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MONITORING RURAL DEVELOPMENT  
IN BANGLADESH

BY  
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A B S T R A C T:

The paper presents in the context of Bangladesh, the Greater Noakhali area and the DANIDA-funded project of NRDP, how the rural development is monitored and evaluated. It claims, that traditionally the handy and assessable reality has been studied by the social scientists in a static way without including the qualitative aspects and long-term perspective sufficiently. An alternative system, presently being undertaken by the NRDP, of on-going village-wise impact monitoring is presented, and the applicability of modern information science techniques is discussed.



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## 1. INTRODUCTION

In the following, a few introductory remarks on the context of Bangladesh, the Greater Noakhali area and the Noakhali Rural Development Project, as well as on the organisation of the monitoring and evaluation of this project, will be presented.

### 1.1. The Context of Bangladesh

Bangladesh was created as a new nation in 1971 after a devastating war with immense losses in human lives and physical infrastructure. The country covers about 144.000 Km<sup>2</sup> of the very fertile soil of the delta of some of the largest rivers of the world (Ganges and Brahmaputra), and with an estimated population of about 107 mill. people it has one of the highest densities (740 per Km<sup>2</sup>). At the same time, it is one of the poorest countries with a GNP per capita of USD 120 (estimate 1988), and with a literacy-rate at the level of 20% (male 25% and female 15%). The problems, thus, are enormous, and the donor-community is very well represented with all kinds of projects, programmes and activities. While the external sources of total government resources (capital and revenue) is at the level of more than 50%, the source of the development or capital budget is believed to be at the level of 90%, whether it is channelled through the different government agencies at the central level, or delivered more locally, e.g. through a donor-supported area development project. This background of donor-funded development only emphasizes the importance of the monitoring and the evaluation of the activities and their effects and impacts being the best possible, and most credible ones - both for the receivers and the donors.

### 1.2. The Greater Noakhali Area

The former district of Noakhali, i.e. the present districts of Lakshmipur, Feni and Noakhali, often now called the Greater Noakhali area, is situated in the south-eastern region of Bangladesh, bordering to the Bay of Bengal. In an area covering about 5.500 Km<sup>2</sup> is living a population of about 4.8 mill. people (estimate of 1989<sup>1</sup>). Since the last census was implemented in 1981, and no reliable National Registration of the population is maintained, the uncertainty is considerable, but at least in most areas the population density of Noakhali is somewhat higher than the average of the whole of the country. Nearly 90% of all people live in the villages of the rural areas<sup>2</sup>, while it is observed, that the townships of the upazila-headquarters<sup>2</sup> are growing faster now. Agricultural production is clearly still the dominant employment with the main crops being irrigated and rainfed paddy supplemented with vegetables and fruits. Industry is very limited to a few medium and large-scale industries, and some small enterprises. The so-called 'informal sector', consisting of small-scale trading along the roadside, small repair workshops, all kinds of services, etc., has expanded rapidly.

Nature itself is the major development constraint. The limited natural resources and erratic climate pose serious threats, affecting every aspect of daily life. Natural calamities, floods, cyclones, rains, etc., are frequently detrimental to the agricultural production, infrastructure and

living standards. In particular, the people, who have settled in the char-areas, i.e. the land being accreted in the south of the region, are living under very difficult conditions, constantly being exposed to calamities, threats of erosion, in addition to man-made suppression by the bigger landlords. Communication is also hampered by nature, whether at sea to the nearby islands, or inland, where only a few trunk roads or feeder roads exist. The electricity connections are limited, and telephone communication is unreliable and unstable.

The social barriers are on top of the natural ones. The level of illiteracy is somewhat higher than in all Bangladesh, and skilled personnel is seriously lacking, e.g. artisans, mechanics or electricians. All women are culturally excluded by the 'purdah-rules' of Islam from moving outside their homes or even villages unveiled or without the company of their husbands, making it very difficult for extension workers to deliver services to the women, or for the woman to be employed or educate herself outside the home. In general, the employment opportunities outside the agriculture are scarce, while the number of jobs in the agricultural sector is declining. The land itself is getting more limited by being incorporated for urban or housing purposes, and the remaining plots and the number of farmers are becoming smaller and smaller. It is estimated, that the number of jobs in the agricultural sector declined from 644.000 in 1974 to 537.000 in 1981<sup>3</sup>. As such, there is a strong need to improve the registration of land use, not least to improve the security of the poorest.

However, the Greater Noakhali area has an untapped potential for development. It's fertile land, the human resources as labour force, and local capital. There is, in fact, a net increase of capital in the area caused by the remittances from the many migrant workers of Noakhali, who traditionally work in the countries of the Middle East, Pakistan or other areas of Bangladesh. Unfortunately, these funds are only utilized marginally for productive investments. It is claimed, that the decentralization of the government administration to the upazila-level, a better use of accumulated capital and an increased participation of women in education, health services and employment, an expansion of the electricity supply, all could contribute to economic growth in the area<sup>4</sup>.

### 1.3. The Noakhali Rural Development Project

DANIDA (Danish International Development Agency) has since 1978 implemented rural development-projects in Greater Noakhali. The first project, the Noakhali Integrated Rural Development Project (NIRDP), only encompassed 3 out of the 15 upazilas. It was considered as 'the most evident and comprehensive example of renewal of the Danish project assistance'<sup>5</sup>, and was initially the largest single Danish project with a grant of DKR 93 mill. (USD 13.3 mill.). In short, up to now, it has been regarded as the 'flagship' of Danish development assistance, and has been followed with intensive interest from researchers, politicians and the public opinion. After a 'bridging period' in 1984, the project was expanded in 1985 to cover all 15 upazilas, and included more activities, while the grant per capita or upazila was reduced. In total, about USD 35 mill. was allocated for the period 1985-90, and the project was still regarded as an important experiment by DANIDA (-though no longer intended as 'integrated', as the title 'Noakhali Rural Development Project-II' suggests), even as the costs of the project is

only a fraction of the total Danish development assistance to Bangladesh. As the Chairman of the Board of the International Agency put it: 'Several donors have faced increasingly growing difficulties in the work of assistance in Bangladesh, and in particular it has been difficult to reach the poorest ones. Against the somewhat gloomy picture, the Danish Noakhali-project is silhouetted more brightly - it looks here, thanks to the integrated effort, and a very extensive follow-up of every initiative, as if one is on the right track'<sup>6</sup>.

The general objective of NRDP-II is 'to promote economic growth and social progress, in particular aiming at the poorer segments of the population, including women'. Thus both the farmers in general, and the landless and near-landless are included in the target-group, and it might even be interpreted, as if everybody is included! The activities of the project were designed to include: An irrigated agriculture sector comprising irrigation and drainage, agricultural extension, cooperative agricultural marketing, cooperative training and education as well as BRDB cooperative credit, a rural poor sector comprising institutional aspects and credit, cottage industries, reactivation of fishponds, livestock and health, nutrition and family-planning, a mass education programme, and an infrastructure programme of construction and maintenance.

In total, 13 'components' with a total of more than 130 'programmes' were included. In principle, existing channels of the government structure is used for delivery, but in many cases special project-staff or units have supplemented the regular government staff or -agencies. Bangladesh Rural Development Board (BRDB) has the role of lead agency as well as implementing a number of components. A total staff of about 1.000, headed by the Executive Director, is funded by the project in addition to the ordinary staff of the government agencies. A number of ex-patriate DANIDA advisers (presently about 10) are assigned to the components, while the Chief Project Adviser (the CPA) acts as the team-leader. The Project Advisory Team (PAT) has it's own supporting technical assistance staff, organised as 'units' to cover functions such as planning, monitoring and evaluation, finance, administration, transport, women's development and communication, in total about 150 staff-members.

#### 1.4. The Set-Up of Monitoring and Evaluation

Organisationally, the tasks of monitoring and evaluation thus are placed within the responsibility of the Dy. Director, NRDP-II, who is the staff of the Executive Director. Since he alone only has one Ass. Director to assist, any field-work, design or implementation of on-going monitoring or occasional study has to be made by the Monitoring & Evaluation Unit, i.e. the PAT-staff, being responsible to the Monitoring & Evaluation and Adviser and the CPA. This unit, which has created in 1983, now consist of 12 professionals (Sociologists, Economists, Statistician, etc.), all Bangladeshis, most from Noakhali and residing in the area (which is not typical for the government staff). In addition, a few number of administrative and supportive staff assist in reproduction, typing, dataprocessing, etc. Though the M & E Unit thus is referring to the DANIDA-appointed CPA, all reports are channelled through the Executive Director to the Bangladeshi government system, i.e. the BRDB (the project-funded liaison-unit 'Monitoring & Coordination Cell' and



the Director-General) and the Ministry of Local Government, Rural Development and Cooperatives. In fact, the cooperation between the M & E Unit and the government staff is running fairly smoothly, and fully integrated in all daily matters. The unit is well equipped (relatively in the Bangladeshi context!) with motorcycles, offices, a library and a Documentation Centre (containing about 1.200 reports made by or about the NRDP), 2 micro-computers, etc. Most important, the staff is very well experienced with several members having 8-10 years working-experience in Noakhali. Fortunately, this has enabled the project to follow a 'process approach' in the development of the monitoring and evaluation systems, contrary to what is experienced elsewhere. The financial frame of monitoring and evaluation is about 1 mill. USD, which is exactly, what is common for IBRD-funded agriculture project of 5-6 years' duration. In relative terms, it is about 2.8% of the total project-funds. It should be noted, that the tasks of the unit also includes 'short-term studies and research', i.e. evaluation, while funding of larger-scale surveys, e.g. baseline surveys, are outside this budget.

## 2. THE CONCEPTS OF MONITORING AND EVALUATION AND THEIR USE IN NRDP

The emphasis in this paper is put on presentation of how the wider results of the project activities on the rural development is monitored and evaluated, i.e. what is called impact-monitoring and evaluation, but before doing that, the total scope of the concepts of monitoring and evaluation and their application in the Noakhali Rural Development Project is outlined.

### 2.1. The Basic Concepts

Fig. 1. shows the level of objectives for monitoring and evaluation, and the ways the objectives are analysed and investigated, as it was originally conceptualised by the start of the M & E Unit about 1983. Though the concepts of the objectives are maintained, in light of the experiences gained from the field, the methods of application have changed, as will be shown in the following. As of to-day, the basic concepts are defined as:

- progress monitoring is the activity whereby the in-puts and the out-puts of the project activities are followed and reported, as far as possible both qualitatively and quantitatively,
- effect monitoring is the activity, whereby indicators of the direct results of the project activities, and for the project beneficiaries are studied and estimates are given of the effects, and
- impact monitoring is the activity, whereby indicators of the more indirect or wider results of the project activities, and for the general rural population, not directly benefitted by project activities, are estimated as impact.

Clearly, the functions of monitoring and evaluation are overlapping, i.e. the data provided through the continuous monitoring are utilised for evaluation purposes. However, while it is accepted, that special evaluation-studies always will be needed to analyse the impacts in-depth, it is a major point of this paper, that an on-going monitoring system and

Fig. 1.: LEVEL OF OBJECTIVES FOR MONITORING 6 EVALUATION

	INPUT	OUTPUT	EFFECT	IMPACT
ECONOMIC GROWTH AND SOCIAL PROGRESS (PROJECT OBJECTIVES) (TIVES: ) Increased food production (I.A. SECTOR) Employment (RURAL POOR PROG.) Social/Phy. Infrastructure	<ul style="list-style-type: none"> <li>- road construction &amp; Maintenance</li> <li>- soc. facilities const. &amp; Maint.</li> <li>- staffing at all levels</li> <li>- funding adequate</li> <li>- transport</li> <li>- skill training (ASIC)</li> <li>- literacy &amp; numeracy (MEP) training</li> <li>- staffing at all levels</li> <li>- motivation development</li> <li>- supply of credit</li> <li>- transport</li> </ul>	<ul style="list-style-type: none"> <li>- const'd &amp; Maint'd roads</li> <li>- " " " soc. fac. staffing</li> <li>- utilization</li> <li>- no. of trainees</li> <li>- formation of groups</li> <li>- skills imparted</li> <li>- no. of students</li> <li>- credit accessible</li> </ul>	<ul style="list-style-type: none"> <li>- increased traffic</li> <li>- increased attendance at soc. facilities</li> </ul>	<ul style="list-style-type: none"> <li>- routine maintenance</li> <li>- improved delivery of services</li> <li>- improved standard of living</li> </ul>
	<ul style="list-style-type: none"> <li>- skill training (ASIC)</li> <li>- literacy &amp; numeracy (MEP) training</li> <li>- staffing at all levels</li> <li>- motivation development</li> <li>- supply of credit</li> <li>- transport</li> </ul>	<ul style="list-style-type: none"> <li>- no. of trainees</li> <li>- formation of groups</li> <li>- skills imparted</li> <li>- no. of students</li> <li>- credit accessible</li> </ul>	<ul style="list-style-type: none"> <li>- organized &amp; viable groups</li> <li>- beneficiaries for target groups</li> <li>- higher transfer rate to public school</li> <li>- employment opportunities increased</li> </ul>	<ul style="list-style-type: none"> <li>- higher &amp; regular income</li> <li>- improved shelter &amp; environment</li> <li>- self reliant</li> <li>- active participation</li> <li>- improved family well-being</li> </ul>
TARGET GROUPS SMALL FARMERS RURAL POOR + WOMEN FARMERS, RURAL POOR WOMEN, INSTITUTIONS ETC.	<ul style="list-style-type: none"> <li>- demonstration plots</li> <li>- BS trained (Agri.Ext.)</li> <li>- supply of credit</li> <li>- staffing at all levels</li> <li>- training for staff (including co-op. training)</li> <li>- transport</li> <li>- marketing facilities</li> <li>- irrigation</li> </ul>	<ul style="list-style-type: none"> <li>- no. of BS visits</li> <li>- no. of farmers contacted</li> <li>- no. of trained staff</li> <li>- adoption of agri. practices</li> <li>- credit supplied</li> <li>- marketing godowns</li> <li>- higher yield</li> </ul>	<ul style="list-style-type: none"> <li>- well functioning KSS</li> <li>- beneficiaries from target groups</li> <li>- progressive farming</li> </ul>	<ul style="list-style-type: none"> <li>- higher income</li> <li>- improved shelter &amp; environment</li> <li>- self sufficient in food plus surplus</li> <li>- self-reliant</li> <li>- active participation</li> <li>- contained landlessness</li> </ul>
BASELINE SURVEY	MONITORING	MONITORING, SPOT CHECKS	EVALUATION, INVESTIGATIONS	BASELINE, SPECIAL STUDIES

data-collection of indicators of the impacts of the activities during the life-time (and hopefully, also after the project-period) will improve the knowledge of what is happening even better than the traditional evaluation procedures of baseline surveys followed by (midterm and) terminal evaluations, in particular in the Bangladeshi context. To distinguish the functions of monitoring and evaluation thus, as suggested by Casley and Kumar<sup>9</sup>, might be useful analytically, but in practical terms, it is mainly the timing and depth of the data-collection, which makes the difference, and not the objective, the reference periods or the users. It is even claimed, that it is best performed locally, if an experienced staff is available. One might visualize the functions of monitoring as covering the total spectre from progress monitoring over effect monitoring to impact monitoring, while the functions of evaluation are represented by occasional studies and investigations, rather than the picture of Fig. 1, where monitoring was covering the 'first' part of the objectives, and evaluation the 'second' and later part. We will return to this discussion, but first a short description of the progress and effect monitoring and evaluation:

## 2.2. The Progress Monitoring of NRDP

At upazila-level, each line-ministry officer (e.g. Upazila Agricultural Officer or Rural Development Officer, BRDB) makes a (departmental) Monthly Physical Progress Report, which is forwarded to the Head of the component in Maijdee, Noakhali. It contains informations on all activities of the component, giving indications of physical performance during the last calendar month, with breakdown in units such as taka disbursed, males or females trained, groups involved in activity, etc. The report follows the structure of the Annual Development Plan (budget) of the project making comparisons between physical performance and financial expenditures feasible. The upazila-contributions are then compiled at the component-level, where the 'Monitoring Official' makes a report with upazilawise break-down, and hands it over to the M & E Unit by the 6th of the month. By the 8th of the month, the unit has compiled all component-contributions, and the Monthly Physical Progress Report of NRDP-II is forwarded by the Dy. Director (Mon.), NRDP, to NRDP, Dhaka, as the official government report. Together with the monthly Accounts Statements the physical reports form the basis for the compilation of the Quarterly Physical and Financial Report, elaborated by the M & E Unit. This is a computerised report, normally a 100-paged document, containing a wealth of quantitative information, which however, can be translated into qualitative information, e.g. making it possible to trace the aspect of women in development. The draft report is discussed with all 'Monitoring Officials' and checked at the quarterly Monitoring Conferences before the 'Summary & Comments'-report, an edited and commented, short version of the bulky tables, is presented to the Project Coordination Meeting. Here comments from Heads of components, the project management and advisers are invited on the draft version, and though it is difficult to have a relaxed and open debate in larger fora in Bangladesh, the system provides the opportunity to identify bottlenecks for the management, to speed up activities, etc. It is primarily an internal tool, but is forwarded<sup>10</sup> in its final version to the government and the donor-representatives.



To check the reliability of the reported figures and the quality of the activities, a number of spot-checks are implemented after each quarterly report by the staff of the M & E Unit. The attention and the follow-up around these small surveys is quite great, both from the management and the components. In general, the components also submit a Qualitative Review-report monthly to present the status in short of their activities (as planned, delayed or ahead of plan e.g.), focus on constraints, and give information on steps taken to involve women in development.

To improve the monitoring at upazila-level, reports of the performance of specific upazilas from the nominated project-representatives (one adviser and one NRDP government officer) are discussed at the monthly Project Coordination meetings (i.e. those 8 months, where no quarterly meetings take place). The focus is specific, but very often problems are generalized, and solutions proposed. A very important aspect of the progress monitoring has been added lately, i.e. the spatial or geographical monitoring. By collecting information from the upazila-officers involved directly, using a standardized location-format, the M & E Unit has located the major 130 different project-activities village-wise in the upazilas on maps and on a database, making overall analysis possible of coverage, etc. Finally, it should be mentioned, that the M & E Unit is trying to decentralise its monitoring by posting some of its staff as Upazila Planning & Monitoring Officers locally<sup>11</sup>.

### 2.3. The Effect Monitoring and Evaluation

As experienced elsewhere<sup>12</sup>, it takes time to build up a monitoring system, and clearly, the project managers initially put emphasis on monitoring the input delivery systems, and later the outputs to the beneficiaries. However, also in this case of NRDP, demands have increasingly been raised on estimates of the effects of the project activities from outside, e.g. the joint DANIDA/GOB-Midterm Evaluation in May, 1988<sup>13</sup>. Even though the priority was to try to monitor the project activities themselves, so as to be able to know the inputs of NRDP before any system was set up to try to measure the results of the activities, a number of 'diagnostic studies' or 'evaluations of effects' have been made. The list, actually, is quite long, e.g. on training of cottage industry workers, informal credit scheme, health education, election of chairmen of cooperatives, etc.<sup>14</sup>.

During 1988 a systematic approach of monitoring the direct results of the project activities for the beneficiaries has been drafted. This contains indicators of effects of the major activities of all components, thus linking each activity to a simple, but valid test of the direct result for those persons, who have received the project input. The NRDP, e.g. is supporting the farmers through the Agricultural Extension by funding additional Block Supervisors, selection of Contact Farmers, etc. Effect indicators are the production figures of the Contact Farmers involved (taken on a sample basis from the diaries of the Block Supervisors). For training-activities, like e.g. training of the cooperative Inspectors of BRDB, the objectives of the training have to be set in quite specific terms, i.e. making a performance-list of the participants to be expected and tested after completion of the training. Some of the drafted indicators have been tested in the field (some of the training-courses of the component of the Cooperative Training and Education)<sup>15</sup>,

and they were found feasible for some courses, while in particular the indicators linked to the official classification system of the BRDB were not found feasible, since the system in itself was not reliable or unambiguous<sup>16</sup>. It is the intension, that indication of effects is an exercise, which the project staff and the government officers at component-level shall undertake from time to time, with the advice from the M & E Unit, while the field-work needed should be limited to use of already available data, if needed, supplemented with field-data collected by the staff of the component. However, there is a great need for further elaboration of the indicators, testing, implementation and training of the componental staff in this regard, before comprehensive results should be expected.

#### 2.4. Experiences of Impact Evaluation of NRDP

A number of the specific studies, mentioned above, might be termed 'effect' or 'impact'-studies, depending if the focus is only on the direct beneficiaries or the broader village-level. Of more general studies, two were made in relation to the Midterm Evaluation of May, 1988: 'Four Noakhali Villages - 9 Years Later' and 'Employment Effects of NRDP-II'<sup>17</sup>. From a methodological point of view, in particular the first one is interesting, because it was one of the very rare kind of studies, where a baseline study actually was followed-up by a later restudy, and it clearly showed the difficulties in identification of the villagers after a period, the problem of re-finding original questionnaires and lists of interviewees, and in general of establishing a reasonable survey-environment, which is similar to the one, in which the original baseline study was made - even if the same researcher and field-assistants (which was the lucky coincidence in this case) are participating.

This is also one of the major reasons, why the application of the large Project Baseline Survey, implemented during 1984-86, will be very difficult in the future. Though it's volumen is impressive, given the population situation in the surveyed villages, where the villagers as individuals and households are very mobile and changing relationships, and given the very flimsy registration of the population, it is extremely difficult to follow or establish the actual development, which has taken place over 5-10 years, not to speak of any causes of impact. For a number of reasons this report was characterized officially as a waste of money by the Midterm Evaluation<sup>18</sup>, but even if the quality of a baseline survey is acceptable, if no on-going monitoring of the population development takes place, how can you monitor or evaluate changes in the poverty-situation of this population, or development of the socio-economic living-conditions, when the first and most important reactions or implications of the changes are death of children or adults, less or more births, migration to towns to find employment, break-down of households to survive, etc.? If such population changes are not monitored closely in an on-going way, the follow-up of a baseline survey 10 years later will be extremely difficult in a community, where no reliable population registration exists. The design of a survey restricting the included households and individuals to a fixed number thus in itself makes the survey static and unable to trace the dynamics of the population.

The idea of collecting data in a continuous way from the villages of the project-area, giving information in a simple, but reliable way on a

number of topics covering the day-to-day life, not only of the direct project beneficiaries, but of all villagers, and emphasizing the population development, thus has gradually matured in the M & E Unit. However, only after the progress monitoring system has been routinized and working fully-fledged, it seems reasonable to establish an impact monitoring system. A pre-condition to measure the impacts of any project activities is to know, where the activities actually take place. The collection of data for the Village-wise Activity Register made this possible by the beginning of 1989. The present efforts of the M & E Unit accordingly is to develop a way, whereby the impacts of the NRDP-activities are monitored in general by following the changes of the living-conditions of the rural population in the area in a systematic and continuous way. It shall at the same time give information now, so adjustments of project-activities are possible, and provide data, which could be used as basis for future evaluations. It will also give information, not only on the direct project beneficiaries, but on the general rural population, facilitating comparisons with other regions and studies of the country.

Since it is established as a system, which gives scheduled and on-going information in the impacts on the living-conditions of the rural population, it is termed an 'impact monitoring system'. It shall be seen as an attempt to provide data, which will facilitate evaluation, but it is not compensating for evaluation in itself. This will demand additional analyses, or special studies, which could be made of the villages included in the system. However, the implementation of the system will give much improved and documented clues to what is happening within the project-area during the coming years.

Before moving into the details of the 'Village-wise Impact Monitoring System' (VIMS), we will turn to the identification of the theoretical and practical problems, which have generated this system.

### **3. IDENTIFICATION OF PROBLEMS IN THE IMPACT MONITORING AND EVALUATION**

Given the objective of being able to collect reliable data on the development of the living-conditions of the rural population in the context of Bangladesh, you face a number of difficulties, of which different strategies and methods of solutions have been tried, or as often not considered at all. Most of the problems do not tally with the traditional ways of doing socio-economic studies or the working pattern of the research organisations (or project structures), and accordingly are overlooked.

#### **3.1. The Choice of the Handy and Assessable Reality?**

The life in the villages of rural Bangladesh might on the face of it look quite the same, whether we are studying a small or a large village, whether it is old or new, or wherever the village is located. However, we don't really know. What is sure is, that most of the studies or on-going systems being set up, tend to concentrate on small, accessible and assessable villages. The M & E Unit made a collection of data from all 173 Unions<sup>19</sup> to get the names, location and number of



people of each village in Greater Noakhali, since no reliable list is available. The result<sup>20</sup> showed great variance of very small villages, from 30 families up to thousands of families, and in one upazila, Companiganj, 5 out of the 7 unions actually are one big village administratively with no further break-down. If the total population of the area is estimated to 4.8 mill. people, and the number of villages counted are 1.778, the average population of each village is 2.700, or with about 5 people in each household (family), the average village has about 540 households. But you will notice, that most of the surveyed villages of Bangladesh (and that list is very long) are smaller than average, or in a few cases cut-out pieces of bigger villages<sup>21</sup>.

You rarely see studies of the larger villages as a totality, even as it is observed, that more people is actually living there to-day. It has also been noticed, that the bari-system<sup>22</sup> of clustering families and houses is very different in old and new villages. While baris contain up to 30 families in old villages, in new ones, in particular the settlements in the char-area, each house is each own bari, or you might say, that the bari-system doesn't exist here. Definitely, this has great implications for the understanding of the changing reality of rural life, for the position of the women, etc. But the number of studies, e.g. of the villages of the char-area, are small. Even if it is made, it might not be representative, since the chosen village is located close to the only existing road, to make access for the researchers easy<sup>23</sup>. The researchers are simply biased towards the handy reality, it has to be admitted.

The point is, that though most studies make a very systematic and satisfactory explanation on how the individual sampling or selection of households or individuals is done, the preceding selection or demarcation of the villages, e.g. in physical or local cultural terms, is not explained clearly. The reasons, of course, are that maps and registers of population are not available, and that the construction of lists (of villages, etc.) will require time and resources<sup>24</sup>. But while you may follow the rules of probability sampling closely in selecting the sample within the strata, you will probably not know, how the strata is related to the total universe, i.e. the project area in this case.

### 3.2. How to Monitor a Dynamic Population?

As mentioned above, the baseline survey of NRDP did not make it feasible to monitor the developments of the population in the future. However, this is not a unique case. At present, most studies or systems<sup>25</sup> work with a fixed sample of the population, which is then followed closely by frequent visits or re-studies. This makes it possible to closely monitor the selected households or even individuals within the fixed sample, depending on the frequency of the monitoring. The main problem is, that you don't catch the changes outside the fixed sample, e.g. households migrating into the village, or even the newborn members of the families. Your sample is normally fixed at household-level, and the social events around the sample are not covered. Since most systems are depending on professional investigators or enumerators, for reasons of scarce resources the frequency of monitoring is as often quarterly or half-annually, which is not sufficient to cover e.g. the very important events of births and deaths of newly born babies. You might catch up by use of extensive interviews of the mothers, but without on-the-spot observation continuously in the village itself, for cultural reasons

you very likely will miss a significant amount of data. In particular, when the need is for more reliable figures on migration between the rural and the urban areas, or the fertility and mortality of the different age-groups, the differences are decisive.

Our conclusion is, that some system of on-going observation of the total development of the village is needed to provide the needed data, in particular in the Bangladeshi context, where estimates and forecasts are more frequent than reliable statistical data on the recent past<sup>26</sup>. The unit of observation needs to be all-inclusive at any given time to secure the dynamics of the population.

### 3.3. The Unique Evaluation or the On-Going Monitoring?

The normal design of an evaluation of a rural development project follows the pattern of baseline survey-(midterm evaluation)-terminal evaluation. In the better cases, it is supported by data supplied from on-going project monitoring or diagnostic studies along the way. However, as shown above, this is not sufficient in many cases, in particular in the projects of rural development, where the project lifetime has to extend maybe over decades (to at all make substantial changes feasible). While the objectives of the project are made more attainable by extending the project period, possibilities of implementing the data-collection for the evaluations are reduced, if you only rely on the isolated or unique studies: memories fail, records are not kept, and the chance of refinding the children from then, who are now grown-ups with their own families, is minimal. The uniqueness of such studies make them less useful, and what is happening in the gaps in-between is a guess.

A less costly, faster and administratively easier way of study has been suggested as the 'rapid, rural appraisal'. In principle, an interdisciplinary team makes a fast field-work by combining the impressions of the individual team-members according to certain basic rules. It somehow is close to the 'informal sampling' which might go ahead of a more formal study, and clearly, a number of advantages are present. Such methods, however, do not solve all the gaps between the studies (though they might be less or smaller), and in particular they are detached from the universe of the project area making their significance obscure. The value, which they might indeed contain (in NRDP e.g. the spotchecks of the progress monitoring), is depending on the linkages to the on-going process of rural development, and to a continuous monitoring of this process. However, this linkage are often not established or explained<sup>27</sup>, and in particular qualitative phenomena occurring over time cannot be measured only by a single camera "snap-shot" form of exercise, as pointed out by Peter Oakley<sup>28</sup>.

### 3.4. How to Include the Qualitative Aspects?

Monitoring is often associated with collection of quantitative figures of mainly economic or physical nature. However, the importance of also measuring the social effect and impact has lead to suggestions for social indicators, which anyway mostly are numerical figures, giving only a few clues to the qualitative changes, which are central to understand the processes of rural development. An objective of NRDP, as described in the Appraisal Report<sup>29</sup>, is to involve the participation of

the beneficiaries in the planning and implementation of project activities, in particular through the process of formation of groups. While the number of groups and their members might be counted, the process of formation and the quality of the participation of the members needs to be analysed historically over time, and as an in-depth analysis. How to do this, we know very little about. One theme emerging in this field, is the 'participatory' approach, where the importance of including the project beneficiaries in any exercise to monitor and evaluate a rural development project is stressed. This is also found necessary in the Noakhali-context, while the technique of operation of monitoring the process of participation is still not adequately developed<sup>30</sup>. However, it should be tried, whenever possible.

In discussing how to choose the reality of the rural areas, it was advocated, that the totality of the villages should be included, and the method of 'informal sampling' has also been claimed to be difficult to place in the universe. The disadvantages, as mentioned by Casley and Kumar<sup>31</sup> are also, that the selection informally tends to be biased against the remote villages or households, the absent ones (e.g. the migrant workers, who are very important in Noakhali), the landless and the females. To include these qualitative aspects, the method of covering a cultural and socio-economic entirety, i.e. the full village, seems appropriate.

The qualitative aspect is also considered in the present efforts to encourage local participation in the monitoring not only of the activities of NRDP, but in the normal activities of the government agencies. As presented by Harry Blair<sup>32</sup>, the question of accountability of the upazila parishads (councils) to the population they represent, is the hinge on which the decentralisation process of Bangladesh is turning. And the possibilities of the local population to 'monitor' the actions of the parishad are crucial. Since the NRDP-funding of development expenditures far exceeds the government-funded ones in the upazilas of Noakhali (in some upazilas 2-3 times the development funds of GOB), the monitoring of the spending ought to be a qualitatively learning process for the villagers, and they themselves should be involved actively.

Finally, two technical aspects are necessary to consider. First the question of language. It is evident, that all material, and all field-work of course has to be made in the language of the people, who live here, i.e. in Bangla. The investigators can only be Bangladeshi, but not only that, they also have to be accepted by the villagers, which is difficult for researchers, say of Dhaka-origin. Actually, the Noakhalis are the best suited for such jobs, or even the villagers themselves! This is an important cultural problem, which is often overlooked in the design of monitoring and evaluation. The language problem also penetrates into the world of computers, since few software programmes are available handling Bangla-data. And since most rural development projects, including NRDP, are burdened with not-fluently Bangla-writing-and reading advisers (the donors as often demand every project document to be presented in English), the language-problem is a huge, qualitative cleavage, which is not easily bridged. Secondly, the intention of involving local participation, if possible in an on-going monitoring process, e.g. in the monitoring of the nutritional progress of Bangladesh's future men and women, is not easy to take up for technical reasons. It has been suggested by Robert Torene<sup>33</sup>, that child nutrition surveys using anthropometric measurements should be conducted on a continuing basis,



funded by USAID, since up to now such surveys have generally been implemented on an adhoc basis. This also relates to Noakhali, but to do it on a continuing basis, the technique and the equipment (i.e. appropriate weights, etc.) need to be used by staff or villagers residing in the villages permanently. Any solution demands more training or more resources, than is usually available. The same technical constraints might be present in fields like agricultural production, livestock, etc.

### 3.5. How to Include the Long-term Perspective?

Most rural development projects are limited to rather short project-periods, at least seen in the light of the need for long-term qualitative change. However, the tendency is towards projects of 5-10 years duration, and though the donor and GOB might still agree on some kind of extension of the project in the same area, e.g. in Noakhali, the organisation of the project is probably changed. This raises the question of how to monitor and evaluate the long-term development past the completion of the (original) project, if the system has been anchored to the project organisation, and if, as seems most appropriate, the same indicators and details of on-going monitoring are to be maintained?

This question is rarely posed at the time of appraisal, or it is somehow assumed, that it is possible to implement an ex-post evaluation without having any monitoring after the completion of the project up to the time of the ex-post evaluation. It might be possible, indeed, but it would provide a much improved basis, if the monitoring and evaluation staff of a project had started collecting data early - preferably at the time of appraisal, and were able to continue collecting data well past completion to the day of the ex-post evaluation, as suggested by Casley and Kumar<sup>34</sup>. However, this will probably imply another anchorage of the organisation, or at least cooperation, with e.g. research-institutes or universities (but still, of course, part of the project funding).

We will now return to the strategies and methods of the impact monitoring system, which is presently being established in NRDP, taking the discussed problems into account:

## 4. THE STRATEGIES AND METHODS OF THE VILLAGE-WISE MONITORING SYSTEM, (VIMS), OF NRDP<sup>35</sup>.

As the concept of impact relates to the wider results, not only among the direct project beneficiaries, the monitoring of impact puts focus on the overall development or changes in the living conditions, which might be a result of the combined efforts of the NRDP, while specific linkages between single programmes or activities or even components rarely will be possible to establish. It will in itself be an achievement, if causal relations are established between project activities and development of the socio-economic situation. The relationship is tried to be established through collection of information from partly local areas, i.e. villages, where NRDP-activities have taken place, and partly from areas, where no NRDP-activities sofar have taken place.

The monitoring is an on-going process as far as possible, i.e. data are collected regulary at frequent intervals (monthly, quarterly or yearly)

depending on the topic. The topics are limited to a rather small number, so as to ensure simplicity, greater reliability, faster processing and total coverage. When the system is fully extended in 1990, it will cover all 15 upazilas of the project area with at least one local area (village) in each upazila. The number of villages, and their distribution upazila-wise will reflect the population proportions of the upazilas.

Great emphasis is put on monitoring the growth of the population (i.e. infant- and child-mortality, migration, household-development, fertility, etc.). This is for reasons of planning purposes of the project, to follow the implementation of activities, but also to establish a check on the development of the population growth, which is regarded as one of the most important measurements nationally as regionally. Finally, the demographic changes are in themselves regarded as reflections or reactions to changes in the socio-economic situation, individually as well as on household-level.

To be able to follow the dynamics of the villagers, the system uses local knowledge and observations supplemented with a good training and supervision of local, professional staff. From the villages are reported by one male and one female local resident 'village reporter', recruited on a honorarium basis, on different socio-economic topics. Some of the reports cover all households of the village (mainly the demographic data), some from sampled households of the villages, and some data are collected from the nearest local market, as a road-counting, from the local school, etc.

The overall intention is to establish a local network of reporting, which is reliable, supervised by the professional staff of the M & E Unit of NRDP, and which gives fast reports telling valid facts on the impact of the project activities in general, as well as on the general development of the Greater Noakhali area.

#### **4.1. Objectives of the Village-wise Impact Monitoring System**

The objectives of the Village-wise Impact Monitoring System (VIMS) thus may be summarised:

- to monitor major socio-economic topics related to the development and changes in the living conditions of the rural population of the project area, including the women, and to the possible poverty alleviation,
- to provide simple, but reliable data on the wider and more indirect results, i.e. impact, if any, of the NRDP-activities,
- to supply on-going information in a rapid form at relatively modest costs,
- to rely on local knowledge and reporters, who are permanently present at the village-level, combined with supervision by the local, professional monitoring and evaluation organisation,
- to report at regular, scheduled periods, which will make determination of possible causal relationships feasible,

- to establish a monitoring system, which will cover the whole project area, including all upazilas, and which will reflect changes in a dynamic way.

#### 4.2. Selection of the Villages

Selection of the villages involved three exercises: elaboration of the criteria for the overall and specific selection, establishment of a data-base, from which the actual selection could be made, and through visits in the field, making the final choice.

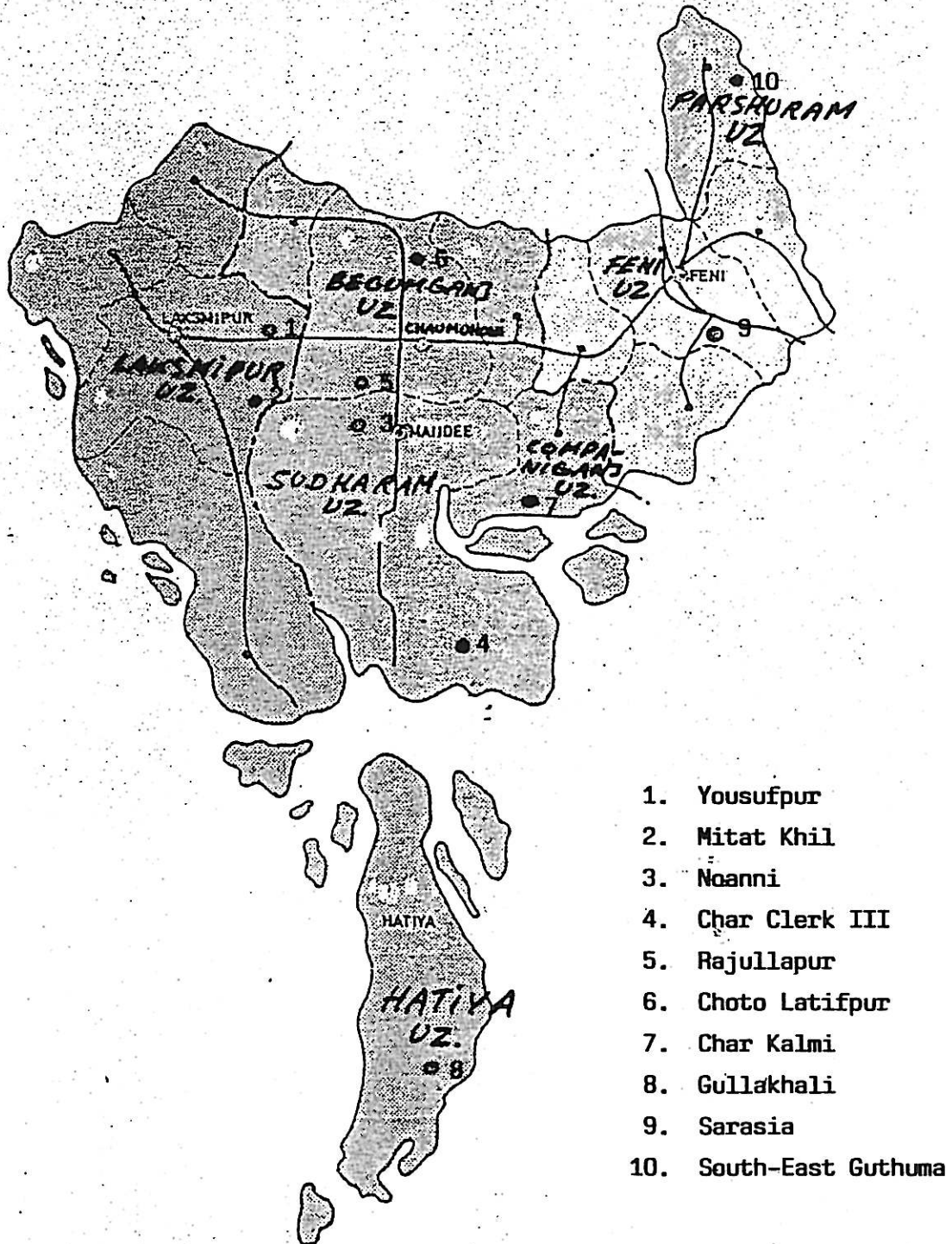
It is a main criteria, that the village is seen as a social and cultural entirety, and random, artificial fractions of it should not be carved out for monitoring purposes. If it is not possible to cover the whole village, then the part included shall be clearly demarcated physically and socially. The villages cover the population according to population of the upazilas, and in total there shall be a reasonable distribution between char-areas, areas lying close to towns and roads, and remote areas. All 15 upazilas will be covered so as to be able to note, if different upazila-policies are reflected in the villages. This however implies, that a total of 20 villages are included<sup>36</sup>. To overcome the practical problems, and to gain experiences, the system is established in two stages, each containing 5 'NRDP-villages' and 5 'non-NRDP-villages'. A number of more criterias have been used, e.g. to include villages of the Project Baseline Survey, of the special Rural Poor Programme, special 'cluster villages' and villages previously studied. The total size of the population in the included villages is estimated to be 20.000 persons, i.e. about 4.000 households, equaling about 0.5% of the total population of Greater Noakhali.

As mentioned, the M & E Unit had collected information on all unions and villages of the area through visits to the 173 union offices, thus providing a list of all villages with of the populations (as registered by the local administration), and located on sketchy maps. Next step was to sort out those villages, which are 'NRDP' and those, which are 'non-NRDP'. Though on the face of it a rather simple exercise, it took collection of data on all activities of the project directly from the componential officers at upazila-level, since village-wise distribution information was not available at the central level. Tested in Sudharam upazila<sup>37</sup>, the needed information on the first 7 upazilas was only available by March, 1989<sup>38</sup>. It gave a.o. the rather surprising result, that the NRDP-activities actually covered about 90% of all villages of Greater Noakhali, if just one activity, e.g. a number of Contact Farmers of the Agricultural Extension-component, is present in a village. It thus indicated, that to find villages totally without project-activities would be difficult.

Based upon the criterias mentioned and the information on the activities of the villages contained in the data-base, a list of preliminary choice was made. Through visits to the villages, a final choice was made, including the process of clearly demarcating the physical/and or socio-cultural boundaries. Since the size of the actual local area included should not be larger than the male and female village-reporter can handle, and we wanted to include areas of larger villages, as

# NOAKHALI PROJECT AREA.

Location of Villages of VIMS (stage 1/1989)





discussed above, demarcations following such boundaries were made in 4 out of the first 10 villages. The location of the selected villages are shown on the map below. It can already here be seen, that most of the NRDP-villages are located closer to upazila-headquarters and roads, while the non-NRDP-villages are more remotely located. This is not due to the bias of the M & E Unit, but is simply reflecting, where the NRDP-activities have taken place so far.

#### 4.3. Selection of the Village Reporters

A decisive criteria for the selection of the villages were if qualified candidates for the task as village reporters were available, both for the males, but in particular for the female reporters. The task should not be regarded as a full-time job, but will (apart from the census of the first month) give scope for 6-8 days of work per month (honored by taka 300, i.e. USD 10). The reporters are preferable permanent residents of the village (i.e. not in 'mobile' age or position), motivated for the task, and not having any other project-remunerated task. No age-limits are fixed, but more mature people preferred, in particular for the women, who should be able to move about in the local area all around the year. This in itself quite an extraordinary demand, since in the muslim-dominated culture of Noakhali women are normally not supposed to go outside their bari. Main emphasis is also put on reliability, and a high sense of quality.

The educational qualifications are difficult to meet. Formally, the male reporters should have at least S.S.C. (12 years of education), while the female reporters are required to have at least Class VIII-level. During the field-visits - every village was visited three times to call for applications, held interviews and make tests - the actual qualifications in writing and reading were tried, and quite large differences between the formal and the actual qualifications were found. It was not easy to find suitable candidates, in particular female ones, in the 10 villages selected for stage 1, and one preliminary selected area had to be shifted since no qualified candidates were available. It is remarkable, how few available candidates one finds in most villages, i.e. there might only be about five females in the village (say 2-5%), who has more than Class III educational level. And among those a choice of the one, who qualifies otherwise, and is interested, has to be made.

It is thus in itself regarded as an achievement, that it has been possible to find male and female village reporters in all the villages. The background varies from housewives to farmers, village doctor and a few students. Many of the women have previously been trained and worked for the project, e.g. as voluntary teacher. As average, they are about 25 years with variations from 15 to 34. Whether these 20 persons are able to supply the wanted reliable information could be doubted by some social scientists. But as the objectives are to run a simple, fast system, which supplies locally available information and knowledge, in a way a participatory monitoring system, this approach has to be judged on what it delivers. And so far, the villages reporters have met the expectations. In addition, their performances are supervised by the professional staff of the M & E Unit with a frequency of several times a month, and they are participating in training-courses every quarter, apart from the introductory training-course, imparted before they embarked upon the first task, the village census.

#### 4.4. Selection of the Topics of the Village Reports.

The considerations on which topics or fields of study to include in the impact monitoring system have been inspired by the present debate on how to monitor poverty, which is on-going in Bangladesh. In fact, in designing the topics, it has been tried to follow as far as possible the topics and concepts used on other systems so as to make regional or national comparisons possible. However, since other studies rarely try to make a dynamic approach, our basic emphasis on the growth of the population, not only within the defined, fixed number of families, but also catching up with the newcomers, and keeping track of those disappearing out of the village, makes the focus different. This is done through a basic, simple census of all the selected villages, and by the monthly up-dating.

The female reporters will check one fourth of her families of the village each month, whether any births or deaths have occurred since her last visit. Including the basic census it means, that all families will be visited four times a year, which should make it possible to register all births and deaths, in particular of the infant mortality, not least the girls. The male reporters will check all households every month if any changes in their composition has taken place, i.e. if new households have been established (coming from outside or from existing household within the village), if existing ones have disappeared (dying out or migrated), or if household have been amalgated. This is done by collecting detailed information if physical changes are observed or heard about, not by repeating the basic, total census.

The basic census (implemented in April, 1989, in the first 10 villages) has given information on gender, age, name, membership of household, occupation and income, if any, of all individual villagers. Thus, a register of all persons is established, and this is up-dated every month, contrary to most other systems. Further, the basic census gives data on household income and land-ownership with the purpose mainly of enabling reasonable samples for smaller surveys, e.g. of landuse, wages, earnings, etc. The general topic of employment is illustrated through the annual total up-dating of all villagers plus quarterly surveys of the wages and earnings. Finally, data collected three times a year on the harvest and landuse also indicates the agricultural employment.

Information on production covers the agricultural crops, following the three major seasons, estimated at the household-level, as well as at the market-level, the livestock-production, followed closely by the female reporters, the fishery production (included in the quarterly earnings-scheme), and from the nearest market, the male reporter will collect data on the market-prices of the agricultural inputs and products bi-monthly.

To monitor the social development of the villagers, in particular of the poorest, the children and the females, is a top-priority of the project. It will consist of a number of sub-studies: small household-samples will give information on the social network or infrastructure of the individuals or families (informal as kinship or formal as parties, societies, etc.). Further, the local security situation has been pointed out as a major indicator of the living conditions of the rural poor. Half-yearly, data is collected on events of theft, assault, etc., from the individuals by the female reporter. The credit-situation or indebtedness of the

family and available assets will be described half-yearly for a number of households. Finally, the educational possibilities will be part of the total social situation, and data is collected yearly from the household and the nearest institutional level.

A long-term impact of the NRDP should be improvement in the health and nutritional status of the population, in particular of the children and the mothers. Though the NRDP Health-component is only working in one upazila so far, data will be collected from all the villages included on a half-yearly basis. They include expenditures on medical treatment, utilisation of health-facilities, standards of sanitation, incidences of illness, immunisations, and on sample basis, data from individuals on height, weight, upper-arm circumference, consumption of food during the last days, etc. Registration of the retailprices on food-items (done bi-monthly), will also contribute.

Finally, information on the general infrastructure of the village as well as the nearest local market is procured, like yearly the available shops and institutions, their location, transport-time and costs to reach them, or half-yearly, the facilities of communication and transport. From the household-level, the standard of housing, including the fuel-situation, is described half-yearly.

Grouped in the six major fields, the topic thus are the following:

- population: growth-rate, births, deaths, fertility, mortality, migration, mobility, age, gender
- employment: occupations, seasonality, wages, labour-market
- production: agricultural, fishery, livestock, prices, small-scale industry, landuse
- social development: network, organisations, security, income, credit, indebtedness, assets, education
- health and nutrition: medical expenses, facilities, incidences sanitation, immunisation, nutritional status, food consumption, retail-prices of food
- infra-structure: communication, transport, housing shops, institutions, fuel

Apart from the scheduled topics, possibilities are open to take up small surveys on requests, or to re-adjust the data-collection if need be, e.g. because of unavoidable circumstances, natural calamities, etc. It should again be underlined, that the topics covered will indicate the general situation of the villagers, and not only the impact of the component of NRDP. To distinguish between the impacts of the project and other impacts, the analysis will separate the data collected from the NRDP- and non-NRDP-villagers. Whether this will provide a sufficient basis for determining causes of the impact or such linkages will be eclipsed by other circumstances, is not possible to maintain now. However, the impact monitoring system has been designed making it feasible to follow the development of the living conditions of the beneficiaries of the project as well as the rural population in general in Greater Noakhali in the coming years. Hopefully, the questions raised previously on the 'handy choice of reality', how to monitor a dynamic population, on the unique or on-going studies and how to include the qualitative aspects, have at least been given an attempt of answer. The question of how to include the long-term perspective, though, is not settled, but probably

will depend on the results delivered in the near future. We will in short present some of the first ones now.

#### 4.5. Preliminary Results of the VIMS

The basic census was implemented in the first 10 villages by the 20 village reporters in April. The data, i.e. the questionnaires of the 1.791 households in total (with 66% from NRDP-villages and 34% from non-NRDP-villages) gave information on the 11.124 people (of which 52.7% are male and 47.3% female) on distribution of age and gender, the structure of employment, income and landownership at household-level, and thus possibilities of making crosstables of these variables. Break-down of distribution of the population by age and sex in five-year groups (and one-year-groups for the youngest) is now possible for the first time, as shown in Table 1. The table indicates, that the growth of the population might be reduced, since the size of group below the age of 5 years is only slightly larger than the size of the group of survivors between 5 and 10 years. And this are actual figures, not estimates. Another interesting result is the gender ratio of total 1.1. (showing 112 males for every 100 females), while up to now, i.e. the census of 1981, Noakhali was the only (former) district of Bangladesh, which had a gender ratio below 1 as total, caused by the extensive migration to other towns or abroad. From the 10 villages in the VIMS it is seen, that only in the age-group between 20-25 years are there more females than males suggesting, that the migration still takes place, but to a lesser degree, or at least inside Noakhali. Follow-up upon this clue might show, if the migration has decreased<sup>39</sup>.

The report of the basic census is presently under publication from the M & E Unit. In May were collected data on the up-dating of the household, the market prices of agricultural inputs and products, and earnings of 5 selected household in each village by the male reporters, while the female reporters collected data on births and deaths occurred, and the retail-prices of food-items and other essentials. In June a special training course was imparted to the female reporters to enable them to collect data on the health- and nutritional status of selected households, which they then did, equipped with measuring tapes and weights. The male reporters gave information on the institutional structure of the village and the nearest market. In this way, the topics will gradually be covered all around the year, and though the physical and cultural circumstances and constraints, in particular during the rainy season, are considerable, there is no doubt, that the data-collection, extensively supervised by the monitoring and evaluation staff, will be implemented as planned. However, the following processing, analysis and reporting might be the bottlenecks, the solution of which the success of the system will depend. Maybe, the application of 'modern information science techniques' can be of assistance?



**TABEL 1: AGE DISTRIBUTION OVER ALL THE VILLAGES IN THE VIMS DATABASE, APRIL 1989**

AGE CATEGORY	MALE		FEMALE		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
AGE < 1	223	22%	234	23%	457	23%
1 <= AGE < 2	187	19%	208	20%	395	20%
2 <= AGE < 3	202	20%	175	17%	377	19%
3 <= AGE < 4	198	20%	230	23%	428	21%
4 <= AGE < 5	196	19%	170	17%	366	18%
	1006	100%	1017	100%	2023	100%
5 <= AGE < 6	209	19%	217	22%	426	20%
6 <= AGE < 7	182	16%	176	18%	358	17%
7 <= AGE < 8	251	23%	209	21%	460	22%
8 <= AGE < 9	123	11%	114	11%	237	11%
9 <= AGE < 10	238	22%	196	24%	434	21%
10 <= AGE < 11	101	9%	84	10%	185	9%
	1104	100%	996	100%	2100	100%
AGE < 5	1006	17%	1017	19%	2023	18%
5 <= AGE < 10	1003	17%	912	17%	1915	17%
10 <= AGE < 15	680	12%	580	11%	1260	11%
15 <= AGE < 20	634	11%	621	12%	1255	11%
20 <= AGE < 25	479	8%	527	10%	1006	9%
25 <= AGE < 30	435	7%	392	7%	827	7%
30 <= AGE < 35	345	6%	278	5%	623	6%
35 <= AGE < 40	354	6%	247	5%	601	5%
40 <= AGE < 45	209	4%	176	3%	385	3%
45 <= AGE < 50	168	3%	159	3%	327	3%
50 <= AGE < 55	134	2%	88	2%	222	2%
55 <= AGE < 60	142	2%	123	2%	265	2%
60 <= AGE < 65	83	1%	46	1%	129	1%
65 <= AGE < 70	93	2%	53	1%	146	1%
70 <= AGE < 75	42	1%	23	0%	65	1%
75 <= AGE < 80	35	1%	8	0%	43	0%
80 <= AGE	23	0%	9	0%	32	0%
	5865	100%	5259	100%	11124	100%

## 5. THE APPLICABILITY OF MODERN INFORMATION SCIENCE TECHNIQUES

The questionnaires or reports, which the village reporters have completed (in Bangla), have been transferred by the staff of the M & E Unit to the two micro-computer (IBM-compatible 'Multitech' and 'Sherry'), using the dBaseIII+ programme. Arnold van den Heurik, student of Business Administration of Twente University, designed the programme and wrote the manual for it<sup>40</sup>. All staff of the unit, i.e. 10 officers and two secretaries (4 of which are females), participated in the transfer of data from reports to the data-base, including the process of translating the information from Bangla to English, transcribing names, etc. The processing of the about 1.800 questionnaires (each of 4 pages) took 5 weeks (in total 600 manhours), frequently interrupted by power-cuts, political strikes, heavy rains, etc. The device of Uninterrupted Power Supply (UPS), a battery-driven back-up, is invaluable!

However, in such a process, it is not possible to avoid mistakes, and some inconsistencies need to be checked again in the field. The staff have been trained for some weeks in the use of the programme, but it is obvious, that the potential of analysis is not easily usable. This can be solved in the long run by further training, or further use of short-term consultants. The unit has utilised the computers for about 2 years now for the purpose of progress monitoring, and the experiences from this are very good: what previously was a tabulation-job of several weeks for more people, can now be done by one man in a few days. And in addition, it saves a lot in the reproduction phase, since it is very easy to make corrections and adjustments. We have also seen, that the 'hardware' -side of the computerisation is functioning well. Though the physical conditions are tough (rains, powercuts, failing or no air-conditioning at all) the machines seem to be able to sustain the disturbances, contrary to what might be feared.

The key issue is the analysis of the data, and a reasonable presentation of the report of the analysis (which we of course expect in English). The present staff will be able to do this, advised in particular in the initial phase of the system. This, of course, might be supported by the application of the 'modern information science techniques', but it is a question of a learning process for the staff. Whether the modern techniques may speed the process of drafting the reports up, is an open one, but they might make the analysis faster, and even present the findings in a better way, e.g. graphically.

But it should not be forgotten, that even the application of the most refined information science techniques will not be able to improve any data collected from the villages, only to process it....

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## NOTES AND REFERENCES

1. Henrik Nielsen: Development of the Population in the Greater Noakhali Area, Contribution to a Discussion Paper, NRDP-II, Aalborg, July, 1989.
2. 'Upazila' is the lowest level of government administration, which was upgraded by decentralising the decision-making, increasing the staffing and transferring the spending of funds to the local authorities of the former 'thana's through the administrative reforms of 1983. There are 15 upazila's in Greater Noakhali (4 in Lakshmipur, 6 in Noakhali and 5 in Feni district).
3. Shapan Adnan/M & E Unit, NRDP: Socio-Economic Trends in Greater Noakhali 1975-87, p. 58, M & E Study No. 91, Maijdee, April 1988.
4. Report of the Joint DANIDA/GOB Strategy Mission visiting Bangladesh January, 15 - February 6, 1989, Copenhagen, March, 1989.
5. Annual Report of DANIDA, 1977/78 and 1978, Vol. I, p. 111, Copenhagen, 1979.
6. Statement of Chairman Chr. Kelm-Hansen, Board of the International Development Agency, in preface to the Annual Report of DANIDA, 1985, p. 8, Copenhagen, 1986.
7. See Dennis J. Casley and Krishna Kumar: Project Monitoring and Evaluation in Agriculture, p. 17, IBRD, Washington, 1987.
8. D. Casley and K. Kumar (1987), p. 33.
9. D. Casley and K. Kumar (1987), p. 8.
10. For a more detailed discussion, see Henrik Nielsen: Final Report, July 31, 1986 - July, 30, 1989, M & E Unit, Study No. 140, Maijdee, June, 1989.
11. See Henrik Nielsen and Luis Herrera: Memo on Upazila Planning and Monitoring, M & E Unit Study No. 95A, Maijdee, June, 1988.
12. D. Casley and K. Kumar (1987), p. 14.
13. Evaluation Report prepared by a Joint DANIDA/GOB Mission, visiting Bangladesh from April, 5 to 29, 1988. Copenhagen, May 1988, p. vii: 'Project monitoring has been of limited importance for impact assessment as work has concentrated on project implementation. Up to now, it has been concerned mainly with financial project performance and recorded some of the physical aspects. Virtually no impact monitoring has taken place'.
14. For the complete list, see Henrik Nielsen (June, 1989), Henrik Nielsen: Annual Report, 1.7.87 - 30.6.88, M & E Unit Study No. 100, Maijdee, July, 1988, Henrik Nielsen and Floris Blankenberg: Annual Report, 1.7.86 - 30.6.87, M & E Unit Study No. 64, Maijdee, Aug.,

- 1987, and Floris Blankenberg: Annual Report, 15.7.85 - 14.7.86, M & E Unit Study No. 35 A, Maijdee, July, 1986.
15. Testing of Effect Indicators of Cooperative Education and Training, M & E Unit Study No. 126, Maijdee, June, 1989.
  16. See also: Monitoring Development of BRDB-Cooperatives, M & E Unit Study No. 122, Maijdee, February, 1989 (draft).
  17. Ann-Lisbet Arn/M & E Unit: Four Noakhali Villages - 9 Years Later, M & E Unit Study No. 87, Maijdee, April, 1988, and M & E Unit: Employment Effects of NRD-II, Study No. 88, Maijdee, April, 1988.
  18. Evaluation Report (May, 1988), p. 109.
  19. 'Union' is the smallest administrative unit in Bangladesh. It has an elected Union Parishad (Council) of representatives, but only one Union Secretary as employed clerk. There are about 5-20 unions in each upazila (with Begumganj Upazila in Noakhali district as the largest in the country with 27 unions), and a population of 10-20.000 inhabitants, i.e. 2-5.000 households.
  20. Survey of Union Planning, M & E Unit Study No. 74, December, 1987.
  21. E.g. Ann-Lisbet Arn: Noakhali Villages, CDR Research Report No. 6, Copenhagen, 1986. The number of households of the villages Ramapur, Yussufpur, Madhupur and Hasanpur were 132, 183, 364 and 317 respectively. See also design of BIDS: Monitoring Rural Poverty in Bangladesh, A Research Proposal, Dhaka, March, 1989, p. 24: 'In the third stage, four villages are chosen at random from each upazila with household strength not exceeding 250 or falling below 150'.
  22. 'Bari' is 'home' in Bangla, where the joint family lives in a cluster of nuclear families, each having a 'chula', i.e. a cookingplace. In the bari, several houses are usually grouped together, often with a common pond or other facilities.
  23. Such is the case of Pur Char Jabbar, the village chosen by the Long-Term Village Impact Study of BARD, Comilla, in Sudharam Upazila, Noakhali.
  24. As mentioned by D. Casley and K. Kumar in: The Collection, Analysis and Use of Monitoring and Evaluation Data, IBRD, Washington, 1988, p. 80.
  25. See e.g. BIDS (March, 1989), and the SIDA-funded Rural Employment Sector Programme (RESP): Impact Monitoring and Evaluation System (IMES), A Methodology Paper, Central Planning and Monitoring Unit, Dhaka, 1988.
  26. Note, that the President of Bangladesh was awarded a prize of the United Nations in 1987 because his administration was credited a reduction in the growth-rate of the population of Bangladesh from 3.2% in 1981 to presently 2.4%, though the latest population census



took place in 1981, and the figure 2.4-2.5% probably refers to the estimates which the Planning Commission made before 1985 during the elaboration of the 3rd Five-Year Plan.

27. E.g., no details of the monitoring follow-up are given in RESP (1988).
28. Peter Oakley: Conceptual Problems of the Monitoring and Evaluation of Qualitative Objectives of Rural Development, Community Development Journal, Vol. 23, No. 1, 1988, p. 3-10.
29. But significantly enough, omitted in the Project Proforma of GOB.
30. See P. Oakley (1988), p. 7.
31. D. Casley and D. Kumar (1988), p. 81.
32. Harry Blair: Decentralisation and the Possibilities for USAID Assistance to Bangladesh, Trip Report on visit to the USAID Mission, Dhaka, July-August, 1987, Dhaka, November, 1987, p. 11.
33. Robert Torene: Will the Real Bangladesh Please Stand Up! Improving the Objectivity of Statistical Programmes, Paper, July, 1988, U.S. Bureau of the Census.
34. D. Casley and K. Kumar (1987), p. 113.
35. For a full description of the design, see Henrik Nielsen/M & E Unit: Villagewise Impact Monitoring System (VIMS), Vol. 1: The Design of the System, Study No. 132, Maijdee, May, 1989.
36. For details, see Henrik Nielsen/M & E Unit (May, 1989), p. 11-12.
37. M & E Unit: Village-wise Location of NRDP-Activities, Sudharam Upazila, 1988/89, Study No. 124, March, 1989.
38. M & E Unit: Village-wise Location of NRDP-Activities, 7 Upazilas, 1988/89, Study No. 134, July, 1989.
39. See Shapan Adnan/M & E Unit (April, 1988), p. 8, for figures of 1981-census of all Noakhali.
40. Arnold van den Heurik/M & E Unit: Manual to the computerised information system of the VIMS, Maijdee, June, 1989.