivation is paddy, potato, maize and vegetables. Vegetables are brought to Shillong market for selling their product by the farmers themselves. Paddy is grown to certain extent in between the slopes area where rain-fed water is available.

Fertilizer used for the crops, mainly for potato, are ammonium sulphate, and super phosphate. Urea is used for maize and vegetables. Fertilizers are available from the local dealer and from Shillong market. Organic manure like
cowdung, pigdung are also used to allarge extent.

The people of this village like in any other villages mentioned herein are deprived of education facilities. About 50% of the people are illiterate. Others are half literate studying upto matriculate. There is one lower primary school in the village. For higher studies the students have to come to Shillong town, which is about 8 k.m. from the nearest bus point. In this respect, atleast, this village is not too remote from developed area and has accessibility to main academic stream of Shillong, one of the best in the country.

3.3.4. Mawkhan Village

This is another village under Mylliem Development Block. The village is situated at a distance of 12 k.m. from Shillong and 4 k.m. north-west of the headquarters of Mylliem Development Block. The distance to the village from the nearest motorable road is about 1½ k.m. to be covered on foot. The village is a bigger one and the household are distributed in different clusters around the village headman's house. The population of the selected clusters is 179 with a total household of 35 in the cluster which gives an average size of 5.1 persons, per household.
The population of the entire village, however, is 695 with 135 household in the village.

The main cultivation of the village is potato and vegetables. Potato is grown in commercial scale which is sold in the Shillong market through middleman. Vegetables like cabbage, cauliflower, radish, etc. are grown plentiful for sale which also find its way to the main Shillong market. There is no market in or around the village. The nearest market is about 5 k.m. away from the village.

Only organic manure is used for all types of crops. A huge amount of organic fertilizers, viz. cowdung, pigdung, and bonemeal is used in cultivation. Cowdung is procured from outside the village as well as local dealer from the village. It is not always the price of fertilizer, but the availability in time and space and the attitude to use are some of the causes for not using chemical manure. In fact, the people of this village have apparently earned from their agriculture produce, sufficient money income to buy fertilizer of chemical type.

The main occupation of the village is agriculture. Seventy percent of the people are illiterate, studying upto lower primary. A few educated youth are employed in the
community Development Block office and other government offices away from the village.

There is one lower primary school in the village. For higher school education students are to go to Upper Shillong and to Shillong town daily.

All the above four villages are Khasi villages with cent percent Khasi speaking population and christian by religion.

3.4. **Selection of Household**

Due to certain unavoidable difficulties, we have to resort to simple random sampling in the selection of household. Had there been a systematic record of households, this could have been used as Sampling frame. The very genesis of this sampling based on the assumption that every element of the universe has an equally probable chances for occurance. We have approached the Block Development Officer for a list of household with the names of the householders to be used as the sampling frame. Unfortunately, we were told that such list is not available. We took 15% of the total households, that is, all together 70 household were taken into sample.
3.5. **Questionnaire:**

In the time of data collection, a specially designed questionnaire, including 45 questions on fertilizer, size of holding, family size and educational background is used.

3.6. **Problems faced in Data Collection**

In the time of data collection, we have to face certain difficulties in approaching the respondents by ourselves due to the language problem. The mother tongue of the respondents is Khasi, in which the author is not conversant. Also, the most of the respondents are illiterate. Only a few respondents could speak English or Hindi. For this purpose, the respective Block Development Officers had kindly provided us with interpreters to collect the data. Often we have to spend quite a large sum of money from our own pocket due to use of hired vehicle.

Secondly, the farmers do not keep a record of the exact amount of fertilizers used in the field. Whatever, they could remember about the amounts of fertilizer used for that season in 1983 were recorded by us. The data was collected from June to August in 1983.