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Planning Commission
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OCCASIONAL NOTES

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Occasional Notes

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DATA GAPS FOR THE FOURTH FIVE YEAR PLAN

AND

FUTURE FIVE YEAR PLANS

April 10, 1988

Written for
the Subcommittee of
the Planning Commission:
Data Assessment Group
Chaired by Mamdel Hossain
Acting Joint Chief
Macro Planning Wing

Occasional Notes

Vol. I

DATA GAPS FOR THE FOURTH AND FUTURE FY PLANS

In its 2nd meeting on Saturday, April 9, 1988, the Data Assessment Group adopted the following two guiding principles for conveying the Planning Commission's data needs to the BBS:

Principle No. 1

The most critically needed set of data for the Fourth Fivey Year Plan is that on the impact of policies. These data do not exist. They have to be generated by a survey.

Principle No. 2

Given the impression among national and expatriate data-users about the weaknesses of some of the data produced by BBS in the past, special emphasis must, in future surveys and censuses, be put on the quality of data. In some circles the quality of data begins and ends in the conformance of a survey to the theory of statistical inference. There is much more to it. The properties of a good sample survey are discussed in Appendix B. The conclusion of this discussion is that the quality of a data series is unlikely to be assured without close interaction between data-generators and data-users. In general, data-users are not easily available for interaction with data-producers. Fortunately, we now have the will and available capacity at the Planning Commission to closely collaborate with the BBS experts. The demand and incentive to do so must, however, emanate from both sides.

DATA NEEDED FOR THE FOURTH FIVE YEAR PLAN

Top Priority

1. Impact of policies

   For elaboration, see Appendix A.

DATA NEEDS BEYOND FOURTH FIVE YEAR PLAN

Top Priority

1. Quality of data. For the definition of the quality of data, see Appendix B.

   More important data sets:

   a) Structure of production and employment. For elaboration, see Appendix C.

   b) Structure of household income and expenditure. For elaboration, see Appendix D.

   c) National Accounts. Reconcile the BPS and the PC estimates. Form a joint committee to do that.

Lower Priority

2. Needed an organization of data-collection system to generate quick-view data during natural disasters and similar occasions. For suggested framework, see Appendix E. See also Appendix G.

3. Needed public-use micro-data tapes For elaboration, see Appendix F.

APPENDIX A

WHY THE DATA ON THE IMPACT OF POLICIES
IS SO CRITICAL FOR THE FOURTH FYP?

Rapid industrialization with greater participation of the private sector has been set as one of the four priority development sectors for implementation of the ADP out of the eight objectives of the Bangladesh Government (President Hussain Muhammad Ershad's speech to the Planning Commission on April 7, 1988). Yet little is known about the impact of the packages of policies to promote private investment and exports that were issued in 1982 (NIPBs) and 1986 (BAIMs). The responsiveness of private investors to various incentives and facilities that have been in existence for the past six years must be known for a realistic Fourth FYP.

A draft questionnaire for the purpose has been prepared and is attached herewith. It is recommended that the survey be carried out in developed, less-developed, and least-developed areas, and should cover the following industries, among others:

Ready-made garments; knitwear; footwear and other leather products; [illegible] tableware; processed foods, fruits, vegetables, spices & vegetable oil; electronic assembly; frozen fish; carpentry, furniture, wood, and bamboo products; blacksmithing and light mechanical engineering; and trade and commerce (trade, hotels, and restaurants).

Suggested areas appear on the next page, but need to be discussed with the BBS experts.

Developed Area

Dhaka Zila: The plice stations of Tejgaon, Lalbagh, Dhanmondi, Cantonment, Motijheel, Ramna, Gulshan, Mirpur, and Savar.

Less-Developed Area

Dhaka Zila: The Upazilas of Dohar and Nawabganj

Commilla Zila: Kotwali Upazila

Noakhali Zila: Sudharam Upazila

Cox's Bazar Zila: Cox's Bazar Upazila

Sylhet Zila: Kotwali Upazila

Bogra Zila: Bogra Sadar Upazila

Least-Developed Areas

Jhalkati

Gopalgonj

Bagerhat

Magura

Chapainawabgonj

APPENDIX B

DEFINING THE QUALITY OF A SURVEY

The textual features of a good survey and its major instrument, the questionnaire, are fairly well-known: survey design should be such that it represents the population from which it is drawn; the questionnaire should not be too long, lest it should sag the interest of the respondent; at the same time, since the marginal cost of an additional question is zero, important details should not be omitted; it should avoid those questions which are unlikely to generate correct information; its format should be compact for manual handling; and so forth. There are certain related aspects of a good survey, however, which are not commonly understood. The main factors that determine the quality of a survey are briefly discussed below:

1. The comprehensiveness of the measures of variables.--Partially measured variables may be misleading than enlightening. Example: The income of a family in the nonagricultural sector, when generated by a survey, must include:

   a) Wages and salaries: monetary
      in-kind (e.g., value must be assigned to uniform, subsidized parts of meals, travel facilities, and so forth)
      irregular payments, such as festival pay
      fringe benefits

   b) self-consumption

   c) dividends and profits

d) income from interest on savings

e) rent

f) transfers: from family, friends, government, other

g) contributions to social security and pension funds, both by the employee (even though paid by the employer) and by the employer

h) owner-occupied home (to which rental value may be imputed at the time of data processing

A household survey cannot generate data on prices and certain types of income. If possible and desirable, such data may be obtained from extraneous sources and injected into the survey data tape at the time of data processing, for example undistributed profits.

2. Useful details of variables.--Versatility of a survey is a very desirable characteristic. In today's world, for instance, it is extremely useful for more than one purpose to collect data for labor by occupation and education. Mere number of employees is a very elementary statistic.

3. Comprehensiveness of sectoral coverage (as distinguished from geographic coverage)--The sectoral and industry coverage depends on the objectives and the scope of the survey. For a survey which aims at analyzing national poverty, income distribution, growth, employment, for instance, data for all sectors are necessary, including construction, transport, financial sector, the household economic-activity sector, and so forth.

4. The variables being generated should be conceptually correct.--Empirical correlates of theoretical variables must be chosen carefully. For instance, the flow of services of a fixed asset has to be measured from its present stock by making allowance for its under-capacity utilization, where the stock is defined as (1) the cumulated value of investments over the years in constant prices, (2) net of true depreciation and damages, and (3) where possible weighted by the quality of different vintages. The

accountants' records kept in the company balance sheets are conventionally a hodge podge of different years' artificially depreciated assets cumulated in different years' prices.

5. Measurement errors.--The investigators must be trained upto certain minimal levels and must be closely supervised, so they elicit correct information insofar as possible; have rough ideas of the magnitudes of various variables involved; can and do make cross checks during the interview to verify the plausibility of data to minimize errors of measurement; and, where required by the nature of a question, can do some probing to generate realistic data. Errors at the response level can scarcely be corrected at the editing stage. In this regard, it is extremely important to note that while for macro variables (at which level the averaging process may reduce errors) are useful, the heart of modern analysis lies in micro variables, the data at the household and enterprise level.

6. Statistical significance.--Finally, the main concern of statisticians: the conformity of a sample to the theory of statistical inference. Sampling errors must be kept within tolerance limits.

7. Randomness and normal distribution.--Most commonly employed econometric methods are based on (the assumption of) normal distribution of data. Very briefly, normal distribution is generally assured when every unit of the specified population has equal chance of being picked up by the designed survey. A random survey satisfies that condition. Under certain conditions, a stratified random survey is also consistent with it.

In view of these factors, the extreme desirability and usefulness of a close collaboration between data-generating statisticians and data-using analysts in carrying out surveys can hardly be overemphasized.

RESEARCH PROCESS

I. Survey

- The Questionnaire
- Survey design
- Training of investigators
- Enumeration
- Editing
- Codification
- Classification of variables
- Tabulations

II. Analysis

- Modeling--theory, hypothesis, include relevant policy variables and exogenous variables
- Nonstochastic analysis: Crosstabulations, tables, arithmetic
- Stochastic analysis, estimation
- Interpretation, inference
- Analysis: 1) Find results
  2) Relate to theories
  3) Compare to others' studies
  4) Compare to known results for other countries
  5) Explain differences, if any; Clarification of hazy areas; new discoveries; interesting results
- Writing reports: Write tightly in language and thought
  Use a standard format
  Conclusions from results

III. Policy implications

- Policy coefficients] Essential part of policy-oriented research
- Simulation of policy effects]
- Optimization of policies (rarely done)
- Policy recommendations (usually avoided)

APPENDIX C

DATA ON THE STRUCTURE OF PRODUCTION AND EMPLOYMENT

These data are generated by the so-called economic surveys. Since economic surveys generate multi-purpose data, an interaction between data-producers and data-analysts is extremely useful. In this connection we have carefully studied the 15 questionnaires prepared by the Data-Users Group (Drs. Bakht, Mahmood, Sahota, and Sahadat Ullah) for the forthcoming economic survey by BBS, and strongly recommend that they be made the basis of the survey. We would, however, also like to look at them a bit more carefully and might recommend marginal additions/changes.

Copies of the sets of the indicated 15 questionnaires can be supplied on request.

APPENDIX D

DATA ON HOUSEHOLD INCOMES AND EXPENDITURES

The data collected in the economic surveys on the structure of production and employment and those on theppatterns of expenditure and income collected in the household expenditure survey in Bangladesh form the two basic pillars of all or any general-equilibrium model of planning and growth. The Bangladesh Household Expenditure Survey generates data not only on household expenditures, but also on the structure of agricultural costs and production and nonagricultural incomes by sources. Nowhere else are these data available. Two recommendations are made for this survey, which is understood to be undertaken in fall this year. One, the few additional questions suggested by the Data-Users' Groups to the third part (nonagricultural incomes by sources and household economic activities) will make this part of the survey comprehensive and highly productive of analysis. We are in agreement with the Data-Users' Group. Two, the data of the latter two parts (agricultural and nonagricultural incomes) should be tabulated and published in, more or less, the same detail as the expenditure part. This group will provide the necessary tabulation formats in due course. The argument for public-purpose micro data tapes applies a fortiori here.

APPENDIX E

VERTICAL INTEGRATION OF THE PLANNING AND DATA-GENERATION PROCESSES

The need for a vertical integration of the data-generation process became apparent during the 1987 floods, when donor agencies as well as the Planning Commission wanted a quick estimate of the damage. To acquire a quick view of the state of the economy during natural disasters, a decentralized organization to generate data is in order, ideally to juxtapose decentralized planning units, currently under active consideration of the Planning Commission (A committee under the convenorship of Mamdel Hussain is currently working on the integration of micro and macro planning in Bangladesh.) One form of such a plan was developed by Maqsood Ali et al., Decentralization and People's Participation in Bangladesh (NIPA in collaboration with UNDP, Dhaka, 1983, Ch. 17). It proposed the establishment of data-recording units at the gram level, pyramiding upwards to the center. At the village level, the patwari would record quarterly data on production, the village chowkidar on population and vital statistics, the village school teacher on education, employment, etc., and village credit co-op or similar society on credit, savings, investment, and so forth. Supervision and guidance will be provided by zila and upazila development officers. Each gram unit, in collaboration with higher-level experts will have a fair knowledge of possible damage due to natural disasters, which can be conveyed to the apex quickly. It can be expeditiously fed into the computer at BBS.

APPENDIX F

NEED AND HIGH VALUE OF PUBLIC-USE

MICRO DATA TAPES

No matter how good the data are, the Planning process cannot benefit from them unless they are properly analyzed. The classified tabulations of data put out by BBS are very useful for some purposes. For other purposes, micro data have to be used. For instance, the behavioral analysis of private investors, savers, consumers, producers, exporters, and other agents cannot be usefully done without analyzing the decision-making micro units. Such an analysis cannot be carried out without accessing the raw data master tapes. Unfortunately, these tapes contain confidential information about enterprises and individuals. A way must be found to make master data tapes available to outside researchers. One way to do that is to prepare special files of micro data by expunging the idnetification codes and by aggregating very large units above a certain cut-off level, so they cannot be identified. This procedure is now-a-days extensively used in western countries. A beginning must be made as soon as possible. For while BBS produces the data according to standard survey techniques, when the Planning Commission needs special studies, it has to go to individual researchers and institutes, which often have to produce small data sets rapidly, whose results influence the plans and policies, whereas the BBS grand data sets on master tapes lie unused in its confidential cabinets. Furthermore, since the Planning Commission cannot do all the analysis it needs, the private-use micro-data files must be made available to any user who is willing to pay a reasonably fixed price.

APPENDIX G

CERTAIN FEATURES OF THE DATA-GENERATING PROCESS IN BANGLADESH THAT THE PLANNING COMMISSION AS RESOURCE-ALLOCATING AND RESOURCE MONITORING AGENCY SHOULD TAKE NOTE OF AND POSSIBLY INTERVENE

The absence of lateral co-ordination in data gathering between different data-generating agencies, indeed between even the departments of the same bureau, is a reflection of the corresponding lack of horizontal integration of projects at the national planning level. Planning Commission's own five-year plans not only ignore horizonatal integration of its projects--which are largely assembled by sectoral ministries and line departments--they also lack vertical integration of both the plan-preparation process and its execution from grassroot grams, districts, divisions, through the center (see Maqsoos Ali et al., Decentralization and People's Participation in Bngladesh (NIPA in collaboration with UNDP, Dhaka, 1983, Ch. 17).

The noted lacuna in the planning process has been recognized and preliminary exploration is afoot towards remedying the situation. Thus, a subcommittee under the chairmanship of Deputy Chief Mamdel Hussain, appointed by the Steering Committee of the Planning Commission, has just completed its report on the integration of micro and macro planning, which will shortly be put before the Steering Committee.

While vertical integration involves a major structural re-organization, horizontal co-ordination is a matter of logistics, at least insofar as the data-generating agencies are concerned. By virtue of its being entrusted with the responsibility for planning and allocating

national resources as well as their monitoring and ex-post evaluation, the Planning Commission is also mandated to bring to surface inefficiencies of resource allocation in various public agencies. In this appendix, two typical instances of inattention to the efficient use of national resources due to a lack of proper planning and co-ordination among public data-generating agencies are brought out, which need urgent remedial action, because the data sets they are to generate are of high value to the Fourth Five Year Plan and other data-users.

(1) - BSCIC has just started what it calls an economic census of small and cottage industries. An economic census of the same universe has been done by BBS's Economic Census Project, whose 5-percent sample has already been tabulated and the 100-percent is currently being processed. A follow-on survey based on this census frame is shceduled to begin shortly. BSCIC's economic census of small and cottage industries and BBC's economic survey of small establishments and dwelling-based economic activities are both meant to generate the same data. The questionnaire of the former--in two parts, one for small industries and the other for cottage industries--and the Data-Users' Group's draft of the questionnaires for the BBS Economic Survey--also in two parts, one for the structure of industries (consisting of 15 questionnaires) and the other for the "impact of policies" (consisting of 2 questionnaires, one for apex agencies and the other for enterprises)--are attached.

BSCIC is more experienced with small and cottage industires but is considered to be less equipped with survey techniques. BBS is better supplied with survey specialists, but has less experience with surveying small and cottage industries. BSCIC's questionnaire consists of questions on both the structure of industries and problems faced by them (and the impact of policies). On the other hand, Data-Users' draft of the questionnaire on the impact of policies and problems faced by enterprises

was rejected outright as being beyond their terms of reference by the Economic Census Directorate (at a meeting in its Mali Bagh Office on February 2, 1988). The Data-Users' draft of the questionnaires on the structure of industries was also rejected by the said Directorate (at a meeting in its Mali Bagh Office on February 8, 1988). While they want to have nothing to do with the "impact" survey, they plan to prepare their own questionnaire, a shorter one, for the "structure" survey. (The establishment of the Ad Hoc Data Users' Group to help the Economic Census Directorate in the preparation of their questionnaires is an innovation of the Secretary, Statistical Division, BBS. It is not known whether similar interaction between data-generators and data-users has also taken place at the BSCIC.)

Since small enterprises have been assigned a top priority in the current five-year plan and since all data about small enterprises and that for the impact of policies and problems of investors for all enterprises are critically needed for the Fourth FYP, a co-ordination between BSCIC and BBS's Economic Census Directorate will evidently be highly fruitful.

(2) Within BBS, the Household Expenditure Survey, scheduled to be done this year with technical aid from UNDP, will cover much of the same field as the economic survey of household activities (the bigger one-year-long part of the two-year-long survey of the structure of industries). The household survey covers three distinct areas: (1) expenditure patterns, (2) agricultural inputs, outputs, sales, and employment structure, and (3) nonagricultural income by sources, saving, investment, loans, education of each member of household, and so forth. To call it an expenditure survey, in fact, is a misnomer. Income and expenditure survey would be a little more descriptive of its contents.

The three data sets of this survey are extremely useful and are

not available from any other source in Bangladesh. If the Household Income and Expenditure Survey Directorate can include a few more questions in its nonagricultural part (already suggested by the Data-Users' Group), then this survey, combined with EC's establishment survey, will not only generate almost complete data for an augmented I-O table (for it includes inputs and outputs for the agricultural sector also, which no other survey or census has), but also for a SAM.

Moreover, since this survey is understood to be planning to cover 15,000 households (as against 6,000 or so in previous surveys), a reconciliation of the survey designs of this survey and that of the economic census directorate should not be difficult. Thus, there seems to be an ample scope for a co-ordination of the two economic surveys within BBS also.

(3) Finally, even the CMI will pick up about half of the establishments with 10 workers and over, thus lightening the work of the economic census directorate for this remaining part.

OCCASIONAL NOTES

NO. 88.1.2

The National Economic Census

And Follow-on Surveys

16a

Note for internal discussion at the Planning Commission, but written in a general tone as it is of interest to all national experts.

The National Economic Census And Follow-on Surveys

Little is known among data-users and policy-makers in Bangladesh about one of the richest sources of economic data sets, having long-run value, that is currently in the process of being generated by BBS. The reference is to the economic census, done in 1986, which is to be supplemented by a series of economic surveys, the first one of which is scheduled to start in July 1988. This note describes the anticipated nature and potentialities of this landmark data set, and wishes to draw the attention of research centers, think tanks, and policy-making ministries of Bangladesh to the following: Since this is the first comprehensive economic census in Bangladesh, with follow-up economic enterprise surveys, if the data-users (economists) fail to make their contribution to the first follow-up survey (which will set the format and standards for subsequent ones) by not interacting with data-generators (mainly statisticians), the opportunity to increase the quality and versatility of a gold mine of data will be lost.

The new secretary of BBS (starting January 1, 1988) happens to be an economics Ph.D. from a first-string American university. Since he understands the economists' language and approach, the environment is conducive of a grand collaboration between economists and statisticians, for the reference economic survey, to produce quality data for rich policy-oriented analysis. Economists of the Planning Commission need specially take note of it, as will become clear in the following pages.

Nature of the late 1980's Economic

Census/Surveys of Bangladesh

In pursuance of the $11 million Technical Research Grant Agreement between USAID and the Government of Bangladesh, a decade-long program of employment and enterprise analysis was put in place, to be done in three phases: Phase I: generation of data, an economic census and follow-up comprehensive economic surveys, for which the contract was given to BBS; Phase II: analysis of data (of Phase I), for which the contract was given to Harvard Institute for International Development (HIID) and Harvard assigned Dr.Sahota to do the job; and Phase III: aid (to policy reform, etc., implicated by Phase II), which is still in a conjectural stage as it will depend, in part, upon the outcome of Phase II.

The economic census of Phase I has developed merely a census frame of non-agricultural production units, i.e., it carried out essentially a unit count of 15-million-or-so households and 1.5-million-or-so establishments, permanent or floating. Apart from the list of units with addresses, however, it generated, at least, two very useful variables, namely the number of workers for each production unit by industry and a census of handicapped persons by type of disability. The tabulation of a 5-percent sample of this census is ready. Tables 1,2,3,5, and 6, and the first page of Table 4, a 31-page table at the three-digit-industry level, of this data set, are attached herewith for a quick view of the nature of data. The tabulation of the 100-percent sample of the census is currently in progress.

The results of the 100-percent tabulation will be used to design the follow-up economic surveys. The first survey will consist of permanent nonagricultural establishments in stratified geographic areas. Its sample size remains to be determined. Because of its all-embracing nature, and unique place in Bangladesh's history of statistics, it may be given a name. Until BBS christens it, we will call it the 3M Economic Survey, 1988 (or 3MES88 or simply 3MES), where the acronym "3M" stands for multisectoral (all nonagricultural sectors are covered), multiregional (the whole country is spanned, including developed, less-developed, and least-developed areas). Multidomain (all size-classes of industries, including cottage, and possibly also self-employed nonagricultural producers; variables on employment, income distribution, investment, and so forth).

The first economic survey 3MES was scheduled to begin in July 1988, but it was learnt last week that it has been postponed to begin in December 1988, at the earliest. The survey will be carried out (i.e., the questionnaires will be filled) over a period of 12 months. The rationale for spreading it over 12 months is stated to be the advisability of generating information (on employment, inputs, outputs, and other magnitudes) for the "preceding month" instead of "preceding year," as small and cottage enterprises of the survey are not believed to keep records, while memories of costs and incomes may not go very far back. This does not mean that each enterprise will be visited each month. An enterprise will rather be visited only once and the data gathered only for one month. The expectation is that seasonal and other biases, thus introduced, will be cancelled out by the large size of the sample survey, spread over 12 months.

The editing, codification, and tabulation will naturally, carry the survey into year 1990.

The 3MES is going to be an important data base by itself. It will serve as the benchmark for subsequent surveys for assessing progress. Although annual time-series of these surveys will provide richer data, researchers are not likely, nor ought they to, wait for subsequent annual surveys to carry out useful analyses.

Why input by economists is so crucial for the Multisectoral Economic Survey?

Interaction between data-generators and data-users in the process of the generation of data (not the analysis) is very desirable for any survey. It is a lot more desirable for the planned economic surveys, particularly the first survey. One of the main reasons for that is that an economic survey is not a standardized term. A survey can be large or small,

general or goal-focused, comprehensive or patchy. The coverage and the degree of its comprehensiveness depend upon the objective of the survey concerned. For instance, Bangladesh's CMI is practically a 3-in-1 census: (a) the census of manufacturing industries proper with outputs and inputs, (b) annual survey of employment (but not unemployment) and wages, and (c) exports/imports, domestic supplies/demands, various individual taxes paid, and similar variables. The 3MES, likewise, is a multipurpose survey, and is expected to continue being used for a long time to come. It is because of the flexibility of the definition of an economic survey and the multipurpose and unique nature of this one, that a close collaboration between the data-generating agency, analysts, and planners is highly desirable.

A clear guidance and close interaction by economists is needed, because it is an economic survey whose objective is to generate data about the country's production units, from the point of view of growth, exports, employment, and incomes. Naturally, the information on inputs (costs), outputs, employment, and investments is basic. Some information on the shares of exports in total production and shares of imports in total input uses is essential. Only the economist is a specialist on these concepts and the theories underlying these concepts. The current needs of the country warrant that the coverage of the survey should extend to developed, less-developed, and least-developed areas, as one domain; large, small, cottage, and even self-employed producers, as a second domain; and so forth. A careful consideration of these aspects of the survey is therefore necessary. The indicated interaction is desirable throughout the survey process from the preparation of the questionnaire through cross-tabulations. The phase during which the participation is most critical in this survey, however, is the preparation of the questionnaire(s).

Among all the questionnaires available in Bangladesh, the one for the CMI comes closest to an economist's perception of the economic survey under

reference. Accordingly, in prognosticating the uses of this survey in the following paragraphs, we will assume that with minor revisions (consisting of the elimination or aggregation of a few of the questions and refinement/elaboration of a few others), the CMI questionnaire will be adopted for the 3M economic survey.

The multipurpose nature of the economic survey

The new economic survey will have all the uses for the analysis of the entire nonagricultural economy that the CMI has for the analysis of manufacturing industries. By virtue of its coverage of all the industries and sectors (except agriculture) it has many more. Thus, combined with a single other data series, namely the agricultural census done for 1983-84, the new economic survey (for 1988-89) will provide the entire data for a new input-output (I-O) table.

Next to national accounts, the I-O table is perhaps the most fundamental and multipurpose system of accounting of a country. Bangladesh's present I-O table (prepared for 1976-77) is outdated, relatively short, was prepared from patchy data bases, and constitutes merely an intermediate transactions matrix, with no other row than aggregate value added.

Needless to mention that powerful models can be derived from an appropriately prepared I-O table. Even though Bangladesh's present I-O table is very simple, it forms the corner stone of the general-equilibrium model of the Perspective PLanning Wing of the Planning Commission. An I-O table is essential for a social accounting matrix (SAM) that several developing countries are currently engaged in preparing. The perspective Planning Wing's present AGE model, in fact, is an attempt at a SAM. Being based on

the present I-O table, without any rows for primary inputs and their value-added shares, however, the model is at best a rudimentary attempt at SAM, or AGE or CGE for that matter. The model can be significantly improved when the multisectoral, multi-regional economic survey becomes available. Of course, perspective planning can be vastly improved in respect of employment and income distribution by the use of the data of the economic survey, even independently of the general-equilibrium modeling.

In short, the CMI-type of the new multisectoral economic survey for the entire (non-agricultural) economy, in combination with the agricultural census, can be used to prepare a new I-O table which, among other things, will have the following additional features:

Factor input rows, including labor by categories and capital stock (on which measure economists ought to put their heads together before the investigators are sent in the field). Suggested categories of labor are: production workers by skill classes (skilled, semi-skilled, unskilled) and all other workers. The corresponding value-added shares.

The number of sectors may be increased. Non-traditional activities may be introduced as sectors. A desirable feature of this table will be that all sectors, except the agricultural subsectors, will be expressed automatically in the same-year prices (1988-89). The survey will provide new weights and a new benchmark for the industrial production index (IPI) used to prepare national accounts. A set of new micro-level input-out coefficients, for instance for the calculation of effective rates of protection/assistance, will become available, and so forth. We are also thinking of preparing the I-O table by large and small industries for chosen sectors, where theoretically relevant and empirically feasible.

Presently, the CMI is the only source that generates systematic annual employment data by industries. The Planning Commission carries out an evaluation of employment changes, but only for public projects. The planned 3M economic survey will collect data on employment and wages by labor categories for the entire non-agricultural economy, which may be classified down to the 6-digit industry level. As such, it will provide a comprehensive data base on employment for the new Employment Monitoring Project of the Planning Commission.

Provided the survey data are tabulated on schedule, the preparation of the Fourth Five Year PLan can greatly benefit from this source.

In brief, the data of the economic survey are needed:

by the EEPA project (to gauge the viability and employment implications of small industries);

by the Perspective PLanning Unit of the Planning Commission (for an I-O table, its AGE model, and perspective planning in general even without the AGE model);

by the Employment Monitoring Project (because so far it has no other all-embracing benchmark and no I-O table with employment rows); and

by researchers at BIDS, Dhaka University, and eslewhere for a multitude of uses, with or without the I-O table with employment and value added by categories.

Agenda for Immediate Consideration

Two pertinent questions arise;one concerns the time frame of the survey and the other the content of it. Can the data become available for

the Fourth FYP, say by the summer of 1989? (2) What kind of variables will be generated by BBS?

(a) The time frame

Concerning the first objective, the following suggestions are made:

Suggestion 1.--Expedite the acquisition of the OMR, on emergency footing.

Suggestion 2.--There are at least three substantive tasks that have to be done prior to the commencement of the survey: (a) the preparation of the questionnaire, (b) training of investigators, (c) the hiring (it is learnt) of a consultant from Washington for a period of 2 to 4 weeks to design the survey. Let these pre-requisites be completed before July 1988, lest these operations should be taken up after the 100-percent Census tabulation is in hand, thereby delaying the survey still further. Thanks to former Secretary Salam and present Secretary, Dr.Rahim for inviting me to collaborate with the BBS experts in the preparation of the questionnaire. It took quite a while for BBS's technical personnel to reconcile to the idea of accepting an intruder into their domain, but at last the process of preparing the questionnaire has started: after waiting for 3 months, I had my first meeting with the BBS Census staff, led by its expatriate advisor, on January 14. We made progress. The next meeting is scheduled for January 23rd, and I plan to continue meeting them weekly until the questionnaire is finalized. The training of investigators can be similarly pre-planned. The survey designer(s) can be lined up, so they can be in Dhaka, on the day the first batch of the 100-percent census is tabulated and can be used to design the survey for the first-round areas.

It may be noted that I have asserted myself into this process, even though I am not supposed to be spending time on Phase I. I am doing so because interaction by an economist at this stage of Phase I is critical, and no other economist seems to be doing that.

Suggestion 3.--The survey is planned to be carried out over a period of 12 months. The pros and cons of this time span need to be discussed, particularly because it is not a survey in which a producer has to supply data for and in each of the 12 months; he will supply data only once, and only for one month.

Furthermore, since the survey is planned to be done for stratified geographic areas, is it not possible to plan the tabulation of the 100-percent census in such a way that as soon as some upazilas are tabulated, the surveying of those upazilas can begin without waiting for all the upazilas to be tabulated? For example, if, the Chittagong Division is the first one to be tabulated and is finished by the end of this month, the survey for this division can start as soon thereafter as is appropriate, say, on the 1st of March, instead of waiting till the tabulation for the entire country is completed.

Suggestion 4.--One of the most productive measures in developing countries is the "full-capacity utilization" of machines and equipment. One may point one's finger towards the mainframe computers in Bangladesh, most of which are used only during office hours (as against 22 hours/day in the U.S.). That is so, however, not because that is an optimum rate of computer use, but rather for lack of demand for computer time. Here is an OMR for which there is an urgent excess demand. Can't it be used for 3 shifts? Machines of this size require one to two hours' rest after every 6-hour shift. As such, it can run for 18 to 21 hours/day. That utilization is at zero marginal cost insofar as the OMR is concerned. True, there will be overtime wage payment to the OMR attendants. But that should be a minor item. Not only the shadow wage of OMR attendants is likely to be low, but

even their overtime market wage cost will come nowhere near a fraction of the savings in terms of the expatriate consultants' time saved in doing projects and additional value of output if brought out at the right time, instead of coming on line too late (after, in this specific case, for instance, the 4FYP has already been launched).

Suggestion 5.--Editing and transfering data to tapes can be carried out almost simultaneously with the surveying process. The first month's completed questionnaires can be edited and codified during the following month (or two?), the second month's during the 3rd month (or 3rd and 4th?), and so on.

(b) The content of the survey

For the consideration of national experts, I have prepared the questionnaire in two parts: a main questionnaire and a supplemental questionnaire. The two could be done jointly or separately, but are linked and should be germane to be dovetailed if carried out separately. The main part uses the CMI questionnaire as the base; the supplemental questionnaire is of major interest to the GED, Planning Commission, and to this project.

The main questionnaire.--My interaction with the BBS experts for the preparation of the main survey questionnaire has started--the first meeting to discuss its salient features was held on January 14, which went well. I am now supposed to prepare the draft questionnaire, which will be discussed at a meeting on January 23rd. The draft will be put on the Census Department's PC, so that future revisions can be done expeditiously. Hopefully, a satisfactory main questionnaire will result.

The supplemental questionnaire.--Where I foresee possible reluctance on the part of the BBS experts is the supplemental questionnaire, namely the

generation of data on (1) the extent to which producers, in particular small but in general all producers, have actually availed themselves of various incentives and (2) the impact of such responses, in particular the results of the new environment in terms of investment, employment, dispersion of industry, and so forth. Neither series of data exists. Of particular interest is information about small enterprises. Little is known about the extent to which small (as well as large) enterprises have availed themselves of the incentives provided in the 1982 and 1986 policy acts and other measures. The critical variables are the actual rates of taxes and subsidies and actual responses to new environment and incentives, as distinguished from statutory provisions. We know the latter; we do not know about the magnitudes of the former. The data have to be generated.

Both types of data series are, in my judgment, of high value to the Planning Commission. They are needed by this project as well as the PP unit and the Employment Monitoring Project. Whether these data should be collected as a part of or as a supplement to the economic survey by BBS is a matter that needs to be discussed, perhaps between BBS, the Planning Commission, and the donor (USAID). Supposing BBS is not disposed to including questions on the impact of policies in its questionnaire, should the Planning Commission do it through alternative agencies? The matter is already under active consideration at the GED, where Division Chief Mesbah Uddin Ahmed and Deputy Chief Matiur Rahman Dhali have been working on the questionnaire and related logistics of a survey. But since they had a limited purpose in mind and were not conversant with what I have described in this note, they have been thinking of a very sketchy sharp-shooting type of survey. We have had a couple of meetings on the issue and are in the process of developing an appropriate approach to attaining the objective.

Summary

The data of the 3M economic survey are needed by:

1) The EEPA Project

2) The PP Unit

3) The Employment Monitoring Project

4) 4FYP in general

The data should be comprehensive enough for the current needs of the country, e.g., for the preparation of a new I-O table (with employment and value added shares by categories of labor, for gauging some of the effects of the incentives), to serve as a sufficiently broad basis are reliable benchmark for future surveys; and so forth.

The time frame is crucial for all the 4 data-users. Preferably the data should be ready no later than the summer of 1989. According to Project Document, that was also approximately the time when the 3MES was scheduled to be ready. Unfortunately, there is an unconfirmed report that the survey is being postponed by at least 6 months.

Serious consideration may, therefore, be given to holding a high-level meeting between the Planning Commission and Dr. Rahim, Secretary, BBS, to see if it is feasible.

(1) to reaffirm the completion date of the 3M economic survey,

(2) to agree to a CMI-type questionnaire for the main part of the survey, and

(3) to explore the logistics for the supplementary questionnaire on the impact of policies, as to whether BBS should do it or the Planning Commission should undertake it.

টেবিল ১. ব্যবহার ও নির্মান অনুসারে ইউনিটের সংখ্যা
Table 1. Number of Units by Use and Type of Construction

এলাকা ও ইউনিটের ব্যবহার Area and use of unit	সকল ইউনিটের সংখ্যা All units, total	একাধিক ইউনিট সম্বলিত ভবনের ইউনিটের সংখ্যা Units in multi-unit structures				এক বা একাধিক ভবন সম্বলিত ইউনিটের সংখ্যা Units with one or more structures				
		মোট Total	নির্মান প্রকৃতি Type of construction			মোট Total	নির্মান প্রকৃতি Type of construction			
			কাঁচা Kutcha	আধা-পাকা Semi-Pucca	পাকা Pucca		কাঁচা Kutcha	আধা-পাকা Semi-pucca	পাকা Pucca	মিশ্র প্রকৃতির Mixed type
বাংলাদেশ, মোট **Bangladesh, total**	18 434 874	1.599 474	795.365	322.402	481 707	16.835.400	15.405.935	545.936	275 474	605.052
ঘর Dwelling units	16.957 073	1.197.732	652.382	204.726	340 644	15.759.321	14 657.465	344.410	156.332	571 114
স্থায়ী প্রতিষ্ঠান/ প্রতিষ্ঠানিক ঘর Permanent establishments/ institutions	1 477.801	401.722	142 953	117 676	141 063	1.076.079	718 473	204.526	119.142	33.938
শহর, মোট **Urban, total**	3.366.913	1.100.573	406.677	255.954	434 942	2.266.340	1 654 037	267.578	175.136	169.589
ঘর Dwelling units	2.715.568	815.369	329.601	174.539	310 929	1.903.199	1.452.751	172.657	120.037	157.694
স্থায়ী প্রতিষ্ঠান/ প্রতিষ্ঠানিক ঘর Permanent establishments/ institutions	648.345	285.204	77.076	84.115	124 013	363.141	201.256	94.891	55.099	11.895
পল্লী, মোট **Rural, total**	15.067.961	498.901	388.688	63.448	46.765	14.569.060	13.751.901	281.358	100.338	435.463
ঘর Dwelling units	14 235.505	382.363	322 751	29.557	29 715	13.856.122	13.234.654	171.723	36.295	413.420
স্থায়ী প্রতিষ্ঠান/ প্রতিষ্ঠানিক ঘর Permanent establishments/ institutions	829.456	116.518	65.907	33.561	17.050	712.938	517.217	109.635	64.043	22.043

নোটঃ স্থায়ী প্রতিষ্ঠান/প্রতিষ্ঠানিক ঘর সম্পর্কীয় এই টেবিলের উপাত্ত সমূহ টেবিল ৪ ও ৫ এর উপাত্তের সাথে তুলনাযোগ্য নয়। কারন, এই টেবিলে অর্থনৈতিক কর্মকান্ডের সকল প্রতিষ্ঠানই অন্তর্ভুক্ত কিন্তু টেবিল ৪ ও ৫ এ কৃষি, খনিজ, নির্মান, পরিবহন, যোগাযোগ, লোক প্রশাসন, প্রতিরক্ষা ও আন্তর্জাতিক সংস্থার প্রতিষ্ঠানগুলি অন্তর্ভুক্ত নয়।

Note: The data for permanent establishments/institutions in this table includes all industry categories and differs from Tables 4 and 5 which excludes establishments in Agriculture, Mining, Construction, Transportation and Communications, Public Administration, Defence Services, and International Organizations.

টেবিল ২: নির্মান প্রকৃতি অনুসারে ঘরের সংখ্যা
Table 2: Number of Structures by Type of Construction

এলাকা ও ঘরের প্রকার Area and type of structure	মোট Total	নির্মান প্রকৃতি Type of construction		
		কাঁচা Kutcha	অর্ধ-পাকা Semi-Pucca	পাকা Pucca
বাংলাদেশ **Bangladesh**				
মোট ঘরের সংখ্যা Total number of structures	36,993,353	34,350,808	1,637,466	975,084
এক ঘর বিশিষ্ট ইউনিটের ঘর সংখ্যা Structures in single structure units	6,730,550	6,057,776	454,409	218,365
একাধিক ঘর বিশিষ্ট ইউনিটের ঘর সংখ্যা Structures in multi-structure units	29,580,178	27,933,464	1,046,806	599,908
একাধিক ইউনিট বিশিষ্ট ঘরের ঘর সংখ্যা Multi-unit structures	682,630	359,568	135,251	156,811
শহর **Urban**				
মোট ঘরের সংখ্যা Total number of structures	4,523,922	3,251,739	692,907	579,276
এক ঘর বিশিষ্ট ইউনিটের ঘর সংখ্যা Structures in single structure units	1,310,517	970,538	209,158	130,821
একাধিক ঘর বিশিষ্ট ইউনিটের ঘর সংখ্যা Structures in multi-structure units	2,802,444	2,109,350	381,185	311,909
একাধিক ইউনিট বিশিষ্ট ঘরের ঘর সংখ্যা Multi-unit structures	410,961	171,851	102,564	136,546
পল্লী **Rural**				
মোট ঘরের সংখ্যা Total number of structures	32,469,436	31,129,069	944,559	395,808
এক ঘর বিশিষ্ট ইউনিটের ঘর সংখ্যা Structures in single structure units	5,420,033	5,087,238	245,251	87,544
একাধিক ঘর বিশিষ্ট ইউনিটের ঘর সংখ্যা Structures in multi-structure units	26,777,734	25,824,114	665,621	287,999
একাধিক ইউনিট বিশিষ্ট ঘরের ঘর সংখ্যা Multi-unit structures	271,669	217,717	33,687	20,265

টেবিল ৩. ইউনিটের সুবিধাদি ও ব্যবহার অনুসারে স্থায়ী ইউনিটের সংখ্যা
Table 3. Number of Permanent Units by Use of Unit and Facilities Available

এলাকা ও ইউনিটের ব্যবহার Area and use of unit	স্থায়ী ইউনিটের সংখ্যা Number of permanent units	বর্তমান সুবিধাদি Facilities available				
		বিদ্যুৎ Electricity	গ্যাস Gas	নলকূপ/কলের পানি Tubewell/tapwater	যান্ত্রিক যানবাহন Motorised transport	অন্যান্য যানবাহন Other transport
বাংলাদেশ, মোট Bangladesh, total	18,434,874	2,637,608	364,349	6,350,905	158,450	60,403
খানা Dwelling units	16,957,073	1,955,404	353,922	5,994,065	126,957	1,439,597
স্থায়ী প্রতিষ্ঠান/প্রতিষ্ঠানিক খানা Permanent establishments/ institutions	1,477,801	682,204	10,427	356,840	31,463	60,403
শহর, মোট Urban, total	3,366,913	1,756,257	356,717	1,453,217	74,143	200,326
খানা Dwelling units	2,718,568	1,299,615	346,977	1,346,429	55,194	175,532
স্থায়ী প্রতিষ্ঠান/প্রতিষ্ঠানিক খানা Permanent establishments/ institutions	648,345	456,642	9,740	136,788	18,949	24,794
পল্লী, মোট Rural, total	15,067,961	881,351	7,632	4,867,688	84,307	1,299,674
খানা Dwelling units	14,238,505	655,789	6,945	4,647,636	71,793	1,264,065
স্থায়ী প্রতিষ্ঠান/প্রতিষ্ঠানিক খানা Permanent establishments/ institutions	829,456	195,562	687	220,052	12,514	35,609

নোট: স্থায়ী প্রতিষ্ঠান/প্রতিষ্ঠানিক খানা সম্পর্কীয় এই টেবিলের উপাত্ত সমূহ টেবিল ৪ ও ৫ এর উপাত্তের সহিত সামঞ্জস্যপূর্ণ নয়। কারন, এই টেবিলে অর্থনৈতিক কার্যকলাপের সকল প্রতিষ্ঠানাদি অন্তর্ভুক্ত কিন্তু টেবিল ৪ ও ৫ এ কৃষি, খনিজ, নির্মান, পরিবহন, যোগাযোগ, লোক প্রশাসন, প্রতিরক্ষা ও আন্তর্জাতিক সংস্থার প্রতিষ্ঠানগুলি অন্তর্ভুক্ত নয়।

Note: The data for permanent establishments/institutions in this table include all industry categories and differ from Tables 4 and 5 which exclude establishments in Agriculture, Mining, Construction, Transportation and Communications, Public Admininstration, Defence Services, and International Organizations.

টেবিল ৪: অর্থনৈতিক কর্মকান্ড ও আকার অনুসারে স্থায়ী প্রতিষ্ঠানের ও উহাতে কর্মরত লোকের সংখ্যা
Table 4: Permanent Establishments and Persons Engaged by Economic Activity and Size of Establishment

কোড Code	অর্থনৈতিক কাজের বিবরণ Economic activity description	স্থায়ী প্রতিষ্ঠান, মোট Permanent establishments, total	কর্মরত লোকের সংখ্যা অনুসারে বিভিন্ন আকারের স্থায়ী প্রতিষ্ঠানের সংখ্যা Permanent establishments by number of persons engaged								তথ্য নেই Not reported
			1	2	3	4	5 - 9	10 - 19	20 - 49	50 - 99	100 and over	
	বাংলাদেশ, মোট Bangladesh, total											
	ইউনিটের সংখ্যা Number of units	1,390,494	464,553	374,575	174,039	103,625	122,742	36,440	10,975	2,509	1,529	99,577
	কর্মরত লোকের সংখ্যা Persons engaged	4,488,565	464,883	749,750	522,117	414,500	755,716	475,874	307,559	165,232	626,943	xxx
3	উৎপাদন শিল্প Manufacturing											
	ইউনিটের সংখ্যা Number of units	129,104	18,019	26,014	20,959	14,306	28,400	11,033	4,404	1,455	1,435	3,079
	কর্মরত লোকের সংখ্যা Persons engaged	1,269,752	18,019	52,028	62,877	57,224	182,370	144,797	123,296	96,915	532,256	xxx
31	খাদ্য, পানীয় এবং তামাকজাত দ্রব্যাদি Food, beverages, and tobacco											
	ইউনিটের সংখ্যা Number of units	44,373	6,996	11,601	7,654	4,524	7,962	2,776	719	239	264	1,638
	কর্মরত লোকের সংখ্যা Persons engaged	275,969	6,996	23,202	22,962	18,096	50,479	36,678	21,435	14,572	51,546	xxx
32	বয়ন, পরিধেয় পোষাক ও চর্ম শিল্প Textiles, wearing apparel, and leather											
	ইউনিটের সংখ্যা Number of units	23,540	1,508	1,788	2,551	1,664	7,033	5,043	2,556	585	608	204
	কর্মরত লোকের সংখ্যা Persons engaged	563,558	1,508	3,576	7,653	6,656	48,797	67,964	67,547	38,225	321,632	xxx
33	কাঠ, কাঠজাত দ্রব্যাদি এবং আসবাবপত্র Wood, wood products, and furniture											
	ইউনিটের সংখ্যা Number of units	18,999	2,108	2,502	3,205	3,125	5,857	1,278	169	•	25	414
	কর্মরত লোকের সংখ্যা Persons engaged	92,319	2,108	5,004	9,624	12,512	36,135	15,682	5,424	•	4,740	xxx

Specimen page

টেবিল ৫. শিল্প বিভাগ ও মালিকানা অনুসারে স্থায়ী প্রতিষ্ঠানে কর্মরত লোকের সংখ্যা ও লিঙ্গ

Table 5. Number of Permanent Establishments/Institutions and Persons Engaged by Major Industry Division, Form of Ownership and Sex of Persons Engaged

কোড Code	অর্থনৈতিক কার্যাবলীর বিবরণ Description of economic activity	স্থায়ী প্রতিষ্ঠান এবং প্রতিষ্ঠানিক খাত All permanent establishments and institutions		মালিকানার ধরন Form of ownership: বৈদেশিক Foreign		সরকারী Government		আধা-সরকারী Semi-government		বেসরকারী Private		সমবায় Co-operative	
		সংখ্যা Number	কর্মরত লোক Persons engaged	সংখ্যা Number	কর্মরত লোক Persons engaged	সংখ্যা Number	কর্মরত লোক Persons engaged	সংখ্যা Number	কর্মরত লোক Persons engaged	সংখ্যা Number	কর্মরত লোক Persons engaged	সংখ্যা Number	কর্মরত লোক Persons engaged
	শহর, মোট Urban, total	609,306	2,361,593	707	14,352	19,407	204,351	11,069	125,594	565,572	1,968,091	12,250	46,055
	পুরুষ Male	xxx	2,214,714	xxx	10,759	xxx	185,355	xxx	121,238	xxx	1,855,342	xxx	41,660
	মহিলা Female	xxx	146,759	xxx	3,563	xxx	18,996	xxx	7,356	xxx	112,749	xxx	4,125
3	উৎপাদন শিল্প Manufacturing	65,133	650,409	•	•	332	23,520	807	42,427	63,355	605,005	538	6,515
	পুরুষ Male	xxx	596,111	xxx	•	xxx	21,262	xxx	41,163	xxx	527,115	xxx	5,124
	মহিলা Female	xxx	54,355	xxx	•	xxx	2,258	xxx	1,264	xxx	77,590	xxx	1,394
4	বিদ্যুৎ, গ্যাস ও পানি Electricity, gas, and water	554	13,771	•	•	451	6,534	269	5,232	•	•	•	•
	পুরুষ Male	xxx	13,350	xxx	•	xxx	6,418	xxx	5,126	xxx	•	xxx	•
	মহিলা Female	xxx	391	xxx	•	xxx	116	xxx	106	xxx	•	xxx	•
6	পাইকারী ও খুচরা ব্যবসা, হোটেল ও রেস্তোরাঁ Wholesale and retail trade, hotels and restaurants	407,753	1,054,012	211	3,165	3,592	15,559	3,654	13,728	399,024	1,017,327	1,272	4,203
	পুরুষ Male	xxx	1,033,533	xxx	2,756	xxx	14,920	xxx	13,532	xxx	998,575	xxx	4,050
	মহিলা Female	xxx	20,179	xxx	409	xxx	669	xxx	196	xxx	18,752	xxx	153

টেবিল ৬. বিকলাঙ্গের প্রকার, বয়স ও লিঙ্গ অনুসারে লোকসংখ্যার শতকরা হার

Table 6. Percentage Distribution of Disabled Persons by Type of Disability, Broad Age Group and Sex

শতকরা হার
In percent

এলাকা, বয়সগ্রুপ ও লিঙ্গ Area, age group and sex	মোট জনসংখ্যার শতকরা হার Percent of total population	বিকলাঙ্গের প্রকার Type of disability						
		সকল বিকলাঙ্গ All disabilities	অন্ধ Blind	বধির ও বোবা Deaf and dumb	পঙ্গু Crippled	মানসিকভাবে প্রতিবন্ধী Mentally handicapped	কুষ্ঠ রোগী Leprosy	দীর্ঘস্থায়ী রোগ, অথর্ব Prolonged illness or old age
বাংলাদেশ, মোট Bangladesh, total	0.52	100.0	26.9	15.9	25.0	10.8	3.6	14.8
0 - 4	0.12	100.0	19.0	20.3	45.5	4.6	2.2	8.6
5 - 14	0.27	100.0	15.9	29.8	34.1	9.7	1.7	8.7
15 - 29	0.39	100.0	16.8	24.0	30.5	15.8	2.7	7.2
30 - 49	0.62	100.0	23.2	13.6	31.0	16.1	4.8	11.3
50 - 64	1.35	100.0	35.0	9.2	23.2	7.4	5.1	20.1
65 and above	3.39	100.0	40.6	5.7	18.7	2.3	3.4	29.3
পুরুষ, মোট Male, total	0.62	100.0	25.2	15.3	32.0	10.5	3.8	13.1
0 - 4	0.14	100.0	17.1	19.9	47.9	5.7	1.6	7.8
5 - 14	0.31	100.0	15.0	27.9	37.5	10.2	1.2	8.1
15 - 29	0.49	100.0	16.3	22.4	33.9	15.7	2.6	6.0
30 - 49	0.79	100.0	22.2	13.0	35.6	14.0	4.7	10.5
50 - 64	1.48	100.0	31.2	10.0	28.5	6.8	6.4	17.1
65 and above	3.33	100.0	39.2	5.9	21.9	2.3	3.9	26.8
মহিলা, মোট Female, total	0.41	100.0	29.6	16.8	21.4	11.4	3.2	17.6
0 - 4	0.11	100.0	21.4	20.8	42.3	3.1	2.9	9.6
5 - 14	0.22	100.0	20.2	32.8	29.0	8.9	2.4	6.7
15 - 29	0.29	100.0	17.7	26.6	25.0	18.9	2.7	9.1
30 - 49	0.43	100.0	25.2	14.8	21.5	20.6	5.0	12.9
50 - 64	1.18	100.0	41.1	7.9	14.9	8.3	3.0	24.8
65 and above	3.48	100.0	42.7	5.4	14.1	2.2	2.7	32.9

HIID/ESEPP Project
Planning Commission
Government of Bangladesh

Occasional Notes

No. 88.2

DECENTRALIZATION OF PLANNING

IN BANGLADESH

June 18, 1988

Note written for
the Member, GED
Planning Commission

HIID/USAID EEPA PROJECT

PLANNING COMMISSION
Government of Bangladesh
Shere-e-Bangla Nagar
Dhaka, Bangladesh

Tel. : 315920 (Off)
600725 (Res)

Date June 8, 1988

TO : Dr. Mustafa Kamal Mujeri, Planning Commission, Dhaka

FROM : Gian Singh Sahota
Resident Economic Advisor

SUBJECT : PIO/T No. 388-0027: EEPA Project: Pilot plan for zila/upazila

Sorry I took so long to initiate something on regional planning as desired by the Member. The topic requires an intimate knowledge of the institutions of Bangladesh. I may be familiar with the theory of regional development planning and may have some experience from other countries, but my knowledge of Bangladesh institutions is not even skin deep yet. I have also not been able to get hold of the Zila Parishad Bill in detail. Consequently, some of the issues and suggestions made in this note may be impractical, and beyond the purview of the Planning Commission. I hope, however, this note will give you a preliminary idea on why and how to go about preparing or not preparing a pilot development plan for one or more zilas or upazilas, aimed at harnessing the participation of the people for big and small projects/enterprises as a means to promoting growth with equity and expanding employment.

Note that my reflection and perception of the emerging trend in several developing countries and the last week's Zila Parishad Bill of Bangladesh leads me to view the Zila instead of the upazila as the potential hub of decentralized planning, rather than the district being merely a co-ordinator of upazila plans. The reasons are discussed in the attached note.

I have not had the opportunity to discuss the note with the Member as yet. Hope you have already read the Mamdel Hussain-Sahota note on the related issue of the integration of micro and macro planning.

After discussing various medium-run issues, some of which may require new legislation, a scheme for immediate beginning is suggested at the end.

cc: Member, GED

DECENTRALIZATION OF PLANNING

IN BANGLADESH

DECENTRALIZATION OF PLANNING

IN BANGLADESH

With the enactment of the Zila Parishad Bill on May 31, 1988, providing for setting up of district development councils, the stage has been set for long-due decentralized planning. The bill comes out at an opportune time, for only a few days ago Member Dr. Maqsood Ali asked us to explore the feasibility of a pilot plan for one or two upazilas, in which people's self-help can be enlisted. This brief note is written with a view to discussing that issue and, to the extent possible, to starting a dialogue in the Planning Commission to give a practical shape to a scheme of people's participation in the development planning process, broached, among others, by Maqsood Ali et al. (1983). The Zila Parishad Bill has created an environment which may be taken advantage of to embark upon decentralized planning, preferably in the Fourth 5YP. The issue is not unrelated to the note on "An Integration of Micro-Macro Planning" that I helped Mambel Hussain write a few weeks ago. (Hussain-Sahota, Mar. 1988)

Why people's participation is so desirable for development planning?

In essence, the issue of popular participation is basically identical with the issue of democracy. People's participation was the main theme of the book by Maqsood Ali, et al., (1983). The interested reader is recommended to look at it. People's participation is desirable for a number of purposes:

1) for knowing the felt-needs of those for whom development plans are made and learning about their priorities
2) for mobilizing local resources for plan implementation, especially the local abundant resource, namely labor

3) for sorting out possible conflicts in the planning and implementation stages

4) for increasing the tempo of implementation by securing the cooperation of the people and inculcating the feeling of participation in them for the development process

5) for bringing about a change in the traditional power structure in favor of the poor

6) for promoting the acceptance of development plans and projects

7) for getting people's cooperation in generating data and in plan monitoring/evaluation

Search for an optimal decentralized geographic planning unit

The 1980s have witnessed several consequential policy reforms and changes relating to planning all over the world, such as a swing from nationalization toward privatization, from centralized toward decentralized planning, from controls toward liberalization, and so forth. These reforms are well known. Not yet so widely recognized is a change that is currently hatching in giving a concrete shape to decentralization is a convergence among countries of different political set-up, federations and unitary governments, toward the district (as defined in Commonwealth countries) as the hub of decentralized planning. For instance, while commitment of the free-enterprise, unitary government of Kenya to decentralized participatory planning, with district as the basic unit, was established soon after independence, it is only in recent years that substantial resources have been used to move in this direction (see HIID, 1988, p.47-48). Federal India, with constitutionally statuted panchayat raj at the micro level

and the state as the kingpin federal unit is now moving earnestly to make the district as the focal administrative unit for development planning. The reports of 4 major Committees/Working Groups appointed by the Planning Commission, among others, have made identical recommendations to the effect that the basic decentralized planning function ought to be done at the district level. These are: the Ashok Mehta, Committee Report (1978), the Dantwala Report (1977), the Hanumantha Rao Report (1984), and the CAARD Report (1985). The district is recommended to be the first point for decentralization as the district has come to be recognized a viable administrative unit at which the planning, coordination, and resource allocation are feasible, technical expertise is available, and high level of leadership can also emerge (Government of India, Consultative Committee for the Ministry of Planning, 1987), p.18.

In the early 1980s, more precisely for the Second 5YP, Bangladesh established the upazila (thana) as the hub of development planning (see Bangladesh, Planning Commission, 1983, esp. ch.5). On the eve of the Fourth 5YP, Bangladesh seems to have also identified the district as a possible optimum decentralized unit for development planning. The Bangladesh District Development Council is, thus, consistent with the current trend across developing countries. If federations are moving toward the district as the pivotal unit transfering some powers and responsibilities from states to districts, unitary governments perhaps have all the more reason to doing so, because the devolution of authority is more important in the case of a unitary government than a federation.

Bangladesh, however, already has the upazila as the hub of decentralized administration (as distinguished from development planning) with offices of almost all ministries (but not that of the Planning Ministry). The implementing agencies are in place at the upazila level. Whether the upazila is the uppermost point of contact with the people or the district, too, can be the contact point needs to be judged by knowledgeable experts. On the other side, supervision and planning cells are probably not possible below the level of 64 districts. For after all, planning decisions cannot be made by hunches: at least one (in due course more) minimumally trained planning expert has to be permanently posted. It needs no emphasis that a cosmetic type of area plan will do more harm to the development process and the confidence of the elected representatives, the people, and experts in development planning than no area planning. The vertical information flow, backward and forward linkages, and horizontal co-ordination can also be performed more efficiently and productively at the district level. The District Development Councils set up under the Zila Parishad Bill need only to be complemented by technical planning staff (to begin with a single economist with Master's degree) to start decentralized planning. More on this below. In view of these factors, the rest of the note is written with the district as the hub of decentralized development planning in mind.

What is district planning?

District planning ought to consist of both spatial planning (based on the topography, rainfall, rivers, irrigation, floods, etc.) and socioeconomic planning (based on per capita income, skill level, output structure, manpower, existing industry, population, and so forth). The concept of district planning is akin to the concept of integrated area planning. District planning arises from the need to supplement the national plan with a more detailed examination of the

needs, resources, problems, and potentialities of the respective area and manpower. It is a developmental scenario at the district level consistent with the specific needs of the people, the growth potentials of the area, and the budgetary allocation available. It has to dovetail microplans of upazilas and villages with district plans, and the latter, in turn, with the sectoral and overall national plan. In other words, district planning provides the crucial link between lower and higher level plans.

District planning methodology

Planning is a technical job comprising of the know-how of planning technology, subject specialization, and knowledge of the economy and the people. Insofar as district planning is concerned, vigorous analysis is not to be expected. The methodology has to be relatively simple. It should, however, bring to surface broad district profile drawing attention to the resource potentials and problems of development of the district and giving detailed proposals which are concrete, practicable, financially feasible, and in line with accepted objectives of planning. The main objectives of Bangladesh development plans include:

a) increasing production,

b) expanding gainful employment, and

c) alleviating poverty.

The whole process of formulation of district plans must focus on the attainment of these objectives.

The core of district planning will consist of:

a) project planning

b) manpower and employment planning, and

c) spacial planning.

Greater detail of the content of district planning cannot be expounded in this short note.

Organizational framework

With decentralization must go institution-building, i.e., the formation of mechanisms that afford a continuous and sustained forum for people to discuss the issues and problems that concern them and ways to meet them. Four types of institutional organizations, among others, exist in Bangladesh that reach remotest rural areas: the age-old panchayat system, the co-ops, the NGOs, and the government administrative set-up. The cooperation of these four agencies, among others, should provide enough basis for people's participation.

The Panchayat System and the District Development Councils. -- The institution of panchayats is a grassroot democratic organization through which the District Development Councils will derive their political and participatory support. The new fervor created by the district development councils should be exploited forthwith by an appeal for its participation in the preparation of the Fourth 5YP and to enlist people's cooperation for increasing growth with fairness, expanding gainful employment, and alleviating poverty, lest it should become another ploy for political gains. Strike while the iron is hot. District and micro planning should be envisaged to start in a big way during the Fourth 5YP, otherwise development planning may be pushed to backwaters by political pre-occupation.

The co-ops are fairly well scattered across Bangladesh. They provide parall organizations through which participation of special interest groups can be elicited. Since these are self-help agencies, only their interests have to be tempered with general interest. Cooperative banks as well as other lead banks will naturally play their due role in development planning.

NGOs or voluntary agencies are young organizational gorups working from grassroots. They are popular with donor agencies to many of whom any private substitute for government bureaucracy is preferable. Their zeal should be harnessed in organizing voluntary manpower and other resources.

Finally, no matter how ardently disposed for self-help people may be, some supervisory, if not monitoring, role has to be played by government administration. The deputy commissioner is usually a well informed officer about the economy and the problems of the district. His cooperation should be available through his ex officio position in development boards.

Thus, grassroot superstructures exist. What is lacking from the viewpoint of development planning at the district level is planning expertise. To begin with a cadre of 64 young economists (below 35) with master's degrees may be given a rapid course in the theory and practice of planning by the Planning Commission and posted in each district as the technical wing of the Zila Development Council. There will be a constant information flow between this one-person planning cell and the Planning Commission at the center. In due course the addition of area specialists will be desirable, including spatial experts. The success of planning would depend on the type of technical machinery available at the district level. The dovetailing of district plans with sectoral outlays at the central level will be done by the Planning Commission.

Multilevel planning procedures are new to the Planning Commission. But multilevel planning is highly in order. A beginning must be made in the Fourth Plan.

All district development planning must be under a single technical agency

The entire development planning must be collected under a single agency, namely the Planning Commission's district planning cell all upazila and zila officers of the ministries must report and work in relation to the district planning cell as the national ministries and line departments work in relation to the National Planning Commission. The role of the Zila Parishad visa-vis the district planning cell is likewise to be the same as that of the national parliament vis-a-vis the Planning Commission.

Division of planning tasks

The Planning Commission will continue to be responsible for sectoral planning, allocation of national resources, horizontal (and vertical) coordination, and overall planning implementation, and monitoring/evaluation. The district planning cell will handle such local-interest functions as agriculture, floods, small industries, irrigation, feeder roads and road transport, health, school education, social welfare, and utilization of manpower resources. It will also co-ordinate village-level planning. Villages, too, will have their own plans, which will largely be confined to such areas as the supply of credit, fertilizer, HYV seeds, minor irrigation, field channels, local poverty programs, and the like.

HIID/ESEPP Project
Planning Commission
Government of Bangladesh

Occasional Notes

No. 88.3

INTEGRATING MICRO AND MACRO PLANNING

July 15, 1988

For the Member,
CED

Planning Commission
March 1983

Written by Sahota and
Mamdel Hussain

INTEGRATING MICRO AND MACRO PLANNING

CONTENTS

In the Form of an Executive Summary

Section

and large groups of enterprises of several relevant industries of the I-O table. Its main foundation, the I-O table needs updating. A new I-O table augmented with rows for imports and employment by skill categories, etc., and a SAM with more trustworthy and richer data are of the Planning Commission.

d) Integrating macro and micro/project/regional planning in the Perspective and Fourth Five Year Plans.--Keeping in view the availability of existing and prospective data (see details below) and expertise as well as the time left for the preparation of the Fourth Plan, it may be said that broadly an integration to account for the direct effects of micro and macro planning--public projects and private investment responses--can and should be done for the Fourth Plan (target year 1989). An integration to take into account of both direct and indirect effects of micro-macro planning can be aimed at primarily in the context of perspective planning, i.e., for subsequent annual and five-year plans (1990 onward). The direct effects so estimated may be planned with the present I-O table or the SAM (or for quick rough view in a partial context). A comprehensive integration may come in due course with an augmented I-O table and revised SAM (see details below).

The direct-effect integration of projects requires detailed information on costs and outputs of projects from sector ministries. For this purpose, the task of revising the PP has already started. The integration of private investment and public policies requires a knowledge of the impact of existing policies on investment and other variables. An analysis of the impact of policies is being felt as the most urgent need for the Fourth Five Year Plan, and can be done in time for it, as should become evident in this note.

In order to provide proper integration of macro and micro planning, an applied general equilibrium (AGE) model was formulated for the preparation of theThird Plan. The model has incorporated 39 commodities, 67 sectors and subsectors, and 11 socio-economic groups (including government) as a sectors. It represents a comprehensive data bank known as Social Accounting Matrix (SAM) for the Third Plan Model. It covers a wide range of government policies, viz., public sector investment, subsidies, exchange rate bonus, foreign aid, tax and tariff rates, price supports, food rationing, quotas on imports, buffer stocks for selected commodities, and so forth. The SAM is based on data series assembled from scattered sources for different years and is very weak on employment multipliers and employment planning. It does not have any provision for the analysis of qualitative policies and disaggregation according to geographic regions. Because of the limitation of the mathematical models so far developed, most of the policies and strategies for development of the Bangladesh economy have been fixed up from outside the framework of the planning models, mainly based on rules of thumb in a pragmatic way. Consequently, the integration of micro (and project) planning with macro planning did not receive proper attention in the development plans. The Third Plan model incorporated rural informal and urban informal sectors, which represent activities of small establishments. That framework needs to be expanded to include forward and backward linkages between small

2. Methodology of Integration of Macro and Micro Planning: General Equilibrium the only logical approach

A. Conceptual Aspects

Whether the desired integration is envisioned to be "limited" or "global", some sort of general-equilibrium approach is the only logically possible general link between micro and macro planning. The general equilibrium models appropriate for the two levels of integration need, however, not be the same.

a. An appropriate general-equilibrium model for the "limited integration": The I-O Table with disaggregated and endogenized primary inputs.--The integration of micro projects with macro policy can be performed at two levels: (a) integration for direct effects only and (b) integration for both direct and indirect (i.e., general-equilibrium) effects.

(a) The integration for direct effects is primary to subsequent effects and, by itself, will improve the planning process and evaluation procedures substantially. The estimation of the costs and effects of projects is largely independent of which model is used. Shadow prices, along with market prices, and comprehensive instead of partial measures of benefits and costs ought to be used, whether or not cost-benefit analysis is done and whether or not the effects of the projects are estimated partially or in a general equilibrium context.

(b) The estimation of direct and indirect effects cannot really be done without some sort of a general equilibrium model. One of the most suitable and powerful general equilibrium models for limited

INTEGRATING MICRO AND MACRO PLANNING

1. Definition of Integration of Macro and Micro Planning

In the context of Bangladesh, an integration of micro and macro planning may be viewed at two levels: (1) limited and (2) global integration.

(a) Limited integration.--At a limited level, the intended integration may not extend much beyond linking national aggregates with disaggregate public projects. Five-Year-Plan targets are set (or forecasts are made) for national aggregates: unemployment, GDP, industrial growth, general price level, aggregate consumption, aggregate investment, trade balances, public debt, factor shares, budget balance, and the like. When some of the projects fall behind schedule, their multiplier effects may affect the national targets adversely. Similarly, if an exogenous shock occurs, e.g., flood damage, project targets may not be achieved, starting a chain reaction on national and sectoral aggregates. Accordingly, planning would be deficient when national aggregates are not related with disaggregate projects

(b) Global integration.--While macroeconomic planning looks at the economy as a whole, microeconomic planning deals with the interdependent choices of various types of economic agents--the behavioral characteristics (preferences) of decision-makers in combination with technological linkages and the state of the economy (data). The micro aspects of Bangladesh's five-year plans include public projects and indicative planning for the private sector. The latter are invariably backed up by incentives which, through or without changing factor and product prices, may influence the behavior of private investors and other agents of the economy. A global integration of micro and macro planning takes cognizance of the interrelationships between the private sector and the public sector.

Furthermore, global planning also pays attention to the integration of micro regions with the country as a whole, small and cottage industries with large ones, the assetless with the rest of the society and, finally, micro-micro integration.

small in relation to the I-O industry in which it falls, it may be treated as an autonomous increase in the parent I-O industry's output, with appropriate adjustments, if necessary, to its input-output coefficients. If a project is relatively large, for instance, the Jamuna Bridge, it may be inserted into the I-O table as a new industry, provided its input-output coefficients are not a linear multiple of another industry. For a multiproduct project of this nature, ancillary products and byproducts are to be included as negative inputs in the respective cells. Other aspects of such integration cannot be discussed here. It only needs to be stated that an I-O table is entirely capable of subsuming small and large projects to work out the direct and indirect consequences of their completion or lag in completion.

a.2. The mechanics of integrating completed projects with sectoral and national macro plans.--Macro plan objectives can be missed as much due to lack of proper operation and maintenance of completed projects as by shortfalls in new ones. Equally important for planning, thus, is an integration of the revenue budget (requiring allocation of recurrent resources the O&M of completed projects) and the capital budget (consisting of the allocation of resources for new projects).

Alternatively stated, the input-output data needed for a new project pertain to the relatively short construction or gestation period. The input-output data needed for completed projects relate to the relatively long maintenance and operation period. The PP must contain estimates of both. For instance, an under-capacity utilization of a completed project, just as a delay in the completion of a new project, will not only not generate anticipated demand for its inputs from other industries, it will also not fully satisfy the requirements of other industries from the parent industry

of the project. Thus, the integration of financial planning and physical planning, on the one hand, and revenue budget and capital budget, on the other hand, are components of the general process of the integration of micro planning and macro planning. See Sahota, "Financial Analysis of a Development Project," IJOE (1985),pp.1-31.

The I-O model can be conveniently put on a personal computer. The direct and indirect effects of autonomous changes in either the demand or the supply of, as well as tax or subsidy to, an industry can be computed in a matter of hours of the user's time.

b. The mechanics of deriving macro magnitudes from microfoundations.--This is computable general-equilibrium modeling pure and simple. The basics of a computable general-equilibrium model consist of an integration of the I-O Table with behavioral characteristics of decision-makers specified in econometric equations. Alternative CGE, AGE, SAM models have been constructed. Into the specification of these we need not go here. See, however, Table 2.

c. Mechanics of Microregion and Macroregion Planning (regional linkages).--At the minimum, planning has to pay some attention to the interrelationships between 3 areas: developed, less-developed, and least-developed. Alternatively planning at the geographic division level would be useful for national resource allocation. Many projects cut across econographic areas and create spillover effects, others may be localized even at the district level.

Thus, in the overall planning process, three types of integration--namely (1) an integration of disaggregate projects and aggregate macro magnitudes, (2) an integration of the behavioral responses of private investors with direct public planning, and (3) and integration of geographic or spacial planning with macro variables--are imperative.

Spacial planning can be done in the context of the I-O table, i.e.,

One of the most suitable and powerful general equilibrium models for limited integration of micro and macro planning is the input-output model with rows for imports and labor by occupation and/or skill category. A schematic representation of such a model with three categories of labor appears in Table 1. Such a model can predict the general-equilibrium effects fo the initiation of a project (appropriately added to its parent I-O industry), a change in the demand for the product of a project, shortfall or early completion of a project, a tax on or subsidy to a product, or due to any exogenous shocks.

b. An appropriate general-equilibrium model for the "global integration": The I-O Table embeded into a model of behavioral interdependent relationships.--The I-O Model discussed above is the foundation of all computable genera equilibrium (CGE) models. In order to incorporate the behavioral relations of private investors, consumers, and other actors, the I-O table has to be combined with appropriate econometric equations. In such a model, fixed coefficients for labor, capital, value-added, and consumption of the augmented I-O table above will be replaced by individualistic behavioral relationships for consumption, investment, production, import, and other relevant functions. A schematic array of a general CGE model is given in Table 2.

c. An appropriate general-equilibrium model for regional planning.--Regional economist have used top-down and bottom-up regional models (having one-way flow from national aggregates (a dominant region) to other regions or vice versa extensively. Interregional models (with two-way flows) are rare. One such interregional model has been built by Gian Sahota and Carlos Rocca, Income Distribution: Theory, Modeling and Case Study of Brazil (Iowa State University Press, 1985). Within the I-O context and in the present state of data availability and in view of a lack of two or three clearly and contiguously demarcated geographic regions, a top-down model with Dhaka and Chittagong Corridor as the

"top" and the rest of the country as the "down" seems to be a practical proposition. Regional planning can also be handled outside an overall model. More elaborate CGEs can handle multiple regions. The PC's present SAM consists agricultural regions.

d. An appropriate general-equilibrium methodology for integrating micro-micro planning, such as small industries with large and the asset-less with others.--The final major area of micro and macro planning where integration is called for is that of the assetless households--observe the long lines of their breadwinners along Airport Road in early mornings, with a shovel on shoulder and a basket in hand, waiting for daily work; go to rural areas to see their counterparts without even a shovel of their own--and the asset-scarce establishments with the rest of the production economy. The ultimate objective of the current Five-Year Plans of employment and growth, after all, is the eradication of poverty. These micro units are scattered over the entire country, across upazilas and villages. Micro planning must reach them, bottom up or top down. The augmented I-O table can also handle this integration of micro-micro and micro-macro planning, but there are alternative methods.

B. Practical Aspects

a.1. The mechanics of integrating new projects with sectoral and macro plans.--The conceptual integration of disaggregates and aggregates and the microfoundations of macroeconomics is clear enough. The mechanics of empirical integration are perhaps less known. Very briefly, if a project is

District budget

Responsibilities have to be commensurate with financial resources. Accordingly, there must be a district budget, consisting of a development and a revenue budget. The short course on training of district economic planners referred to above must include instruction on financial planning. It is very important that the 5-year and annual district plans include new projects as well as old (completed) projects. For the latter, financial provision must be made for maintenance and operation (M&O) at full capacity. The conventional methodology of piling up new projects, often to get donor aid, must be replaced by integrated project planning in which old projects are properly maintained and operated at resonable capacity. If a district cannot raise currer revenues for the M&O of the projects already completed, grants from the center's revenue budget, if possible, and even from development budget, if current revenue cannot meet the M&O needs, ought to be earmarked. In the long-run however, adequate revenues must be generated to keep the district plant and services running in full gear and the revenue budget must be balanced. The district economic planner's duty is to estimate both development and M&O costs. Of course, projects must be justified by estimates of potential benefits. Only a district budget can create the sense of accountability among all district development functionaries.

District data

All the relevant data required for district plan-preparation, plan-implementation, and plan-evaluation must be collected and processed in the office of the economic planner. The training course should familiarize the

district economic planner with the operation of microcomputers. Each district development office must be supplied with a microcomputer. All the relevant data by upazilas, indeed by village, and some repeatedly used calculations ought to be computerized at the district level. The economic planner should be made aware of the new role of the district set-up, where the management is not to function as a mere record-keeping office, but one responsible for monitoring and corrective actions.

Technical staff for District Development Planning

A district plan can neither be prepared by high-powered theoretic tools nor by decision-making by hunches. The former is not possible as districts cannot attract adequately trained experts. The latter is not desirable as hunches are a negation of scientific planning. Simplified, yet effective procedures should be developed at the national level, which should be included in the training course for district planning experts. Caution should be taken that district planning, as a new experiment in Bangladesh, is not undertaken without the necessary data base and expert input. Done half-heartedly or hurriedly, it may do more harm than good to the long-run idea of decentralized planning.

The Zila Development Councils will perhaps be formed in time for the preparation of the Fourth Plan, as the elected representatives and panchayats are already functioning. To put the technical staff in place that can develop the appropriate projects and prepare five-year district plans to form parts of the national plan is a question mark. If the process can be begun now,

however, the technical staff can be readied to play its role for the implementation and the monitoring/evaluation of the Fourth 5Y district plan, and pre-planning for the Fifth 5YP or perspective planning.

If the initiative taken in the enactment of the Zila Parishad Bill for decentralized development planning is not matched by planners' zeal to capitalize upon it and start district planning, they will be found lagging and may be left out in the ticklish game of the commensurability of powers and responsibilities. It is time to seriously start working toward decentralized planning in all earnestness.

Short course on district development planning

A tailor-made training course in district planning may extend over a period of 3 to 6 months. The course may be arranged either at the Planning Commission or BIDS or jointly.

The content of district planning

Of the four phases of development planning, namely

1) Pre-planning phase
2) Plan-preparation phase
3) Implementation phase, and
4) Monitoring and evaluation phase,

our immediate concern is with the plan-preparation phase. For this phase, the following steps are relevant:

1) Formulation of the major objectives of the district plan: e.g., growth, industrialization, employment, poverty alleviation

2) Compilation of data for district planning

3) Characterizing the district in relation to the basic objectives

4) Formulating the main procedures and thrust of district planning

5) Analysis of existing programs and the preparation of budgets for M&O

6) Preparation of physical plan for the district

7) Preparation of financial plan (assessment of resources and allocation of resources)

8) Vertical and horizontal linkages between upazila and national plans as well as between projects. Each village of the upazila, and each upazila in turn, ought, if possible, to have its five-year plan.

Where to begin?

In the short-run, i.e., for the purpose of the preparation of the Fourth SYP, the necessary legislation and budget allocation for the District Planning Cell may be lacking. As such, a pilot project may be undertaken by the present staff of the Planning Commission (assisted by its consultants and the resident economic advisor). For the purpose, one or two districts, for which the necessary data are available, should be selected. Two such districts have been identified, each one of which has data for one of its upazilas, namely Narsingdi in which data on rural industries are available for Monohardi Upazila (BIDS, 1987) and Koshoreganj District in which data on physical features, demographic features, resource inventory, socioeconomic variables, and agriculture are available for Kuliarchar Upazila (Bangladesh-Canada (CEDA), 1987). See the map on the next page. Monohardi Upazila is categorized as

less-developed, as is the entire Narsingdi district. Kuliarchar falls among the least-developed upazilas of Kishoreganj. The two zilas are contiguous and the two upazilas under reference are neighbor. The two upazilas seem representatives of the respective districts in socioeconomic features. They might differ in topography. On the whole, the data for the two upazilas may be used to prepare plans for the respective district. Alternatively, for the time being, plans may be prepared for the two upazilas only. Since it is an experiment in the participation of the people, an active involvement of the Zila Development Council, the Upazila Council concerned, and the respective village panchayat is a pre-requisite for worthwhile planning. Hence, a five-year plan can be prepared. Evidently, the expert who undertakes district planning for this area will have to spend several weeks interviewing panchayats and parishads as well as group associations, NGOs, co-ops, government officials, area banks, school teachers, and so forth, to familiarize himself with the respective unit's needs, priorities, and problems. The data are available in the two sources referred to earlier. The contents pages of the two sources are given as Appendix A for a quick view of the data. These data can be supplemented from other sources. To repeat the earlier warning, care should be taken that this plan does not become a patchwork. It should be a realistic pilot plan whose methodology, procedures, and contents can be replicated for other zilas and upazilas for subsequent plans or even worked into the Fourth 5YP through ADPs.

Note that consistent with the objective of development planning, the emphasis is on capital formation and income-generating activities rather than welfare services. The latter are expected to follow from or accompany, rather

than precede, the former, i.e., people should derive increased consumption from increased income-generating activities and invest in their future. For an immediate beginning toward that end (e.g., to work such a plan into the Fourth 5YP), the Grameen-Bank model seems to be a suitable one: Prepare an integrated plan based on the two studies for Kuliarchar and Mirzhardi in consultation with the Zila and Upazila Parishads and other agencies mentioned earlier. Offer the target groups the matching grant that the Planning Commission will allocate in return for self-help. Ask them where they will like to use the grant, provided they match it by at least 50% of their own resources, which could be in the form of labor or ask them how they can increase agricultural output by 20% in one year if the Planning Commission puts specified funds at their disposal. The Food-For-Work program and all NGO and other activities will, of course, have to be pooled under the umbrella of the Planning Commission. The ground will naturally have to be prepared by senior functionaries of the Planning Commission before such a planning job can be undertaken by hand-to-earth planners. At the planning stage, a collaboration of the authors of the CIDA and BIDS reports, namely S. A. Maqsood and Q. K. Ahmed, will also be useful.

The Kuliachar Upazila: A Planning Study (CIDA, author: S.A. Maqsood, 1987)

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INTEGRATING MACRO AND MICRO PLANNING

1. Introduction

Development planning in Bangladesh has so far followed essentially a macro approach. It has neglected vertical integration of micro and macro planning from village upward to the center. It has also ignored horizontal integration of micro and macro planning within and between public projects and macro policy designs, on the one plane, and within and between private and public sectors, on another plane. With hundreds of public projects completed and hundreds under construction in any year (about 825 in the current year) as well as an increasing reliance for growth, employment, and exports upon the private sector in the 1980s, an optimal approach to resource allocation requires an integration of micro and macro planning. These extensions are overdue and should become a part of the Fourth Five Year Plan and the Perspective Plan.

a) Past Failures in integrating macro and project planning.--Project planning needs to be properly fitted into policy planning. For instance, there has usually been a tendency to overprogram, to approve too many projects because of overestimation of resources. In the past plans, this tendency, coupled with other unforeseen factors has caused time and cost over-runs of projects. As a result, a large number of projects were carried over from one plan to the next. Over time, projects lost their importance and became irrelevant. There was pruning of projects during the later half of the 1970s. As many as 452 projects were dropped during the Second FY Plan period. Because of carrying over of a large number of projects, future development programs are virtually pre-empted. As a

consequence, the scope of planning in the future becomes more and more limited. The indirect effects of dropping some projects on those remaining in the plan are not known, because projects are simply collected for the plan and are not properly integrated. The dependence of projects on external aid, the presence of aid conditionalities and the gradual increase of debt burden are some of the other areas which render development efforts through public sector projects in most cases futile.

b) Failure of public planning to integrate the responses of the private sector.-- For realistic planning, expected responses of private investors, producers, exporters, savers, and so forth, need to be taken into account. Thus extensive assistance and a number of incentives to investment and employment creation were given in the New Industrial Policy of 1982 and the Revised Industrial Policy of 1986. The response to these incentives is believed to be negligible. But we neither really know what the response has been, nor why it has been what it has been. An integration of private sector's predicted behavioral responsiveness and public resource allocation is highly desirable.

c) Weaknesses of the technical framework of earlier plans to integrate macro and micro/project planning.--The First Five Year Plan was based on an input-output (I-O) model. In 1976-77, a new I-O table with 47 sectors was prepared to provide technical guidelines for the Second Five Year Plan. The I-O models took care of intersectoral consistency and material balances of the economy. These models, however, did not consider the dual of I-O matrix to provide any analysis on prices, wages, etc. It did, however, incorporate some strategies for rural-agricultural employment orientation of the plan, a priority for meeting basic needs, and so forth. But the I-O models for the First and Second Plans had

3. Data Needed for Integrating Macro and Micro Planning

The preparation and evaluation of integrated five-year and annual plans require joint action by the Planning Ministry and the line ministries. The Planning Ministry needs project data from line ministries. Line ministries, in turn, also need some data from the Planning Ministry. I will first describe the basic data, needed for the I-O table which is to be prepared by the Planning Commission. The necessary data for the I-O table will naturally be supplied by BBS. The table will be good for at least two five-year plans.. The information to be suppled by line ministries has already been dealt with in the Workshop on the PP. A few words about it will also be said after discussing the data for the I-O table in the next subsection.

a. Data needed for limited integration.--For the preparation of the augmented I-O Table, "limited integration," as defined here, data on the structure of output and employment are needed: comprehensive measures of all material inputs (raw materials, fuel and power, services purchased, and other materials cost items); all primary inputs (rental valued of land,

regional input-output tables for 4 divisions, but does not appear feasible for Bangladesh, at least at this stage. For the I-O tables, one needs data on the movement of factors (labor migration and regional investment and capital movements), and goods (interregional Trade), which is not an easy task to accomplish. Regional planning may, therefore, have to be handled without regional I-O tables and without the incorporation of interregional flows of factors and goods. A plenty of literature on regional, town-and-country, or spacial planning exists.

d. Mechanics of integrating assetless micro units in upazilas with national resource allocation.--This is the heart of planning. It is true that three-quarters of Bangladesh population lives below the poverty line. Yet, it is important for planning purposes to know where and what type of assetless families(and handicapped persons) and asset-scarce floating and permane establishments are concentrated. One clue to integrating micro plans for these target groups is to identify who produces what and for whom. In this context, much maligned though it is for its small coverage, Bangladesh's household expenditure survey is the delight of data-users, inasmuch as it is not only the source (and the only source) of three extremly important, critical data sets--(a) detailed-expenditure patterns, (b) comprehensive agricultural inputs and outputs, and (c) near-comprehensive nonagricultural incomes by source--it also contains questions from which one can infer such valuable pieces of information as whether a producer "sells to the poor" and whether a producer/consumer "buys from the poor." Such data can be classified even for the augmented input-output table, but can be analyzed for planning without a model.

machinery, structure, working capital, by equity and debt, labor by skill classes, etc.), outputs (primary product, byproducts and waste, produced and sold, services rendered, and so forth), inventories and stocks; as well as taxes and subsidies. The type of questionnaire that generates this kind of data is that for CMI, which needs only minor revisions for the data needed for the reference I-O table insofar as manufacturing industries are concerned. Similar data are also needed for other industries: agriculture and allied production, wholesale and retail trade; construction; transport, communication, and storasge; community, social, personal and business services; finance, insurance, and real estate; and so forth.

Line ministries will supply similar data on the inputs and outputs of each project. Insofar as it is feasible, line ministries should prepare a complete ledger of real (as distinguished from pecuniary) inputs (costs) and outputs (benefits), including direct and indirect (but not general-equilibrium) tangible and intangible, and inside and outside(of the jurisdiction concerned). At the line-ministry level, only market prices need be used. Shadow prices ought to be applied or supplied by the Planning Commission at the overall planning stage, particularly for wage, foreign exchange, rate of discount, and prices of key intermediate inputs, e.g., electricity, transport, fertilize

b. Data needed for global integration.--The augmented I-O table is also the foundation of "global integration". By itself, however, the fixed-coefficient I-O table is only a matrix of technological linkages. The micro-foundations of macro planning are essentially provided by behavioral linkages, the preferences of decision-makers. Usually indicative planning is backed up by various policies and incentives to influence the choices of private investors, producers, consumers, exporters, importers, and other actors.

of particular relevance to a general-equilibrium model of planning are production functions, investment functions, consumption functions, income distribution functions, export-import functions, and monetary demand-supply functions. In addition to the data on inputs, outputs, and employment of the I-O table, therefore, two other major sets of data are needed for an integration of micro and macro planning in both public and private sectors, namely (a) household incomes and expenditures and (b) financial data. and (3) data on the actual use of incentives. The last-mentioned data set needs some elaboration.

c. Data needed for the impact of policies.--The issue of gauging the impact of policies is critical to macro-micro integration, especially between public and private sectors. It can be analyzed without a general equilibrium model, but can, in due course should, be analyzed in the general-equilibrium context. For, contrary to the earlier impression, even an I-O model, not to speak of CGE models, is quite versatile in analyzing the general-equilibrium effects of policies whether their impact operates through changes in quantities or prices of inputs or outputs.

The data on the impact of policies on investment, employment, and other variables of interest, i.e., the extent to which small and large enterprises of Bangladesh have availed themselves of various incentives, do not exist. This is the most urgently needed series of data for the Fourth Plan.

'. Data Available as of Now

a. For the augmented I-O table.--The existing I-O table of Bangladesh is outdated and too aggregate in primary inputs. For instance, the only row other than the transactions matrix is that for total value added. Among other revisions, this row needs to be disaggregated between labor and capital and among different skill or occupational categories of labor. Along with that disaggregation, the corresponding quantities of capital and labor categories

HIID/ESEPP Project
Planning Commission
Government of Bangladesh

Occasional Notes

No. 89.4

COMMENT ON:

BANGLADESH AGRICULTURAL SECTOR REVIEW

BANGLADESH AGRICULTURE; PERFORMANCE, RESOURCES, POLICIES AND INSTITUTIONS

Draft Final Report

Prepared by an Independent Group

Sponsored by UNDP

December 1988, 345 pages

Summary of Comments by G. S. Sahota during the 5-Day Workship on the ASR Report Sponsored by UNDP/Dhaka

Jan 28 - Feb 2, 1989

(Same as Working Paper 17)

Written for
UNDP and
World Bank

To begin with I must congratulate the ASR authors on producing a well-balanced report which covers most of the pertinent aspects of agriculture--agric.in national economy, resources, policies, and institutions--and addresses not only to crops but also fishery, forestry, and livestock. It reflects the authors' deep knowledge of Bangladesh's agriculture. The chapter on macro-price policies is well-done and the conclusion that macro prices--the exchange rate, interest rates, wage rates--are, by and large, neutral between agricultural and nonagricultural sectors is convincing. There are several other commendable aspects of the report. My time and the listener's/reader's time will be more economically used, however, if I concentrate mainly on what I consider the weaknesses of the report and where I differ from its conclusions/recommendations, so the authors/sponsors are alerted about them (though they may not agree with them or may refute them with counter arguments) instead of presenting an inventory of the good aspects of the report, which are many.

The main weakness of the report is the lack ofadequate analysis as the basis of their recommendations. Had they done this analysis, they might have come out with more illuminating, more practical, and different results and recommendations than they have. There are at least four areas in which their recommendations and priorities are, in my judgment, on tenuous grounds, they did not do the relevant analysis or did not do it rigorously enough. I will discuss these four areas first and then present a summary of the remaining comments I made in the workshop.

I. Identification of agricultural growth subsectors and prioritization

The question of identifying growth subsectors and setting priorities is central to a sector study.

The ASR report has addressed itself to intersectoral resource allocation, prioritization, equity, and agricultural productivity. It has come out with the "obvious" recommendations: more infrastruc, more credit to small farmers, cheaper agricultural inputs, promotion of primary and secondary education, and population control. There is no ranking done in time and speed and there is little analytical basis as to why and by how much these facets of agricultural growth are more deserving than, for instance, agricultural research, agri-based industries (to expand the demand for agricultural raw materials and to increase off-farm rural employment), and so forth.

The report has come out with the recommendation that the agricultural share of ADP prevailing before the withdrawal of fertilizer subsidy be restored, without any attempt at the more scientific method of determining optimal allocation by reference to comparative advantage or quantifying intersectoral discrimination. The report tries to justify subsidy to fertilizer on the grounds that domestic price of urea is 23% above f.o.b. export price without stating the year or month of this gap, without indicating by how much the c.i.f. import price deviates from the domestic price, and without even footnoting any of the plethora of other protected, high-cost industries whose domestic price to border price ratios are many times higher than the noted fertilizer price ratio. The report finds agricultural research unproductive and consequently, undeserving of

additional funding without telling the reader whether it has been underfunded, overfunded, or optimally funded. The report rightly notes that there is scope for increasing yield of rice per acre in Bangladesh, but without producing even a simple table of yield comparisons with other countries having similar climate, soil, and other environmental and econo-demographic conditions to get some idea of how big the slack is. Other examples can be listed but the above 4 will do and will be substantiated below by pointing out the analyses that are relevant, for which data exist, and which will probably produce different results and policy implications and recommendations. These points are substantiated below.

The standard benchmarks for assessing comparative advantage of industries are border or world prices. That, however, is only the starting point. Many other factors have also to be considered. It is not easy to estimate comparative advantage for scores of crops and industries/sectors but can be done. The only information on comparative advantage that the ASR report has presented (p.III-8) is taken from an undated World Bank source, which gives domestic resource cost and international value added for a few crops. By itself that is a small piece. But even the World Bank calculations were not updated!

Coincidentally, HIID/ESEPP Project's analysis of comparative advantage for various industries includes several agricultural products and a number of agri-based industries. It is interesting to note that agri-based industries emerge as potentially the top dynamic sector of the country. That is fortuitous

II. Subsidy to Fertilizer

The ASR report bases its recommendation to introduce targetted subsidy now and general subsidy if the fertilizer price rises in future for some reason. The subsidy is based on both equity and efficiency grounds, inasmuch as small farmers will be the beneficiaries (equity) who, according to a BIDS study cited in the ASR report, also produce higher output per acre (efficiency). Once again they based this recommendation without sufficient analysis. There are a number of weaknesses in the recommended subsidy policy:

(1) Conceptual inferiority of input subsidy.--Subsidy to an input, like fertilizer, causes double distortion: (a) at the level of input allocation and through that (b) at the level of output choice. A fair support price will distort only output choice.[1] Larger the distortion, the higher the social cost of production.

As regards growers' price, the authors' statement on p.III-40 is misleading if not flawed. "We believe that the answer to the question (has foodgrain price policy ensured growers an "incentive price?") is "No!". With the exception of 1986, growers prices have always been lower than procurement prices."

The statement seems to imply that growers' price being above the procurement price, i.e., a "floor" price, is something undesirable. Isn't "incentive" provided by "floor" price rather than "ceiling" price? The problem is different: Government of Bangladesh's procurement policy is aimed mainly at building buffer stocks of food. Its net purchases are usually around 2.5% of total production of rice. The policy operates in such a fashion that when the procurement price is lower than growers' price, procurement price is irrelevant, for the market is paying a higher price to the farmer than the government. On the other end, when a procurement price is higher than the growers' price, the procurement price is impotent, because it has not supported the floor. Only when the procurement price supports the floor does it perform the right role of support prices.

(2) Incorrect benchmark and data twist in ASR.--(a) In the ASR report, the basis of subsidy to fertilizer is derived from the implicit tax measured by the gap between the domestic market price and the (incorrect) f.o.b. export price, rather than the (correct) c.i.f. import price. The c.i.f. cost from the nearest import point (Middle East) to Chittagong is between US$ 40 to 60 per ton, which is 33%-49% of f.o.b. export price (=40/122 to 60/122). (b) It is not known from where and for which month the ASR report has taken its domestic price of Taka 4110/ton and f.o.b. export price of Taka 3353/ton (III-61). The BADC, BCIC, and published fertilizer price statistics show domestic fertilizer price almost invariably below border price, except a very short-run wobble, as may be seen from Table 4. Since July last year the f.o.b. export price has been at par with the weighted mean of 3 ex-factory prices. As of today, ex-factory price = Taka 4025/ton and f.o.b. export price 122/ton or Taka 4026 (=122x33) per ton. Adding $50/ton for the c.i.f. cost, the border price = Take 5700/ton. (c) But why pick only one high-cost industry? What about a host of other high-cost industries? An insight into these fifferences is provided in Table 2 (see also the note to Table 2), where fertilizer comes out with a negative effective rate of assistance (ERA), where 36 of the 47 I-O sectors have ERAs exceeding 10% and 14 exceeding 50%. For instance, metal products (also an intermediate good) has an ERA of 113%, paper 119%, livestock 62%, several "other crops" 51%, fishery 62%, cotton yarn 80%, and so forth.[2]

(3) Empirical weakness.--Not only the ASR report has not done its own computations, it has not even reported others' estimates of the marginal product per taka of fertilizer or rate of return from the use of fertilizer. If fertilizer's marginal product is as high as implied in literature, why

for Bangladesh's agriculture inasmuch as the ASR report aptly underscores the need for generating nonagricultural employment in rural areas and recognizes the role of off-farm income-generating activities for the sake of agricultural growth. It does not, however, present any research or thoughts on which rural activities or which derivatives of agriculture are viable. Let us take a quick look at the HIID results.

Table 1 lists the relevant 4-digit manufacturing and trade and catering industries with their expansion rates as measured by employment of newly entering firms since Independence in 1971. They are classified into 3 distinct epochs of the 15-year period--namely, 1972-75, 76-81, and 82-86--and are listed in Table 1 according to the highest rates of growth of employment in one epoch relative to the other two. s a first approximation, we examine more closely those industries that expanded at faster rates in Epoch 3. It may be seen that at least 10 agri-based manufacturing industries (Ind Code 31) appear in Epoch 3 with the higher rate of growth of the 3 epochs.

Once recent high-growth industries have thus been identified out of a total of about 300 four-digit-industries on the basis of employment growth, we start applying a number of other criteria of dynamism and desirableness to them, namely:

1. a growth rate of the number of firms exceeding 12%
2. positive rate of total factor productivity
3. industries that are predominantly small (and presumably intensive in both labor and agricultural raw materials)
4. an import content of investment (not production) less than 10%
5. mean annual rate of investment exceeding 10%
6. mean effective rate of assistance below the overall mean
7. export performance (not yet ready)

It may be seen from Table 1 that agri-based industries pass no fewer tests than any other industries. The food-processing subsector is comprised predominantly of small enterprises, which have grown at a faster rate among all size-classes (see Fig.1).

By way of a check on these results, we verified the performance of various industries at the stock exchange. The agri-based industry group comes out, surprisingly, very high on the valuation of its stock market capitalization (it is 11.38 times the issue capital), which is second to none among the rest of the industries, including service industries, as may be seen from the attached tearsheets of the stock exchange Fact Book, 85-86, pp. 36-39.

The 7 criteria applied come from 5 different, unrelated sources of data. Hence, they provide verifications of the results of each other. This is not the only test of comparative advantage. Other tests could be devised. Unless other tests yield different results, agri-based, rural industries deserve priority, as they promote demand-led growth of agriculture, provide high rural employment, alleviate rural poverty, and increase the efficiency of the overall economy.

Insofar as the agricultural sector proper is concerned, we have so far calculated only the effective rates of assistance (ERA) for the 9 agricultural subsectors of the Input-Output table. The results appear in Table 2. It may be seen that agricultural products enjoy significantly lower ERAs than nonagricultural products. Compare rice, fishery, livestock, etc., against nonagricultural sectors in Table 2. The quantitatively expressed discrimination against agriculture provides the basis for an increase in the agriculturalshare of ADP.

bother about 10% subsidy on price? What is the market-clearing price where domestic supply and demand meet? Is fertilizer price so high that fertilizer stocks are being accumulated and there are no takers/buyers? If marginal product of fertilizer is higher in small than large farms, the incentive to use more fertilizer by small farmers already exists.

In the absence of the analysis of the production-function, the ERA, and/or the comparative-advantage, informed judgment about as critical a policy as fertilizer subsidy is a risky affair.

(4) Eq-Eff-Tradeoff. --Little analysis has been done concerning input-price subsidy versus output price support. The sagging effect of imports and food aid on growers' prices is toned down. It is true that product price support benefits the large farmer whereas fertilizer subsidy can be targetted to benefit the small farmers. But when prices are required to play the distributive role in addition to their allocative role, the correct role assigned prices must be supported by some analysis of costs and benefits and equity-efficiency tradeoff. If support price causes fewer inefficiencies than input subsidies, a part of the proceeds of the flat rate land tax (rightly recommended by ASR) may be earmarked, for instance, for the preschool education of rural poor children to increase their educational and earning capacity.

(5) Implementation problem.--There is also the question of whether fertilizer subsidy will reach the target group, whether it will not create secondary resale markets, and whether it will not increase bureaucratic interference in the micro activities of small farmers.

III. Agricultural research

Another aspect in which the ASR report's analysis lacks depth is agricultural research, which is expunged from the list of agric growth programs

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by a strange reason. It is argued that Bangladesh agricultural research has been unproductive, that, for instance, "virtually no research findings have been disseminated during the past 24 years of the existence of Rangpur research station" (p.II-24), and that, therefore, Bangladesh's agricultural research is undeserving of additional support. Rather than putting more money and hiring competent scientists, the recommendation is for less support.

In this regard, recall that in the ASR report, fertilizer and irrigation are being assigned high priorities. How productive will fertilizer and irrigation be without the stream of HYV seeds and other advanced techniques of production?

In the judgment of this commentator, the expansion of agricultural research should receive top-priority. What is the analytical basis for minimizing the importance of agricultural research? For instance, data have been generated and are available for almost all the countries of the world on: (1) the number of scientists by different categories in agricultural research institutes, farm-experiment stations, and agricultural universities and (2) the funding of agricultural research as a percentage of GNP. Conformable comparisons of Bangladesh's staffing and funding of agricultural research with other countries should provide some benchmarks as to whether the critical mass of scientists in agricultural research in Bangladesh has been reached and where Bangladesh lies in terms of agricultural research funding as a percentage of GNP. Has it reached a quarter of 1 %, for instance? What type of research has gone on and what type is more promising? What is the insiders' explanation for low productivity of researchers? These questions should be verified.

The reason why agricultural research is so crucial within a country is that crops and several other agricultural products are location-specific.

You cannot just import HYV seeds. Those HYV varieties have to be developed that are suitable and adaptable to the country's climate, soil, and other environmental factors. A critical mass of agricultural scientists is absolutely imperative. It also has scale economies. In this commentator's opinion, the ASR report made an incorrect judgment about agricultural research. These are the pitfalls of not using appropriate benchmarks and not doing in-depth analysis.

IV. Potential for Growth

Finally, little analytical basis has been provided for predicting or targetting a 3.0% versus 4.5% or any other annual rate of future agricultural growth for the 1990s. If probable sources of growth of agriculture--on the basis of which growth potential could be predicted, for instance, under alternative regimes--cannot be determined, at least simple comparisons of the per-acre yield of different crops in Bangladesh against other countries with similar soil, climate, and socio-demographic factors could have been used. The information about the percentages of HYV crops that has been provided in the report is very useful, but good only for static pruposes. For a dynamic agriculture, potential rates of increase in yield per acre ought to be assessed. The green revolution is a process of improvement of seeds and production techniques, not a one-shot increase of one type of seed over the traditional one. Continuous research is needed. The slack that exists in Bangladesh in comparison to other rice-producing countries should throw some light on the "potential," but one cannot find that in this report.

V. Other comments

A few other comments of lesser importance follow.

Regarding the ASR's rejection of the goal of self-sufficiency in food.--In the ASR Report, the food-security (self-sufficiency, self-reliance, or whatever) is considered a questionable goal for Bangladesh. "Benefits of aid imports to Bangladesh exceed the (indicated) risk" of not pursuing self-sufficiency in food (p.I-18). The argument does not seem very cogent inasmuch as (1) almost all western developed countries follow this or related objective in pursuit of which they provide high levels of support to their agricultures and (2) the country has gone through a politically motivated food embargo (mentioned in this report, when at the height of famine in 1974 a major and friendly food donor country conditioned its food aid on Bangladesh's stopping its jute exports to Cuba). Having experienced the food embargo and having fought 3 independence wars in 3 decades--the first against the British, for getting rid of the 200-year-old colonial rule; the second against India for partition; and the third against Pakistan for national liberation--one cannot blame the country for seeking food security. Self-reliance does not mean autarky. Moreover, food deficiency in Bangladesh is tantamount to her continuing to be a basket case. I quite understand the sentiment for self-reliance in food echoed in an international seminar on food here in Dhaka two months ago by a Bangladeshi friend of the poor, Mohammad Yunus, the innovator of a bannking theory which he has also put into practice. In words to the following effect against food aid, he concluded: "Charity in any other form than food is allright, charity in food is a national disgrace."

Education.--The ASR report justifiably assigns top priority to education. Its emphasis on free and universal primary and secondary education is correct, but it has not even mentioned preschool education for poor children.

of soap, for which data are collected, reflect not only which social classes consume them, but also can be traced in combination with production data as to which industrial sectors produce them, e.g., mechanized large or non-mechanized cottage industries. (2) This is the only source of detailed agricultural incomes and costs: output of crops, livestock, poultry, etc., sold and self-consumed; comprehensive costs of agricultural production (fertilizer, labor, and so forth). Combined with the agricultural census (which generates data mainly on land holdings), this source covers all aspects of the agricultural economy.- (3) It collects data on personal characteristics of each member of household, including almost a dozen levels of education. (4) Nonagricultural incomes are collected by source and quite comprehensively: wages in all components, rents, dividents, interest, transfers, and so forth. (5) Data are also collected on home characteristics, including imputed incomes, e.g., the rental value of owner-occupied home. Only a few more questions need be included to account for all household economic activities by their input-output coefficients (linkages to the market sector). It is, indeed, an expenditure survey, an incomes survey, and an economic survey in one.

Thus, the forthcoming economic survey (which will include all nonagricultural sectors) and this survey, in combination, will span the entire production economy of Bangladesh, on the one hand, and the sources of income, household assets, consumption patterns, and personal and home characteristics, on the other hand. Practically, the only remaining data set needed to complete the general-equilibrium model concerns the monetary and general-price variables, for which up-to-date data (other than a few variables, such as employment) are, by and large, available from financial sectors, and demographic and nutrition statistics, for which alternative sources will have to be drawn upon.

Unfortunately, while BBS generates data on [illegible]l and nonagricultural

need to be prepared. Besides, serious consideration ought to be given to incorporating forward and backward linkages between small and large sectors and in expanding the size of the matrix.

Realizing the critical need for an updated I-O table, the GED has undertaken the task of assembling a new I-O table from scattered surveys and studies. While this modest effort, too, is worth many times its cost and (in view of the uncertainty of more comprehensive and trustworthy data becoming available on time, for which see the next section) should not be abandoned, the necessary information for the indicated augmented I-O table simply does not exist.

The data for the I-O table is appropriately generated in a single multisectoral economic survey. Coincidentally, a multisectoral economic survey of this nature is currently in progress at BBS. Its enumeration is scheduled to start in July this year. Here is a golden opportunity to generate the right kind of data for the indicated augmented I-O table. I will return to this issue in the succeeding section on data expected in 1989.

b. For CGE models (The IES and Household Expenditure Survey, HES)--Next to the multisectoral economic survey, the most basic, major data set for a general-equilibrium model is Bangladesh's periodical household production-income-and-expenditure survey, called simply household expenditure survey. The latest available survey is that for 1985. A new one is to be undertaken this year.

The questionnaire of this survey is pleasing to data-users. A few features of it should be noted: (1) Expenditure items are so detailed that it is possible to identify, for instance, whether one is produced by the poor for the poor, by the wealthy for the poor, or vice versa. Thus, half a dozen different types

base for the country will be lost. For, firstly, this survey is going to serve as a benchmark for future surveys and, secondly, this is the first multisectoral survey of this size which will be done during the same time period, so it will have no year bias and pricing problems.

What are appropriate questionnaires for each of the nonagricultural sectors listed earlier?. In this regard, we at the GED have carefully reviewed the 15 questionnaires prepared for this survey by the Ad Hoc Data-Users' Group, consisting of Drs. Zaid Bakht, Wahiuddin Mahmood, Gian Sahota, and Sahadat Ullah. We have found them very appropriate. Yet for the information contained they are relatively short. The questions are unambiguous and are posed in such a way as can elicit the right information without taxing the patience or the factual knowledge/record of the respondent.

The Planning Commission's Data Assessment Group should also get involved in these questionnaires. If there is still time, we would like to look at these questionnaires a little more carefully. It is suggested, therefore, that the Data Users' Group be given a formal status by BBS and the Planning Commission, with an active Planning Commission officer as its convenor. For instance, the convenor of the Planning Commission's Data Assessment Group may also serve as the convenor of this National Data Users' Group.

incomes by source, very tiny fraction of them is tabulated. Since Bangladesh researchers cannot access the raw data tapes because of their confidential nature, these data have gone unused. A new household expenditure survey is currently at its questionnaire stage. Opportunity, therefore, exists to tone it up for marginal deficiencies in the nonagricultural part and then take steps to get it tabulated.

5. Data Expected to Become Available in 1989 and 1990

As short references, here and there, to the forthcoming surveys by BBS have indicated, it is a happy coincidence that during precisely a year (1988) before the fourth FYP is to be prepared (1989), two timely surveys are scheduled to be undertaken. These are: (1) The multi-million-dollar (partially USAID-funded) multisectoral economic (production) survey, scheduled to start being enumerated in July 1988, and (2) the UNDP-assisted household expenditure survey, which is also to be done this year. The two surveys combined should generate a cohesive series of data for both the I-O table and a computable general-equilibrium model. There are, however, two question marks: (1) Much depends upon the content of the economic survey--what questions will be included in the questionnaires? The questionnaire of the household expenditure survey, as noted earlier, is an excellent one and needs only marginal revision. (2) The time frame, i.e., when will the survey data become available? A brief elaboration is in order

(a) The questionnaires for the economic survey.--The most important and critical aspect of the economic survey for an integration of macro and micro planning is its content--the variables generated. A delay in its completion is not a disaster. If data do not become available for the preparation of the fourth FYP, they will at least become available for its revision and annual evaluations and for subsequent FYPs. On the other hand, if questionnaires do not generate (a) the minimally needed variables, (b) develop comprehensive measures of variables and (c) do not cover the sectors of the nonagricultural economy, a golden opportunity to build landmark data

Table 1.--A schematic representation of an augmented I-O Table

Producing Sectors	Using Sectors: Large Sectors	Using Sectors: Small Sectors	Using Sectors: Final Demands: Consumption
Large Sectors	a_{ij}	a_{im}	c_i
Small Sector	a_{nj}	a_{nm}	c_n
Imports	a_{hj}	a_{hm}	
Value Added: Total	v_j	v_m	
By Capital	k^v_j	k^v_m	
By Labor: Total	l^v_j	l^v_m	
Skill level 1	1^v_j	1^v_m	
Skill level 2	2^v_j	2^v_m	
Skill level 3	3^v_j	3^v_m	
Employment			
Capital	K_j	K_m	
Labor: Total	L_j	L_m	
Skill level 1 Skill level 1	1^L_j	1^L_m	
Skill level 2	2^L_j	2^L_m	
Skill level 3	3^L_j	3^L_m	

6. Summary

In summary, an integration of macro and micro planning for the fourth 5YP is desirable and feasible. Integration needs to be done at the planning stage of the fourth FYP and is useful both at the plan-preparation stage and its implementation and evaluation stages. The only logically possible general link between micro and macro planning is some sort of general-equilibrium approach. Appropriate general-equilibrium models for a "limited integration" (mainly linking public projects with national aggregates) and a "global integration" (technical as well as behavioral relationships linking both public and private sectors) have been identified, namely an augmented I-O table and a computable general-equilibrium model, respectively. The existing I-O table is not only outdated and not rich enough for planning, simulating, forecasting, and evaluating major national goals for employment, output growth, income distribution, trade balances, and so forth, but also weakens the Planning Commission's SAM, whose foundation is the same model. A quick review of existing and forthcoming data sets has revealed that a golden opportunity exists for the generation of excellent data sets for the proposed integration of macro-micro planning. The key element in this timely coincidence is the forthcoming multi-sectoral economic survey, provided it generates the right kind of data.

Table 2.--A schematic representation of a CGE model

	Large sector	Small sector	Exogenous Demands
Large Sector	a_{ij}	a_{in}	. . .
Small sector	a_{mj}	a_{mn}	. . .
Production function	$Q = Q(K, L_l)$, omitting sectoral subscripts		
Primary Input demand-supply functions	$w_l = W(Q, L_l, K)$		
	$r_k = R(Q, K, L_l)$		
	$I = I(v_k, Q, \ldots)$		
Consumption functions	$C = C(V, P, \ldots)$		
Import functions	$M = M(V, Q, \ldots)$		
Other equations	. . .		

Conclusive results of a 20-year-long wide-range research of a consortium of 6 universities in the USA and others in Europe suggest that the most effective measure to break the cycle of permanent poverty and the most productive investment in poor children (though not necessarily in children of middle-class families) is the preschool education, without which the wastage and dropout rates among poor children at the level of primary and secondary schools is likely to remain high.

General remark on subsidies

Subsidies give rise to high-cost industries; reduce competition; put drag on the revenue budget; create the Harberger triangles; distort the role of prices from (efficient) allocation signals to (costly) redistributive tools; once given have tendency to become permanent; and tempt bureaucrats to become rent-seekers to share in the gains intended for target groups. Efficient ways of redustribution are lumpsum taxes (land tax comes close to a lumpsum tax) and transfers of assets (the most lucrative and pracgical asset being education). Therefore, unless, a very storng case on equity grounds can be made, subsidies ought to be avoided. If subsidies and taxes are required, they would minimize social costs if levied according to a general-equilibrium solution rather than piecemeal (as discussed earlier).

While accepting the market solution in general, the ASR report tends toward reversing the recent trend of reducing/eliminating subsidies and narrowing price distortions. Preferential treatment of agricultural inputs is recommended throughout the report, without regard to similar taxes/subsidies in the rest of the economy. The report recommends:

reintroduction of fert. subsidy, this time tagetted (II-47)

removal of excise duties on power tillers (II-60)

subsidization of materials to improve micro-nutrients deficiency in soil (II-60)

removal of import taxes on irrigation equipment (II-59)

reduction of import taxes on packaging and containers (III-7)

preferential foreign exchange allocation for import of poultry feed

nationalization of derelict ponds for equitable distribution to small farmers (IV-15)

creation of a national Co-op Parishad (against the spirit of cooperation) (IV-61)

stratification of farmers for subsidy (IV)

and so forth, without looking at the distortions in the rest of the economy. Refer to the discussion of Table 2 above.

Regarding government intervention in shallow tubewells.--I do not think any government intervention in farmers' micro activities, e.g., in the tubewell business, is in order. Individual farmers will perceive even the depth of underground water by experience, and are not likely to create the tragedy of commons (such as overfishing). Insofar as negative externalities are concerned, it is a small-number case for any given land area: Farmers can and have even entered negotiations to sink the right number of wells. The cost of shallow tube wells is rather modest, around $1000 open-market import price, and average farmer can afford it with or without credit, while small farmers can either pool their resources or buy water from neighbors. Local monopoly in water supply is possible but unlikely to last very long. Let the government devote its resources to supplying information about water, technology, and the like.

On the negative side, public interference (renting public-owned engines, selling by public monopoly, regulation, licensing, sanctioning) may create all those problems of delays and costs that have plagued private sector. investors in industrial/Public investment need go only to big projects that individual farmers cannot undertake such as infrastructure, natural monopolies, and projects with large externalities.

As to the question of standardization and repair, exporter-seller and the buyer have common interest. As a matter of fact, many exporters pack rapidly wearable spare parts with the engines. Likewise, why is the use of irrigati ubewell engines for boats and similar purposes of concern? The owner knows better where the use of his/her engine has higher return.

On the competitiveness of private-sector wages.--Private sector wages in those industries in which public enterprises exist side by side private enterprises are, to some extent, subject to leader-follower relations. The labor in the latter industries pressures the management to match wages in the public sector whenever public-sector wages rise. The public sector may not resist wage pressures because its deficits are underwritten by government. But that creates problems for the private firms.

Competition between public and private firms will be fair only when public sector enterprises are not subsidized.

May highlight the following point.--The six-line paragraph starting with the words, "we also urge the BBS to use a more comprehensive definition of economic participation . . . " (p.II-10) should be elaborated to draw the attention of data-generators to the high costs of not accepting the input of data-users in carrying out their surveys/censuses. Last year, two national data-users groups,--one consisting of representatives from BIDS, University of Dhaka, Donors, and Planning Commission; and the other consisting of a Planning Commission subcommittee--spent months in identifying data gaps and preparing questionnaires and had several meeting with the BBS staff, but to no avail. Therefore, the point needs to be stated emphatically.

In summary, I would like to see more analysis in the ASR report. If the analysis suggested in these comments is done, I expect agricultural research to attain top priority; promotion of agri-based industries the next, or at least at par with irrigation, credit, etc. I would expect product support price to get preference over fertilizer subsidy; recommendation for the exit of govt from farmers' micro activities, such as small-scale irrigation equipment, shallow tubewells; inclusion of pre-primary schooling of rural poor children alongside primary and secondary education; and the acceptance of food self-sufficiency as a national goal.

In the end I would like to repeat what I wrote in the opening paragraph, namely, on the whole, it is a competently done report and has many good aspects. Each of the authors knows a lot more about Bangladesh's agriculture and its problems than I do. Even their informed judgment may be better than an analysis based on not-so-trustworthy data. But I would not be doing my professional duty as a commentator if I did not point out what I consider are weak points of the report. I hope the ASR authors will take them in that spirit.

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FOOTNOTES

[1] In answer to my theoretical point that subsidy to an input causes a double distortion, an internationally well-known expatriate participant gave me the following note in writing (for which I am grateful to him):

"Dr. Sahota

"I think it is incorrect to say that "input subsidies distort both input-mix and output-mix, but output subsidies distort only output-mix."

"Input subsidies (a) increase input-intensity of production of any particular crop, and shift input-mix towards the subsidized inputs; (b) shift output-mix towards crops intensive in input use, especially towards use of subsidized inputs.

"Output subsidies (a) increase output (not much) and shift the output-mix towards subsidized outputs (a lot); (b) shift input-mix towards inputs especially used in production of subsidized outputs."

"Even equiproportionate subsidies on all outputs, whether in proportion to gross values or to value-added, will alter the input-mix-perhaps substantially--because elasticities of derived demand for each input are different. One could devise a mix of output subsidies that would keep the input-mix constant, but there would be no special advantage in this subsidy mix!"

This defense of subsidy to input as against output is admissible, at best, under very special, unrealistic assumptions about the nature of production of agricultural products. I leave it to the reader to figure out why input-price subsidy causes double distortion.

[2]It is interesting to note here that a stalwart economist of Bangladesh who was on the opposite extreme to me on the issue of fertilizer subsidy was in complete agreement with me on the issue of determining sectoral and and subsectoral resource allocation on the basis of comparative advantage and general equilibrium approach from the scratch. The chair asked the stalwart economist how to do it. It was at that point that I presented the above results, arguing that the requisite analysis can be done and that to a large extent it is already done.

Table 1.--Results of the application of 7 criteria in search of compatative advantage by four-digit industries, 1972-75, 1976-81, 1982-86

CODE	GROWTH RATE OF WORKERS 1972-75	1976-81	1982-86	REGIME	INDUSTRY NAME
3116	5.22	2.73	3.73	1	Edible oils
3119	11.68	9.73	10.94	1	Wood ,cork products nec ex. furi
3125	16.27	0.91	3.88	1	Confectioneries
3128	35.17	0	22.94	1	Edible salt
3143	2.84	1.59	1.75	1	Bidies
3152	9.28	0	9.05	1	Bone crushing
3216	7.35	5.29	4.3	1	Handloom textiles
3217	3.1	1.69	2.42	1	Dyeing, finishing of textiles
3232	22.51	5.77	1.59	1	Hats and caps
3312	12.12	0	5.93	1	Plywood and plywood pro[illegible]s
3422	10.89	7.77	9.15	1	Print,publish - book & [illegible]odi
3424	14.24	2.57	11.8	1	Printed cards & stationery
3513	8.23	0.41	1.73	1	Ayur-vedic medicines
3519	85.82	0.53	0	1	Medicinal pharma preparation
3611	44.52	2.54	5.6	1	Earthenware
3622	4.59	1.68	1.25	1	Glass products
3721	5.43	0.2	0.53	1	Aluminium & aluminium alloys
3819	7.49	2.5	5.6	1	Utensils- aluminium
3851	3.98	0.82	2.68	1	Ship building & repairing
3871	31.3	0	0	1	Photographic goods
3931	8.17	7.84	8.06	1	Jewellery - precious metal
3933	12.49	5.79	7.88	1	Musical instruments
3935	12.69	6.05	25.9	1	Toys - non-power driven
6114	15.06	8.6	5.93	1	Hides & skins
6124	3.8	0.83	3.05	1	Petroleum products
6135	13.22	6.6	2.41	1	Paints, varnishes & colours
6149	34.27	0	5.01	1	Machinery & equipment nec
6152	14.43	2.22	10.82	1	Electrical appliances
6163	10.51	6.02	1.78	1	New apparel & accessory ex.foot
6169	59.33	10.04	0	1	Textile products
6175	18.75	4.99	9.86	1	Dairy products
6176	10.22	1.06	7.7	1	Ghee & cooking oils
6177	15.3	6.53	10.67	1	Fish & sea foods
6183	16.71	5.15	14.87	1	Paper & paper products
6188	30.2	10.37	12.17	1	Fuel-wood & charcoal
6189	9.02	6.33	1.63	1	Bicycle,rickshaws & parts
6191	12.17	10.76	5.68	1	Costume jewellery, ornaments
6198	29.1	11.02	21.79	1	Agents & brokers
6199	36.25	14.48	24.34	1	Wholesale trade nec
6214	23.82	12.21	6.58	1	Poultry
6226	12.2	5.42	4.12	1	Ration shops
6239	12.73	7.8	8.92	1	Apparel, accessory & textile nec
6242	12.45	8.43	4.51	1	Floor covering
6247	17.45	10.57	11.94	1	Suitcase etc- leather & substi t
6252	19.64	6.61	13.37	1	Sewing machines
6262	22.13	8.85	11.51	1	Paints, varnishes & colours
6266	22.83	6.25	12.51	1	Sanitaryware & plumbing supply
6291	24.73	6.75	12.03	1	Jewellery & ornaments
6292	14.49	9.15	11.21	1	Costume jewellery & ornaments
6322	3.77	2.83	2.72	1	Hotels,lodging - noncommercial
11	0	1.93	0	2	Slaughtering & preserving of m

Table 1--Contd.

3112	3.04	10.89	10.9	2	Dairy products
3114	0	2.52	0.78	2	Fish and sea foods
3117	0	47.5	36.38	2	Inedible veg. oils
3118	4.42	9.27	4.93	2	Grain millin (flour)
3121	0	16.05	12.45	2	Grain mill products
3122	5.18	8.17	7.77	2	Bakery products
3126	0	0.17	0.09	2	Tea & coffee processing(black tea
3127	0	55.95	0	2	Tea & coffee blending
3129	0.58	10.78	9	2	Misc. food products nec
3144	0	4.47	0	2	Tobacco stemm & redrying
3213	0	0.13	0.1	2	Jute textiles
3214	1.57	13.71	11.28	2	Silk & synthetic textiles
3223	3.99	8.72	5.62	2	Knitting mills
3241	0	10.33	2.22	2	Tanning & finishing
3243	3.47	32.87	9.22	2	Leather products
3263	0	1.15	0	2	Jute processing & baling
3313	4.75	33.43	10.84	2	Wooden structural products
3318	1.68	10.79	7.09	2	Bamboo & cane products
3412	0	3.7	3.64	2	Paper board manufacturing
3426	0	4.91	0	2	Metal sheets printing
3511	0.42	1.94	1.39	2	Allopathic medicines & product
3522	0	13	2.23	2	Dyes,colors & pigments
3526	0	42.72	3.48	2	Resins & plastic materials
3531	0	35.28	0	2	Paint, varnish & allied prodt.
3536	0	7.19	0.49	2	Ink(all kind) mfg.
3539	0	32.82	2.13	2	Chemical products etc.
3571	7.79	14.15	5.87	2	Plastic footwear
3579	2.19	9.69	7.57	2	Misc. plastic products
3612	0	5.92	0.33	2	China & ceramic
3619	3.81	10.06	0	2	Pottery, china, earthenware nec
3693	0	28.15	4.43	2	Cement products
3729	0	28.84	6.97	2	Other basic non-ferrous metals
3814	12.56	15.47	14.32	2	Furniture & fixtures - metal
3817	0	5.9	4.3	2	Heating & cooking equipment
3818	8.22	9.85	3.26	2	Wire products
3821	12.82	15.12	12.75	2	Utensils-copper and brass
3827	0	4.3	1.28	2	Plumbing equipment
3835	0	1.09	0	2	Industrial machinery
3837	0	0.38	0	2	Sewing machine
3842	0.36	4.6	1.24	2	Radio & television
3849	0	24.06	2.71	2	Electrical apparatus
3855	0	7.89	0	2	Motorcycles, auto-rickshaw
3916	15.24	15.72	3.5	2	Textile & sewing handicrafts
3941	3.92	12.94	11.2	2	Signs & advertising displays
6112	3.68	40.18	6.49	2	Cotton
6113	5.96	7.1	4.64	2	Jute
6119	5.15	9.38	7	2	Agricultural raw materials nec
6139	0	6.39	0	2	Lumber & constn. material nec
6164	0.67	1.14	0.33	2	Hosiery & related items
6165	14.15	21.89	17.54	2	Second-hand clothing
6167	0	6.28	1.84	2	Footwear ex. leather
6171	1.15	6.51	6.43	2	Fruits & vegetables fresh
6174	0	20.09	16	2	Poultry & eggs
6179	4.81	7.42	4.17	2	Food items nec
6185	9.73	17.5	0	2	Sports, athletic goods & toys

Table 1--Contd.

6186	5.15	11.11	8.65		2	China, glassware, cutlery, etc
6213	6.59	11.34	5.15		2	Meat -beef,mutton & pork
6223	5.5	10.6	7.42		2	Retail bakeries
6224	3.37	4.85	2.93		2	Alcoholic beverages
6230	1.65	15.26	0.27		2	Apparel & accessories NAD
6253	14.03	17.05	8.58		2	Radio, TV & sound equipments
6264	6.66	17.42	17.35		2	Plywood, glass, etc
6269	0.25	3.3	2.41		2	Hardware and building material
6271	6.46	31.1	0		2	Motor cars, buses & trucks
6274	3.63	12.03	5.75		2	Bicycles & cycle rickshaws
6281	6.57	20.39	20.02		2	Department stores
6287	7.78	8.08	6.74		2	Watches & clocks
6298	5.3	10.85	9.21		2	Hay, fodder & animal feeds
6314	5.6	22.16	9.96		2	Misc. eating & drinking places
3000	0	0	12.61	s	3	Manufacturing N.A.D.
3113	9.95	0	40.8		3	Fruits and vegetables
3115	0	0	28.9	**@$&	3	Hydrogenated veg. oils
3124	0	6.22	11.58	s	3	Gur
3141	0	0	0.16	@	3	Cigarettes
3145	0	3.22	6.65	$#	3	Zarda and quivam
3149	0	5.04	8.38	s	3	Tobacco manufacturing
3211	0.54	1.76	2.03	@#	3	Cotton textiles
3212	0	0	24.82	*$	3	Woolen textiles
3215	0	0.66	3.94	@$	3	Narrow fabrics
3222	0.29	0.74	2.26	s	3	Made up text. ex. W.apparel
3224	0	0.06	0.44	$	3	Carpets and rugs
3225	0	0	4.59		3	Cordage,rope & twine
3226	0	0.18	0.5	$	3	Spooling & thread ball
3229	0	0.5	1.67		3	Textiles manufacturing n.e.c.
3231	0.01	0.52	4.28	$&	3	Ready made garments
3239	0.55	0	4.6		3	Wearing apparel nec ex. footwear
3251	3.05	2.56	9.02	$#s	3	Leather footwear
3259	0	0	20.61	*	3	Other footwear nec. rubber,plas'
3262	0	0	5.06		3	Pressing & baling of jute
3271	10.18	19.85	24.67	*s	3	Embroidery on text. & wearing appa
3311	8.61	9.93	11.6	@#s	3	Saw and planning mills
3314	0	0.54	1.65	$	3	Hard board and its prod.
3315	1.49	4.67	16.7	**s	3	Structural products of bamboo
3316	0	0	11.43		3	Cork & its products
3319	6.39	15.37	18.69	**s	3	Wood,cork products nec.
3321	9.83	11.78	17.57	**@s	3	Wooden furniture
3323	0	3.14	25.55	*	3	Cane and bamboo furniture
3411	0	0	1.07	@$	3	Pulp and paper
3413	2.91	1.25	3.95	@s	3	Articles of pulp pap bord
3421	0	1.34	5.93	$	3	Printing of newspaper
3423	3.49	4.06	8.36	s	3	Printing and publ book
3425	3.65	3.4	11.36	s	3	Book binding and etc.
3429	0	0.5	1.21	s	3	Printing,publishing nec.
3512	0	19.38	36.64	**	3	Unani medicine
3514	0	0	17.95	**@	3	Homoeopathic medicine
3521	0	0	3.58		3	Acids, alkalies & salt
3525	0	0	14.78	**@$&	3	Pesticides,insecticides
3532	0	0.62	1.52	#	3	Perfumes & cosmetics
3533	1.1	6.44	9.13	@s	3	Soap & detergents
3535	0	0	0.56	@$&	3	Matches manufacturing

Table 1--Contd.

3517	0	8.82	9.17	$	3	Candle manufacturing
3551	0	0	3.31	$&	3	Tar alkatra
3561	0	0.66	6.04	$&	3	Tyres & tubes
3569	0.39	3.1	9.5	@#$s	3	Rubber products
3572	0	16.43	20.85	*&s	3	Polythene products
3621	0	0	0.27		3	Glass manufacturing
3691	0.8	2.78	9.93	@#	3	Bricks tiles & clay prod
3694	2.3	0	2.55	s	3	Lime,plaster & other product
3699	0	0	61.21	**	3	Non-metalic mineral nec.
3712	0.59	4.68	5.19	$#&	3	Iron and steel foundries
3713	0	2.89	7.24		3	Iron & Steel rerolling
3719	0	0	80.2	**$	3	Iron & steel industries
3722	0	0	18.08	**	3	Basic copper and copper alloys
3811	0	0	16.94	*	3	Cutlery
3812	5.65	5.4	6.94	@#$s	3	Hand & edge tools
3815	18.08	11.34	20.71	**$s	3	Structural metal prod
3816	1.57	0.93	11.36		3	Metal stamping, coating etc.
3822	0	1.32	6.01		3	Utensils - steel
3823	7.18	4.65	13.79	$#s	3	Metal barrels & drums
3824	0	6.79	7.22	#s	3	Tin cans & tinware
3825	7.3	0.58	11.37	#s	3	Metal trunks
3826	2.63	4.92	6.4	@$s	3	Bolts,nuts & rivets
3828	0	1.39	7.28	s	3	Safes and vaults
3829	0	4.66	9.87	$#s	3	Fabricated metal products nec
3831	0	0	13.78	$	3	Engines & turbines
3832	0	0.88	6.58	s	3	Agri machinery equip
3833	0	0	17.26	**$&s	3	Metal & wood work machine
3834	0	0	3.25	#	3	Textile machinery
3839	0.44	2.48	6.53	$#	3	Machinery & equip nec.
3841	0	2.37	3.76	s	3	Elect. industrial machinery
3843	0	0.69	8.59	#	3	Electrical appliances
3844	0	1.87	13.73	#	3	Insulated wire & cables
3845	0	0	1.61	$	3	Electrical bulbs & tubes
3846	1.83	3.8	9.54	$@#	3	Batteries
3854	5.38	6.59	15.31	*#	3	Motor vehicles
3856	13.13	0.71	20.38	**$	3	Cycles & pedicabs
3858	9.59	2.44	13.45	s	3	Animal and hand-drawn carts
3872	0	0	18.23	**#	3	Optical goods
3911	0	0	0.87		3	Wood,cane & bamboo handicrafts
3912	18.92	0	34.9	s	3	Paper & paper prod. handicraft
3921	0	0	22.42	**	3	Sports & athletic goods
3937	9.95	17.76	22.89	**$s	3	Pens and other articles
3938	0	0	7.02	$s	3	Umbrella & walking sticks
3939	0	0	13.46		3	Buttons, studs, fastener
3943	6.59	9.76	10.37	s	3	Bangles(ex. precious metals)
6111	4.58	9.24	9.94		3	Grains and pulses
6116	6.91	7.34	11.09		3	Arot of agricultural raw materia
6121	0	12.59	28		3	Industrial chemical ex. fertiliz
6122	0	1.2	3.27		3	Fertilizer & pesticides
6123	0	0	14.87		3	Coal & coke
6131	9.28	9.73	10.77		3	Lumber & timber
6132	6.59	6.82	10.61		3	Bamboo & cane
6133	5.08	3.65	9.38		3	Bricks,cement & raw materials
6134	0	9.56	12.82		3	Plywood glass similar material

Table 1--Contd.

6136	6.04	4.31	10.83	3	Structural iron products
6141	2.16	0	5.97	3	Industrial machinery supplies
6143	4.34	0.95	10.2	3	Agri. machinery & supplies
6144	6.56	5.49	9.55	3	Motor vehicle,parts & accessor
6151	0	0	5.18	3	Hardware & related items
6153	0	1.45	12.66	3	Elect. apparatus,equip & suppl:
6159	0	0	13.08	3	Hardware & electrical goods nec
6161	6.82	5.06	8.98	3	Cloth
6162	9.42	5.27	9.92	3	Yarn & thread
6166	0	0	33.53	3	Leather footwear
6172	4.99	4.98	5.87	3	Groceries & provisions
6173	3.79	1.36	12.64	3	Tea
6178	1.22	0	5.3	3	Arot of food items
6181	0	11.03	18.21	3	General merchandise
6182	4.34	5.96	7.24	3	Medicines & drugs
6184	0	0	17.98	3	Leather,leather subs. & product
6187	6.03	6.87	12.38	3	Cigarettes,cigars & bidies
6196	3.51	5.44	11.48	3	Scrap & waste materials nec
6197	2.01	2.88	5.05	3	Importers & exporters
6200	0	0	22.5	3	Retail trade NAD
6211	8.17	8.84	11.89	3	Grocery stores
6212	7.46	8.45	8.49	3	Rice,pulses,wheat or flour
6215	8.66	7.58	15.6	3	Fish & sea food
6216	6.19	9.03	10.3	3	Fruits
6217	7.67	7.57	11.12	3	Vegetables
6218	2.7	2.61	6.76	3	Milk or milk products
6219	8.52	5.97	11.01	3	Sweetmeats
6221	7.48	9.48	14.64	3	Pan & cigarettes
6222	7.1	8.96	12.61	3	Confectionery shops
6225	0	0	101.96	3	Ice
6227	2.06	5.8	8.3	3	Eggs
6229	6.29	7.6	11.34	3	Grocery & other food items nec
6231	11.54	8.21	13.38	3	Cloth piece goods
6232	10.25	7.57	13.02	3	Lungis & sarees
6233	7.76	7.47	13.5	3	Readymade garments & hosiery
6235	8.22	10.23	13.44	3	Footwear
6236	8.33	10.01	13.92	3	Second hand clothing
6238	7.37	7.7	9.61	3	General cloth & apparel shops
6241	7.92	12.03	16.32	3	Furniture
6243	7.26	6.01	7.43	3	Draperies & upholstery material
6244	6.55	6.11	10.74	3	China,glassware,& utensils
6245	5.24	7.52	8.18	3	Earthenware
6248	0	3.61	18.3	3	Trunks & suitcases - metal
6249	5.44	9.96	18.47	3	Misc. home furnishing
6251	0	10.36	17.5	3	Electrical & nonelect. applianc
6259	0	0	14.87	3	Appliances & related items nec
6261	6.82	6.1	10.77	3	Hardware
6263	7.32	7.58	12.09	3	Timber & lumber
6265	9.67	9	13.56	3	Bricks,cement,other mason mat.
6267	7.8	9.84	14.48	3	Elect hardware & building mate:
6268	6.68	7.85	10.44	3	Structural iron products
6272	0	0	26.71	3	Motorcycles, scooters, etc
6273	13.17	7.16	13.84	3	Motor parts & accessories
6275	11.22	12	12.74	3	Cycle & rickshaw parts & acce.

6270	15.33	4.33	19.62	3	Transport vehicles & parts nec
6282	10	1.17	12.76	3	General merchandise stores
6283	7.83	8.28	9.66	3	Medicines & drugs
6284	6.14	7.04	9.83	3	Books,periodicals & newspapers
6285	7.3	7.31	12.23	3	Stationery
6286	2.77	2.42	3.48	3	Sports & athletic goods & toys
6288	12.47	5.23	15.59	3	Optical & photographic goods
6289	5.89	8.61	12.06	3	Farm supplies
6293	0	3.71	5.04	3	Flowers
6294	27.12	3.27	31.13	3	Decorative handicraft & arts
6295	7.15	9.12	10.51	3	Second hand stores ex clothing
6296	8.29	6.23	8.76	3	Petrol station & petro product
6297	10.48	9.69	12.6	3	Traditional fuels
6299	7.02	10.04	13.95	3	Miscellaneous retail trade nec
6311	8.7	8.74	12.27	3	Restaurants, & non-resi. hotels
6312	1	0	8.18	3	Wine bars
6313	8.34	7.53	11.87	3	Tea stalls
6321	3.6	5.62	6.85	3	Hotels,lodging - commercial

*	Estab. expansion	$\geq$ 15%	Econ. Census
*	Employment	$\geq$ 13%	
?	Investment	$\geq$ 10%	DI data
$	Total factor productivity High in 1983-84		CMI
#	Low import content	$\leq$ 10%	DI data
&	Industry which enjoyed below-average ERA (effective rate of assistance)		ESEPP Proj.
S	Smallness of industries		EC, DI, CMI.

Table 2.--Effective rate of assistance (ERA) by 47 I-O sectors, 1975-1988

Supplying Sectors	ERA1 75	ERA1 76	ERA1 77	ERA1 78
1 Rice	0.146256	0.146599	0.146018	0.146624
2 Wheat	0.143970	0.144311	0.144022	0.144463
3 Jute	0.090131	0.090548	0.089903	0.090528
4 Cotton	0.339695	0.216042	0.260044	0.215978
5 Tea	-0.01397	-0.01448	-0.01579	-0.01475
6 Other Crops	0.477053	0.499662	0.498477	0.510536
7 Livestock	0.523457	0.590226	0.589656	0.623232
8 Fisheries	-0.02920	-0.03037	-0.03201	-0.03132
9 Forestry	0.217063	0.218813	0.216744	0.218809
10 Sugar	0.024922	0.037754	0.039574	0.048572
11 Edible Oil	0.710746	0.544688	0.543127	0.565281
12 Salt	0.337248	0.337500	0.336969	0.337494
13 Tobacco Products	1.323913	1.937063	1.931996	1.941706
14 Other Food	0.708823	0.797930	0.792838	0.798210
15 Cotton Yarn	0.616553	0.866837	0.628126	0.624843
16 Cloth:Mill made	0.844286	0.426623	0.239784	0.380939
17 Cloth:Handloom	1.123205	1.239250	1.088228	1.083911
18 Jute Textile	-0.20918	-0.20903	-0.20380	-0.20256
19 Paper	1.152033	1.194625	1.163576	1.187473
20 Leather	0.853126	0.889000	0.887149	0.928923
21 Fertilizer	-0.04295	-0.04303	-0.04443	-0.04240
22 Pharmaceutical	-0.02765	-0.02479	-0.02685	-0.00744
23 Other Chemicals	0.148016	0.164034	0.177253	0.194682
24 Cement	0.215216	-0.03530	0.005132	0.055358
25 Basic Metals	0.561030	0.560047	0.585105	0.621555
26 Metal Products	1.033010	1.130783	1.195356	1.127807
27 Machinery	-0.33896	-0.40049	-0.41032	-0.40284
28 Transport Equipment	0.730742	0.668369	0.659537	0.683043
29 Wood	1.515183	1.557713	1.556042	1.579777
30 Misc. Industries	0.842048	0.848670	0.829592	0.927489
31 Urban Housebuilding	-0.43739	0.181745	-0.53935	0.200584
32 Rural Housebuilding	0.660439	0.703517	0.711987	0.710148
33 Non.Residential Bldg.	-0.43506	0.180015	-0.53549	0.195907
34 Construction:Elec & Gas	-0.35844	0.224313	-0.49392	0.240413
35 Construction: Transport	-0.42323	0.234471	-0.47594	0.249141
36 Other Construction	-0.28968	0.422290	-0.30527	0.436664
37 Petroleum Product	0.125713	0.125926	0.125222	0.127073
38 Electricity	-0.15670	-0.14975	-0.16313	-0.14995
39 Gas	-0.16287	-0.15687	-0.16547	-0.15685
40 Transport Service	0.207372	0.209389	0.205768	0.208504
41 Trade Service	0.221610	0.223318	0.221207	0.223225
42 Housing Service	0.222176	0.235862	0.219124	0.235499
43 Health	0.148256	0.149336	0.142166	0.146604
44 Education	0.015784	0.018595	0.014067	0.018134
45 Public Administration	0.111735	0.116401	0.105697	0.113984
46 Banking & Insurance	0.196111	0.199464	0.194237	0.198978
47 Other Services	0.022606	0.022391	0.022259	0.022275

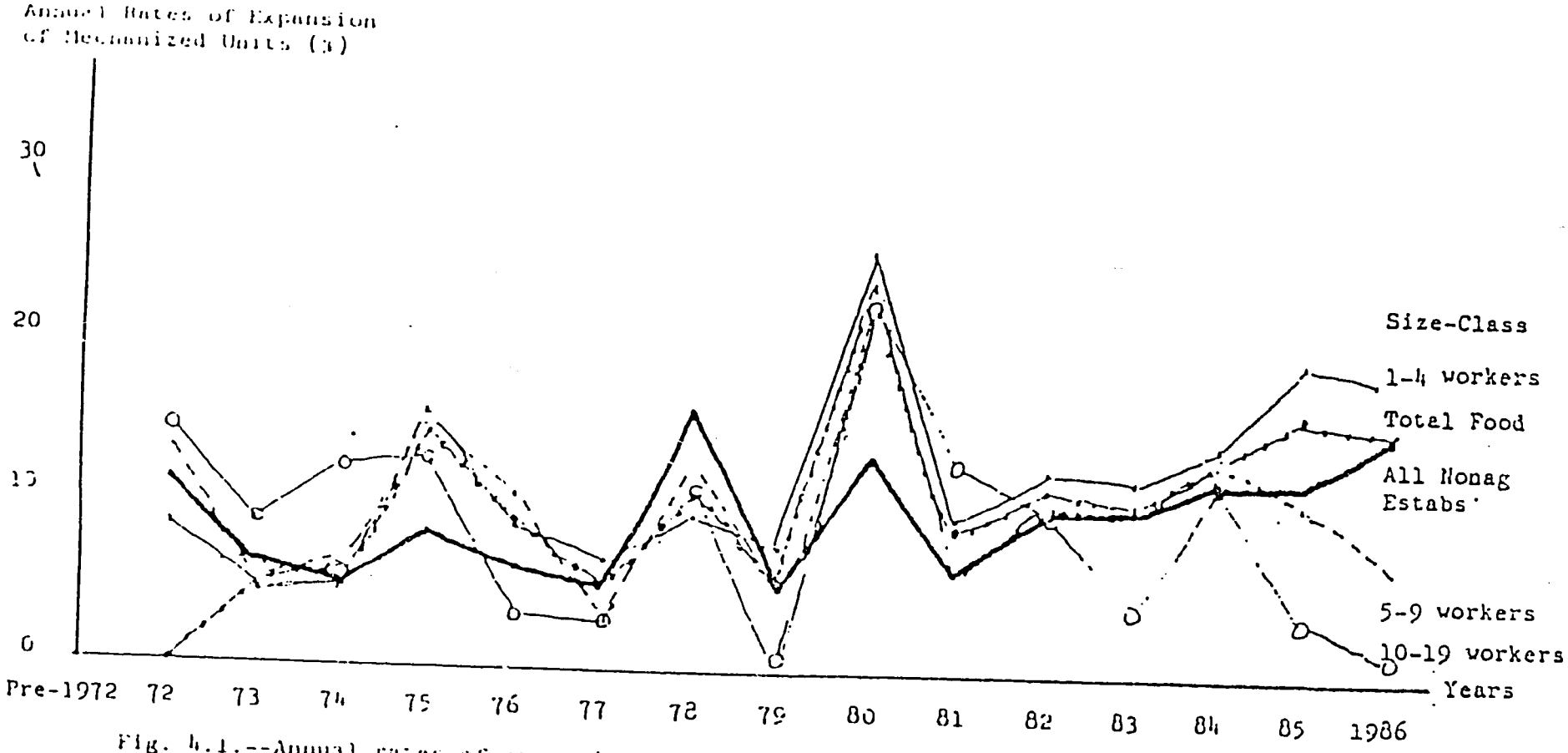

Fig. 4.1.--Annual rates of expansion of permanent establishments in food industry, by chosen size-classes, the Economic Census 1986.

Source: Text Table 4.6.

Table 4b.--Fertilizer subsidy, import, and domestic/border price ratio, 1977-78 through 1989

Year	Fertilizer Subsidy and % of ADP		Import of Fertilizer as % of Total Supply		Domestic Ex-Factory Price to Border Price
77-78	27.1	High subsidies on high-price, heavy imports	53.11	High imports	34
78-79	27.4		55.56		41
79-80	20.2		48.06		48
80-81	15.5	Reduced but still high subsidies even on low-cost domestically produced fertilizer	15.15	Low imports	64
81-82	12.3		38.11		127
82-83	8.9		9.29		58
83-84	13.6		8.48		60
84-85	14.4		..		..
85-86	8.6		..	Almost zero nitrogenous fert. import	..
86-87	..		..		..
87-88	2.7	No subsidy to low-cost domestic fertilizer	..		..
88-89: May 21,88-Feb, 89	..		..		71

Table 4.--Fertilizer ex-factory price and border price

Fertilizer	Ex-factory price/MT	Border price/MT	Year
Urea	Tk 961.70	Tk 4425.40	1975-76
Urea	Rk 1882.93	Tk 3896.76	1979-80
Urea	Tk 2076.00	Tk 3262.43	1980-81
Urea	Tk 2492.94	Tk 1964.22	1981-82
Urea	Tk 2800.00	Tk 4828.38	1982-83
Urea	Tk 2800	Tk 4658.80	1983-84
Urea	Tk 4025	$122=Tk 4026(fob) 5676 (cif) to date	May 21, 1988

Data source: BADC, Foreign Trade Statistics of Bangladesh, and Export Division, BCIC

Table 3--Contd.

Code No	Price Earning Ratio Times	Dividend Yield Percent	Face Value Taka	Mkt. Lot Nos.	Closing Rate Taka	1986-87 Year High Taka	1986-87 Year Low Taka	Market Capitalisation Taka	Last Dividend Percent	Last Bonus Rate, Year	Last A.G.M. Date
FUEL & POWER											
301	14.42	17.19	10	50	160.00 xB	246.00	36.50	901,824,000	27.50	1/2.86	03/03/87
302	24.49	14.81	10	50	135.00	150.00	30.00	472,500,000	20.00	2/5.83	25/02/87
303	3.54	178.57	10	50	14.00	14.00	14.00	13,916,000	25.00	1/3.84	25.02.87
Total								1,338,240,000			
JUTE											
351	—	0.00	10	50	NT	—	—	11,000,000	—	—	15/12/86
352	-0.09	0.00	10	50	8.50	8.50	8.50	4,250,000	—	—	15.06.86
353	—	0.00	10	50	NT	—	—	10,000,000	—	—	—
354	-3.45	8.82	100	5	170.00	195.00	118.00	15,300,000	15.00	—	29/12.86
355	-0.94	0.00	100	5	100.00	115.00	90.00	17,000,000	—	—	05/03.87
356	-0.69	0.00	100	5	30.00	80.00	30.00	2,100,000	—	—	31/12/86
357	—	0.00	10	50	NT	—	—	13,500,000	—	—	—
358	-0.59	0.0	100	5	100.00	100.00	60.00	7,000,000	—	—	28/12.86
359	-0.65	0.00	100	5	65.00	90.00	65.00	13,000,000	—	—	12.03.87
360	-2.25	0.00	100	5	59.00	65.00	40.00	13,334,000	—	—	28/12.86
361	—	0.00	10	50	NT	—	—	2,500,000	—	—	—
Total								109,134,000			
TEXTILE											
401	—	—	10	50	NT	—	—	9,835,080	150.00	2/3.84	29.12.87
402	5.30	50.00	10	50	40.00	50.00	13.50	144,000,000	20.00	—	29/12/86
403	—	0.00	10	50	NT	—	—	5,000,000	—	—	15/12.86
404	—	0.00	10	50	NT	—	—	4,000,000	—	—	15/12.86
405	—	0.00	10	50	7.50	7.50	7.50	5,613,193	—	—	31/12.86
406	18.58	81.63	10	50	24.50	25.00	9.35	33,310,000	20.00	—	11/09/86
407	7.00	0.00	100	5	80.00	100.00	80.00	16,000,000	—	—	22.05.86
408	6.35	10.00	100	5	100.00	100.00	99.00	5,500,000	10.00	—	22.07.84
409	19.36	0.00	100	5	120.00 AL	120.00	90.00	22,313,200	—	—	—
Total								248,572,473			
PHARMACEUTICALS & CHEMICALS											
451	14.38	0.00	10	50	45.00	100.00	40.00	90,000,000	—	—	—
452	10.12	7.12	100	5	295.00	350.00	112.50	88,500,000	21.00	—	27.12.86
453	11.56	7.93	100	5	208.00	210.00	100.00	4,160,000	16.50	—	31.03.87
454	473.77	1.72	10	50	290.00	290.00	32.00	1,647,730,000	5.00	1.4.86	20/11.86
455	3.51	125.00	10	50	10.00	10.00	10.00	21,000,000	12.50	1/1.83	27.03.86
456	4.25	6.06	100	5	132.00	160.00	80.00	5,544,000	8.00	—	25.05/87
457	2.47	30.00	100	5	110.00	110.00	110.00	46,468,750	33.00	—	25.08.86
458	13.57	66.67	10	50	24.00	30.00	13.50	10,080,000	16.00	—	26.04/87
459	42.68	8.57	10	50	350.00	350.00	75.00	490,000,000	30.00	1.2.86	05.03.87
460	-3.99	10.78	100	5	116.00	150.00	100.00	17,400,000	12.50	—	30/12.86
Total								3,430,952,750			

Table 3--Contd.

Investment Scoreboard - May 1987

Code No	Name of the Issue	Year end	Number of Issued Share	Issued Capital Taka	Reserve & Surplus Taka	Net Profit /(Loss) After Tax Taka	Earning /-Loss Per Share Taka	Book Value P S Taka
FUEL & POWER								
301	BOL	8609	5 636 400	56,364,000	108,690,530	62,626,316	11 09	29 28
302	Burmah Eastern	8606	3,500,000	35,000 000	72,698,000	19,295,000	5 51	30 77
303	Eastern Lub	8606	994 000	9,940,000	9,605 400	3,933,700	3.96	19 66
Total			10 130 400	101,304 000				
JUTE								
351	Anowara	8606	1,100,000	11,000,000	0	(54,071 420)	-49 15	10 00
352	Delta	8506	500,000	5,000,000	0	(45,272,288)	-90 54	10 00
353	Gawsia	—	1,000,000	10,000,000	0	0	0 00	10 00
354	Islam	8606	90,000	9,000,000	5,778,823	(4,436,146)	-49 29	164 21
355	J Spinners	8606	170,000	17,000,000	0	(18,050,477)	-106 18	100 00
356	Mutual Jute	8606	70 000	7,000,000	0	(3,052,740)	-43 61	100 00
357	Northern Jute	—	1,360 000	13,600,000	0	0	0 00	10 00
358	Shamsher	8606	70,000	7,000,000	0	(11,830 105)	-169 00	100 00
359	Shine Pukur	8606	200,000	20,000,000	0	(20,032,330)	-100 16	100 00
360	Sonali Aansh	8606	226 000	22,600,000	0	(5,682,796)	-25 15	100 00
361	Specialised	—	260 000	2,600,000	0	0	0 00	10 00
Total			5 046 000	124 900 000				
TEXTILE								
401	Al-Haj Textile	8606	983,608	9,836,080	12,614,716	3,785,310	3.85	22 82
402	Ashraf Textile	8606	3,600,000	36,000,000	26,537,169	24,386,798	6.77	17 37
403	Chand Spinning	8606	600,000	6,000,000	20,058,163	2,094,546	3 49	43 43
404	Chand Textile	8606	400,000	4 000,000	0	31 448	0 08	10 00
405	GMG Indl Corp.	8606	881,759	8,817,590	0	0	0 00	10 00
406	Quasem Textile	8509	1,380 000	13,800,000	1,401,648	1,819,283	1 32	11 02
407	STM	8512	200,000	20,000,000	490,951	2,296,177	11 48	102 45
408	Stylecraft	8403	55,000	5,500,000	315 897	865,897	15 74	105 74
409	Swan Textile	PE8603	190,110	19 011,000	1,030,537	1,178,254	6 20	105 42
Total			8,290 477	122,964 672				
PHARMACEUTICALS & CEHMICALS								
451	Ambee	PE8609	2,000 000	20,000,000	11 499,891	6 007,237	3 00	15 75
452	B Pharma	8603	300 000	30,000,000	9,063,367	8,744 764	29 15	130 21
453	B Process	8606	20,000	2,000 000	55,000	360 000	18 00	102 75
454	Glaxo	8606	5,682,000	[illegible]	42,556,000	3 478,000	0 61	17 49
455	ICI	8509	2,100 0[illegible]	[illegible]	20,555,269	5,977 415	2 85	19 79
456	P Plastic	8612	[illegible]	[illegible] 000	500,326	1,304,758	31 07	111 91
457	Pfizer	8511	[illegible]	42,262,500	47,677,625	18 804 308	44 49	213 29
458	Petro Synthetic	5612	[illegible]	4,200 000	1 309,968	742,626	1 77	13 12
[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 000	28 513,733	11 480,181	8 20	30 37
[illegible]	Therapeutics	5612	[illegible]	[illegible]	0	(4 361,561)	29 08	100 00
Total			12 536 621	[illegible]				

Table 3--Contd.

Code No	Price Earning Ratio Times	Dividend Yield Percent	Face Value Taka	Mkt. Lot Nos.	Closing Rate Taka	1986-87 Year High Taka	1986-87 Year Low Taka	Market Capitalisation Taka	Last Dividend Percent	Last Bonus Rate, Year	Last A.G.M Date
BANKS											
101	5.48	6.90	100	5	145.00	180.00	125.00	145 000 000	10.00		16.07.87
102	--	--	100	5	—	0.00	0.00	0	--		
103	4.93	0.00	100	5	142.00	180.00	118.00	102.524 000	--		14.06.86
104	11.87	0.49	1000	1	1 025.00	1275.00	1 025.00	81 487 500	5.00	--	25.09.86
105	3.27	9.12	100	5	137.00	165.00	108.00	109 600 000	12.50	1 10.85	29.09.86
106	10.47	6.67	100	5	90.00	100.00	80.00	144.000 000	6.00	--	19.04.87
107	—	—	100	10	—	0.00	0.00	0	—	--	--
108	3.22	12.10	100	5	124.00	135.00	102.00	54 560 000	15.00	--	--
109	7.40	0.00	100	5	122.00	140.00	109.00	112.750 592	--	—	24.12.86
Total								749 922 192			
INVESTMENTS											
151	3.37	9.64	100	5	140.00	140	110.00	140 000.000	13.50	--	28.12.86
152	22.20	2.78	100	5	790.00	1600.00	210.00	39 500 000	22.00	—	--
153	17.37	3.85	100	5	390.00	525.00	126.00	19 500.000	15.00	—	—
154	17.00	3.33	100	10	360.00	580.00	108.00	36.000.000	12.00	—	--
155	—	3.06	100	5	360.00	580.00	123.00	36 000 000	11.00	—	—
Total								271 000.000			
ENGINEERING											
201	18.00	3.38	100	5	129.00	175.00	30.00	12.416.000	12.00	—	30/09/86
202	5.85	4.07	100	5	860.00	1050.00	225.00	77 400 000	35.00	—	28/12.86
203	10.07	2.34	100	5	350.00	1100.00	237.00	127 644 500	25.00	—	07/06/87
204	2.76	0.00	10	50	3.50	3.50	3.50	13.291.875	—	—	30/09/86
205	10.57	0.00	100	5	168.00	205.00	81.00	43.680.000	—	—	26/06/86
206	11.38	3.76	100	5	665.00	680.00	315.00	29 925.000	25.00	1 2.33	27.11/86
207	18.21	5.26	100	5	380.00	525.00	140.00	15.200.000	20.00	—	30/07/86
208	3.09	0.00	10	50	18.00	18.00	9.00	16.200.000	—	—	22/09/85
209	2.14	0.00	100	5	2.000.00	2.000.00	300.00	51 300 000	—	4/5.36	16/04/87
Total								387 257 375			
FOOD & ALLIED PRODUCTS											
251	7.00	3.09	100	5	110.00	110.00	30.00	5.500.000	10.00	—	30/12/86
252	27.89	28.85	10	50	78.00	130.00	25.00	74 880 000	22.50	—	24.06/86
253	3.55	5.00	100	5	200.00	215.00	89.00	6 000 000	10.00	—	—
254	5.36	2.32	100	5	342.00	350.00	240.00	18 257 600	10.00	1 5.34	28.12.86
255	0.83	0.00	100	5	90.00	100.00	88.00	10 800 000	—	—	28.05.86
256	—	0.00	100	5	250.00	320.00	110.00	61 500 000	—	—	—
257	3.66	7.10	100	5	310.00	320.00	115.00	18 600 000	22.00	—	25.12.86
258	25.61	3.03	100	5	825.00	1025.00	200.00	18 645 000	25.00	—	23.06.86
259	24.11	16.18	10	50	170.00	255.00	75.00	3.400 000 000	27.50	1 4.35	26.04.87
260	3.49	58.82	10	50	34.00	35.00	13.00	17 000 000	20.00	—	29.12.86
261	3.33	3.66	100	5	185.00	265.00	34.00	20.350 000	16.00	—	27.12.86
262	12.50	4.34	100	5	495.00	550.00	250.00	177 450.000	22.00	3.10.83	28/09/86
Total								3 830 782.500			

Table 3.--Tearsheets from Dhaka Stock Exchange Fact Book, May 1988

DHAKA STOCK EXCHANGE FACT BOOK '85-86

Investment Scoreboard - May 1987

Code No	Name of the Issue	Year end	Number of Issued Share	Issued Capital Taka	Reserve & Surplus Taka	Net Profit '(Loss) After Tax Taka	Earning/ -Loss Per Share Taka	Book Value P.S Taka
BANKS								
101 AB Bank		8612	1 000 000	100 000 000	36 427 052	26 461 410	26 46	136 43
102 City		8512	800 000	80 000 000	20 947 793	17 936 550	22 42	126 18
103 IFIC		8512	722 000	72 200 000	40 548 440	20 790 894	28 80	156 30
104 Islami		8512	79 500	79 500 000	13 673 818	6 865 668	86 36	1174 51
105 NBL		8512	800 000	80 000 000	38 456 168	33 531 841	41 91	148 [illegible]
106 Pubali		8612	1 600 000	160 000 000	17 353 355	13 750 000	8 59	110 85
107 Rupali		8512	2 840 000	284 000 000	63 589 310	34 720 000	12 23	122 39
108 UCBL		8512	440 000	44 000 000	22 654 499	16 926 005	38 47	151 49
109 Uttara		8512	924,186	92 418 600	27 603 347	15 242 209	16 49	129 87
Total			9 205 686	992,118 600				
INVESTMENTS								
151 I C B		8606	1 000,000	100 000 000	207,021,123	41 582,108	41 58	307 02
152 1st ICB M F		8706	50 000	5 000 000	988,714	1 779 363	35 59	119 77
153 2nd ICB M F		8706	50 000	5 000 000	462,750	1 091 088	21 82	109 08
154 3rd ICB M F		8706	100 000	10 000 000	1 017 427	2 117 427	21 17	110 17
155 4th ICB M F		8706	100 000	10 000 000	0	0	0 00	100 00
Total			1 300 000	130 000 000				
ENGINEERING								
201 Aziz Pipes		8512	97 000	9 700,000	0	(688 901)	7 10	100 00
202 B Carbide		8603	90,000	9 000,000	31,771,110	11,297 904	125 53	453 01
203 B Lamps		8612	150,170	15 017,000	30 860,767	12,679 395	84 43	305 51
204 B Steel		8512	1 563,750	15 637,500	17 976 434	(4 817 796)	−3 08	21 50
205 K. Pipe		8512	260,000	26 000 000	0	(4 134 191)	−15 90	100 00
206 M Jutex		8606	45,000	4 500,000	10,782,119	2 629 061	58 42	472 94
207 M Staffiers		8512	40 000	4 000 000	2 811 332	834 571	20 86	170 28
208 Panther		8412	900,000	9 000,000	0	(5 243 468)	−5 83	10 00
209 Singer		8612	25 650	2 565 000	29 474 699	23 942 575	933 43	1249 11
Total			3 171 570	95 419 500				
FOOD & ALLIED PRODUCTS								
251 AB Biscuit		8606	50 000	5 000,000	0	785 274	15 71	100 00
252 Alpha		8512	950,000	9 500 000	2 094,000	2 685 000	2 80	12 18
253 Amam Sea Pr		8512	40,000	4 000,000	1 605,115	2,256 629	56 42	140 13
254 Apex foods		8606	52,800	5 280 000	8 311 000	3 079 000)	−58 31	257 41
255 Aroma Tea		8509	120 000	12,000,000	0	12 996 000)	−108 30	100 00
256 B Food			246 000	24 600,000	0	0	0 00	100 00
257 Bangas		8606	60 000	6 000 000	2 897,186	2 098 867	34 98	148 29
258 BLTC		8510	22,600	2,260,000	5 454 000	728 000	32 21	341 33
259 BTC		8612	20,000 000	200 000 000	141 240 000	141 048 000	7 05	17 06
260 Frooteqs		8606	500 000	5 000 000	2 267 465	1 791 746	3 58	14 06
261 Gemini Sea		8609	110 000	11 000 000	789 839	2 181 546	19 83	107 18
262 NTC		8512	390,000	39 000 000	126 825 816	12 770 449)	−32 74	425 19
Total			22 551 400	333 740 000				

Table 2 --Contd.

The ERAs for fertilizer is for the fertilizer industry and not what the farmer pays at the retail level. In the I-O table, for simplicity we assumed the same price difference between border price and ex-factory price as in 1988, namely identical prices. Based on actual price differences for respective years, and using only the direct effects (i.e., not solving the general-equilibrium effects through the I-O table as was done in the body of the table), the estimates are as follows:

Fertilizer	Year	ERP	ERA	Source	Data source
Urea	1979-80	-.8156	0.695	ESEPP Project	BADC & Foreign Trade Statistics of Bangladesh
"	1980-81	-.5493	-.423	"	"
"	1981-82	.5521	.673	"	"
"	1982-83	-.6463	-.528	"	"
"	1983-84	-.6102	-.489	"	"
"	1984-85	-.454 for UFVC -.171 for NCVF		Fertilizer Sector Issues Q.H. Ahmed Thomas L. Hutchson DOC TIP-PPIU-D.3	Concerned firms
" FOB	1988-89	.0147	.1387	)ESEPP Project	BADC, BCIC
CIF	1988-89	-.494	-.3729	)	

For TSP unassisted value added is found to be negative in both ESEPP and TIP studies. Data source: BADC and Foreign Trade Statistics of Bangladesh.

It may be seen that ex-factory fertilizer price has an implicit subsidy rather than implicit tax.

Table 2--Contd.

Supplying Sectors	ERA1 84	ERA1 85	ERA1 86	ERA1 87	ERA1 88
Rice	0.125252	0.090684	0.083693	0.085832	0.085825
Wheat	0.123173	0.087732	0.080674	0.083006	0.083075
Jute	0.070840	0.039430	0.038118	0.040150	0.040166
Cotton	0.266480	0.220282	0.218441	0.094745	0.094302
Tea	-0.00329	-0.00353	-0.00275	-0.00068	-0.00052
Other Crops	0.363861	0.333327	0.321409	0.313782	0.324273
Livestock	0.435003	0.456163	0.484727	0.470466	0.499666
Fisheries	-0.02969	-0.03012	-0.03012	-0.02786	-0.02604
Forestry	0.219364	0.219222	0.219336	0.218325	0.218219
Sugar	1.381721	1.025515	1.371522	1.372402	1.399821
Edible Oil	0.600298	0.350742	0.382234	0.623342	0.654936
Salt	0.341359	0.341097	0.343024	0.343297	0.343254
Tobacco Products	2.287558	2.428346	2.574347	2.490429	2.503578
Other Food	0.602146	0.573220	0.519129	0.535685	0.565563
Cotton Yarn	0.462180	0.415480	0.588563	0.464901	0.467247
Cloth:Mill made	0.862736	0.824832	0.819228	0.127532	0.433843
Cloth:Handloom	1.106134	1.676123	1.669734	0.680614	0.727651
Jute Textile	-0.23051	-0.24773	-0.24830	-0.24678	-0.24717
Paper	0.833527	0.846225	0.839107	0.817851	1.040123
Leather	1.684777	1.676477	1.656656	1.649857	1.695409
Fertilizer	-0.03851	-0.04059	-0.04148	-0.03907	-0.03814
Pharmaceutical	-0.15075	-0.13136	-0.21431	-0.21014	-0.18922
Other Chemicals	0.594016	0.586627	0.562538	0.540573	0.496190
Cement	0.027964	0.069951	0.006535	0.009170	0.041965
Basic Metals	0.975125	0.952942	0.686016	0.773556	0.630601
Metal Products	1.559062	1.517348	1.495274	1.485912	1.515267
Machinery	-0.31842	-0.33430	-0.33003	-0.32266	-0.31970
Transport Equipment	0.844725	0.871656	0.856618	0.712574	0.704828
Wood	2.042707	2.063411	2.042423	2.032177	2.058466
Misc. Industries	0.820231	0.894267	0.869328	0.885375	0.930174
Urban Housebuilding	0.349208	0.345143	0.346921	0.310349	0.325005
Rural Housebuilding	0.927405	0.918560	0.851959	0.867739	0.854569
Non.Residential Bldg.	0.351119	0.345939	0.352491	0.315217	0.334289
Construction:Elec & Gas	0.527395	0.502354	0.513879	0.463744	0.481302
Construction: Transport	0.373272	0.373147	0.377158	0.339292	0.357482
Other Construction	0.503624	0.511525	0.512717	0.470592	0.484923
Petroleum Product	0.130503	0.129964	0.126566	0.202147	0.208437
Electricity	-0.14356	-0.14460	-0.14283	-0.17648	-0.18039
Gas	-0.15367	-0.15419	-0.15404	-0.15380	-0.15383
Transport Service	0.210812	0.210508	0.210577	0.214224	0.214328
Trade Service	0.222003	0.221752	0.221781	0.222229	0.222316
Housing Service	0.242170	0.241170	0.238708	0.242367	0.241526
Health	0.143821	0.143162	0.141802	0.146466	0.148677
Education	0.017758	0.017660	0.017675	0.018399	0.018736
Public Administration	0.115906	0.115011	0.115054	0.118097	0.119840
Banking & Insurance	0.198111	0.198123	0.197665	0.199037	0.199478
Other Services	0.022330	0.022292	0.022271	0.022482	0.022614

Table 2--Contd.

Supplying Sectors	ERA1 79	ERA1 80	ERA1 81	ERA1 82	ERA1 83
Rice	0.146219	0.146278	0.145905	0.137449	0.140827
Wheat	0.143669	0.144115	0.143020	0.134983	0.138979
Jute	0.089908	0.090058	0.089549	0.081931	0.084986
Cotton	0.215276	0.215406	0.192319	0.194066	0.286521
Tea	-0.01876	-0.01882	-0.02151	-0.00528	-0.00371
Other Crops	0.509361	0.509517	0.487052	0.454610	0.360506
Livestock	0.606656	0.468803	0.428491	0.357337	0.344087
Fisheries	-0.03433	-0.03262	-0.03734	-0.03275	-0.03021
Forestry	0.218124	0.218550	0.217704	0.218852	0.219260
Sugar	0.032670	0.085756	0.128766	0.130010	0.392773
Edible Oil	0.553609	0.520528	0.491395	0.442318	0.546462
Salt	0.340083	0.340245	0.339887	0.340479	0.341195
Tobacco Products	1.926973	1.906988	1.868557	1.716369	1.831614
Other Food	0.620310	0.664285	0.579009	0.556052	0.626860
Cotton Yarn	0.622935	0.641875	0.583125	0.582504	0.473989
Cloth:Mill made	0.939584	0.726637	0.702388	0.755061	0.586198
Cloth:Handloom	1.059789	1.361647	1.660018	1.673121	0.808111
Jute Textile	-0.20458	-0.20386	-0.20483	-0.22584	-0.22391
Paper	1.159811	1.129995	1.033321	1.024431	0.799783
Leather	0.922607	0.921334	1.315411	1.283361	1.648337
Fertilizer	-0.04470	-0.04607	-0.04825	-0.04529	-0.03804
Pharmaceutical	-0.03319	-0.12479	0.064663	-0.12487	-0.08663
Other Chemicals	0.257340	0.304060	0.334490	0.353525	0.532563
Cement	0.048361	0.074924	0.103679	0.054429	-0.02801
Basic Metals	0.619992	0.618824	0.522436	0.697343	0.863502
Metal Products	1.113453	1.151450	1.049162	1.121792	1.396231
Machinery	-0.41131	-0.40404	-0.43631	-0.34218	-0.36233
Transport Equipment	0.669362	0.572968	0.545421	0.870363	0.744358
Wood	1.567893	1.568319	1.540547	1.740838	2.000066
Misc. Industries	0.755968	0.766117	0.755709	0.597630	0.738855
Urban Housebuilding	0.199567	0.201482	0.162678	0.252565	0.247277
Rural Housebuilding	0.689146	0.701289	0.646954	0.696298	0.845344
Non.Residential Bldg.	0.193610	0.197183	0.153681	0.242230	0.245587
Construction:Elec & Gas	0.254379	0.276387	0.243419	0.393889	0.399506
Construction: Transport	0.242261	0.249761	0.197029	0.266524	0.273702
Other Construction	0.436911	0.437901	0.400730	0.407961	0.409996
Petroleum Product	0.109799	0.110257	0.127775	0.133345	0.129588
Electricity	-0.15338	-0.15219	-0.15701	-0.14956	-0.14640
Gas	-0.15730	-0.15703	-0.15773	-0.15432	-0.15441
Transport Service	0.201401	0.202745	0.205677	0.210375	0.211846
Trade Service	0.222443	0.222710	0.220722	0.222048	0.222028
Housing Service	0.233692	0.234699	0.230950	0.236834	0.243174
Health	0.139710	0.137635	0.134298	0.143906	0.145518
Education	0.017174	0.017261	0.015668	0.017435	0.017580
Public Administration	0.110055	0.111498	0.105564	0.113995	0.115459
Banking & Insurance	0.197069	0.196146	0.194877	0.198137	0.198524
Other Services	0.021987	0.021951	0.021698	0.022003	0.022279

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May 9, 1989

Dr. G. S. Sahota
Consultant
Planning Commission
Shere-e-Banglanagar
Dhaka, BANGLADESH

Dear Dr. Sahota:

Thank you very much for the copy of your comments on the agricultural sector review. I am sorry that I did not get a chance to talk with you personally about it even though we met briefly. I did find it an excellent statement. You have made a further addition to the fertilizer discussion which I think is quite worthwhile. As you know, IFPRI did a joint report with BIDS which came out with exactly the opposite conclusion from the UNDP-BIDS report. At that time, I was deeply troubled by the argument that a reduction in the fertilizer subsidy would simply result in a transfer of resources away from the agricultural sector. Unfortunately, that turned out to be true. I think that when we urge market pricing of fertilizer we do need to redouble our efforts to see to it that there is more expenditure on rural infrastructure, irrigation systems, and of course the basics supporting institutions for the upward shift of the agricultural production function -- agricultural research and other elements that technology package.

Again, thanks so much for sending me the report. With best personal regards.

Sincerely yours,

John W. Mellor

JWM:val

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HIID/ESEPP Project
Planning Commission
Government of Bangladesh

Occasional Notes

No. 89.5

COMMENT ON

USAID MISSION's

AGRICULTURAL SECTOR REVIEW

April 28, 1989

Written for USAID
Economics Office

USAID's Agricultural Sector Review

April 28, 1989
First Quick Comment

Just as the earlier lead-sector theories and unbalanced-growth theories have been discredited, economists are unlikely to give much credence to the lead-sector-induced theory of innovations in agriculture. The Irrigation-induced technological change: Provide irrigation and agricultural revolution will follow, seems to be a fallout from the Ruttan-Hayami-Herdt theory of induced innovations and institutions in the agricultural context. For instance, the Bhakra-Nangal multipurpose irrigation project and several other Indian dams did not generate more than 2 percent social rate of return (see the studies of K. N. Raj and other Indian economists) until the seed-fertilizer green revolution of the late 1960s arrived. Bangladesh does not have to wait for two decades after it has provided the irrigation infrastructure to experience the green-revolution type of growth. It can reap the fruits of irrigation, biotechnology research, and fertilizer supply simultaneously. The right approach then is to allocate resources to biotech research, irrigation facilities, land reform, rural education, rural infrastructure, and so forth, according to an optimal plan, by appropriate prioritization--not that the sole investment in irrigation is a cure-all for growth.

As a matter of fact, one would think that in Bangladesh, which is extremely rich in subsoil and surface water, public irrigation projects will play a minor role. Boring tubewells, shallow or deep, is within the reach of an average farmer. No extensive network of canals, such as there is in North India and Pakistan, is needed or is even possible in Bangladesh. What is needed is digging small channels and boring tubewells, and pumping river water. To the extent returns were good, Indian subcontinent farmers dugwells for centuries to irrigate their land. Even in the present-day Punjab--the granary of the subcontinent--canals are meant mostly to raise the level of subsoil water for farmers, so that subsoil water is plentiful and farmers do not have to bore tubewells too deep.

In short, one ought to look at all the major resources that go into high-growth agriculture; estimate the proportions and levels of investment that should go into them in the next 5, 10, 15 years, and suggest priorities. To suggest that irrigation will solve all problems is amateurish, as are the projections based on rather heroic assumptions of authors.

There is one aspect of the report that deserves attention, namely the exploration of and emphasis on agri-based industries. That sector warrants further study and project support.

12D

USAID's Agricultural Sector Analysis

May 27, 1989
Second Comment

1. Irrigation

While irrigation is important, to assign it the exclusive, elevated position of Irrigation-Induced Technical Change (IITC) is to overdo it. See my earlier comment.

Government's role is emphasized unnecessarily. The proper role of government in this area is to distribute and raise the subsoil water table, so the cost of pumping water by deep and shallow tubewells is reduced. Let tubewells be the sole responsibility of farmers or farmers' coops. Too much paternalism is creating dependence among people.

No subsidy is called for. As a general rule all subsidies should be eliminated. They cause distortions and inefficiencies. If a group of households is required or desired to be favored, let there be a direct transfer from the general revenue or straightforward property (e.g., land) redistribution. Hence, avoid subsidy to tubewells. Let shadow prices prevail to the extent possible.

2. Improved technology

Good suggestion and is consistent with the recommendation of the HIID/ESEPP Project. The HIID/ESEPP Project has greater emphasis on technology. HIID/ESEPP Project has also proposed the

setting up of an institute of transfer of technology. Growth is going to be sluggish, unless it is technology-led.

3. Transfer of technology

The expression "transfer of technology" is misleading here. It is used for extension services. "Diffusion of technology" is a better impression. Since the expression, "extension services" is well-understood and well-established in the agricultural context, an evaluation of resource allocation to extension services should be carried out as such.

Of course, transfer of technology is in order both from overseas and from one firm or sector within the country to another. But that is a different process.

4. Infrastructural development

Roads, bridges, electricity, and communications and needed. There is no doubt about it. The question is which should get priority and how resources should be allocated among competing needs. The report should tell the reader how to decide between roads, electricity, and irrigation.

In this connection, the report recommends many other things. The problem is prioritization. On that the report is weak.

5. Input supply

The report is recommending privatization of production and marketing of all inputs: fertilizer, seeds, irrigation equipment, farm power, credit. A good recommendation, but there are two deficiencies: (1) the key to progress through private enterprise is competition. Nowhere is the word competition mentioned. You do not want to replace public monopolies by private monopolies. You do not want to continue public sector being subsidized side by

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side with private sector in the same product. I would say competition comes first, privatization after. Let competition be introduced among public enterprises and between public and private enterprises. (2) There are some weak recommendations here and there under this subhead. (a) Is it cost-saving to blend fertilizer nutrients N-P-K in dozens of proportions to give farmer the option to select different ones than to provide them separately in granulated form and inform the farmer which land and crop needs which combination? (b) The report rightly proposes privatization of seed production. But the development of HYV seeds is a public good and belongs to the public sector. (c) Subsidy to irrigation equipment, the provision of credit at subsidized interest rates, etc., are not a movement towards Pareto optimality, but away from Pareto optimality. (d) I do not think recent floods caused shortages of animals and, so bullock power, to the extent envisaged by the authors. There are deeper reasons for that. They should be explored.

6. Credit

Firstly, subsidy on credit should be avoided. Why distort interest rates? What happens to banks which are forced to charge low interest? What happens to different sectors getting credit at different interest rates? The costs of such policies are higher than the apparent gain to the recipient group.

Secondly, the banking industry specializes in the banking business. Why NGOs are recommended to supplant banks in the credit market? What training, specialization and infrastructure do NGOs have that they will do better than banks?

There is essentially only one NGO which is specialized in credit: the Grameen Bank. For the rest, let every borrower get the loan according to his/her credit worthines. from whichever source he/she can. A benign neglect by government in this area will do more good than harm. If a moneylender charges 120% from a weaver, why does a bank not come in to share high profits? Let NGOs specialize in social work, family planning propagation, supervise food for work programs, and so forth. Banking is too professional and technical a business to be handled by nonspecialists.

7. Flood control and drainage

Once again the problem is that of prioritization.

8. Land fragmentation/lease equity

The simple remedy is periodical land consolidation.

9. Human resource development

The HIID/ESEP? Project has recommended a large increase in funds and scientist capacity of agricultural research and an integration of BAU and research institutes.

This report is putting a wrong emphasis, namely that theoretical education should be reduced and practical work should be increased in the university. That is not the way to develop the capacity of research institutes, whatever else (such as employment capability) it may be useful for.

Extension training in non-crop areas: a good suggestion.

Farmers' education programs: I think this is where NGOs can perform more useful services.

Rural women: Everybody recommends this approach. So it is welcome.

10. Policy analysis planning/statistics

A welcome recommendation. Each ministry should have its own analytical staff. Every notification a ministry issues should be based on careful analysis.

The upazila planning capability: The push to put the upazila as the foci for planning and development is, in this advisor's judgment, unlikely to last for very long. The upazila is not a viable unit for planning. The participation of the people can be combined with technical expertise much better at the zila level. Planning is a technical subject. It has to be done by Ph.Ds. An upazila cannot afford to hire Ph.Ds. Nor will they move to upazilas from the capital. The objective of people's participation can be obtained through the panchayat pyramid and by so many other means, but also a zila is not a very big centralized unit.

Currently upazilas are becoming a drain on development resources. Development projects are being suspended to enable upazilas to construct office buildings for the new officials/leaders. This is the view of the IMED, Planning Commission.

Agricultural stats.: Yes, there is need for better data. But again the problem is not identified. BBS and EC are not materially different agencies in approach or quality. Same. It needs to be known how well the EC has done! What is needed is the close interaction of data-users and data-generators. When writing about agriculture, one should not forget other sectors. The weakest sectors in this regard are construction and

transport, and not agriculture. Agricultural data, through its censuses and regular surveys, can be improved if economists/agronomists are included in the data-generation process.

11. Donor coordination

It is needed. The LCG is a welcome idea. How practical it will be only donor knows.

As far as possible, projects should be developed by local experts, not donors. But there is a lack of local capacity. There is not much being done in this regard.

12. NGOs

See the remarks above.

13. Privatization

The report writers think privatization is a panacea. If at all there is a panacea, it is competition, not privatization per se. Therefore, along with privatization, one must emphasize competition.

14. Agribusiness

The USAID expert who wrote on agribusiness worked in close consultation with this advisor. Food processing has many advantages, which are spelled out in the proposal given to you. It deserves aid.

Incidentally, the president in his inaugural address yesterday at the forum of science and technology put his finger on agri-based industries. So did the prime minister. See the summary of their addresses (attached).

The roles of MIDAS and BSCIC need to be clarified.

The recommendation for an "integrated project approach"--namely an integration of production, processing and market development--reflects a dependence on government to bring such an integration about. The MCC is an outside agency which substitutes for government agency. Let food processors cooperativise and form such linkages. The government need only remove hindrances from such a development.

The subsidy to input prices for fruit and vegetable processing is a wrong recommendation.

15. Agroforestry

Fine.

16. Poultry

Fine.

17. Fisheries

Fine.

Perhaps goatery is also fine. But how to rank them for prioritization? That is the question which the report has not addressed.

HIID/ESEPP Project
Planning Commission
Government of Bangladesh

Occasional Notes

No. 88.6

PRELIMINARY THOUGHTS

ON THE THIRD PHASE

April 28, 1989

Written for the USAID
Economics Office

HIID/ESEPP Project
April 28, 1989
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PRELIMINARY THOUGHTS
ON THE THIRD PHASE
(Based on the Research Done in Phase II)

The Ailments of the Bangladesh Manufacturing Sector

The research done in this project so far is comprised largely of industrialization in general. We have done some research on small enteprises, but have yet not been able to look into small enterprises very extensively. The reason is that very few relevant data series exist for this subsector. HIID's new survey, focused on this subsector, which is still in its early stages, will hopefully narrow this gap.

Based on our partially finished research, four major problems, among others, which hamper industrial growth in Bangladesh, have been tentatively identified. These are: (1) too many controls and too much regulation, often coupled with arbitrary enforcement of them, (2) poor implementation of policies even when they are otherwise good, (3) lack of competition between and within public and private manufacturing sectors, and (4) paucity of improvements in technologies and

processes of production.

The four weaknesses appear in several different guises. Too much regulation and centralized control in the form of bans on imports; high tariffs; sanctions; licenses; permits; subsidies; public ownership of private-good-producing industries, and bureaucratic and political interference in their day-to-day affairs; arbitrary notifications; licenses and contracts to politically favored; and so forth. They have created the necessary conditions for smuggling, rent-seeking, and corruption. Defective implementation of regulations and policies has exacerbated the same maladies. Lack of competition--protected industries, subsidized public enterprises, and monopolistic forces, often aided and abetted by government regulations--has created high-cost industries in the economy. Finally, scantiness of new lines of production, new management practices, processes, and that of improved technology sustain traditional, inefficient modes of production and investment into overcrowded industries.

By way of a substantiation of these points, relevant excerpts from one of the 19 working papers of Phase II, written as of today, are reproduced as Appendix A to this note (Working Paper No. 19). These excerpts should be read to appreciate the analytical basis of the policy implications, which we are going to summarize below. The projects and the policy reform proposed here are, however, based also on the findings of research in some of the other studies of Phase II.

Proposed Policy Reform and
Project for the 3rd Phase

The proposal consists of three separate but related subprojects, all aimed at increasing employment through the promotion of industrialization, in particular small industries. These are (1) the creation of a competitive environment, in particular a reduction in controls and regulations, or simply "deregulation," which has several ramifications; (2) increased resource allocation to R&D to increase the pace of transfer of technology; and (3) promotion of food processing industries, (not through increased assistance but through reducing policy discrimination against them by reducing high assistance and protection to other industries).

Each of the three parts requires (a) technical aid towards research and analysis, and (b) project aid in the form of commodities and credit.

A. Deregulation

Industrial leaders and individual entrepreneurs tell us that much of the regulatory system is doing more harm to industrial growth than good. Paradoxically, they also want regulation. They want controls and regulation that favor them and elimination of those that hurt them. For instance, protection is highly

desired by them. They resent smuggling and want the government to control it. But they do not want to give up protection, which is the root cause of smuggling. The existing regulatory system of Bangladesh hampers industrial growth in two very important ways, among others: (a) through malallocation of resources, including such diversions as smuggling, rent-seeking, and corruption, and (b) through reduction of competition within and between private and public sector and between domestic and foreign goods. The points need be substantiated.-

a) Harm done to Industrialization through Smuggling, Rent-seeking, and Corruption

As discussed in detail in Appendix A, it is not the illegality or the immorality of these practices which are so objectionable. Indeed, rent-seeking is considered neither illegal nor immoral. In the context of industrialization, it is rather the negative impact of these practices on real industrial investment that is economically harmful. Our study of the impact of policies based on the apex agency survey of industrial leaders reveals that smugglers earn more than importers and importers more than industrialists, and quicker. Similarly, rent-seekers make quick money and more than investors in industry. They do so without the risk of illegality or the social stigma or guilty conscience of the smuggler.

Ordinarily, there should not be much economic loss of these activities. After all, smugglers pay for illegal imports; someone must export in exchange. It is trade nevertheless, and

must be mutually beneficial to trading parties. It simply constitutes a transfer from government (in the form of reduced customs revenue) to private traders. Likewise, does it matter whether rent-seekers are captains of industry or retired colonels? It, too, is a transfer from one group to another. When rent-seekers make money, they would deposit it in the bank, which the captains of industry can borrow and invest in plant and machinery. Finally corruption is simply a sharing of gains and constitutes a transfer from someone to someone else. Therefore, why should industrialization suffers?

The main reaon why industrialization suffers is that when industrial entrepreneurs, the profit-maximizing elite of the society see that investment in plant and equipment has lower rate of return and takes much longer to fructify, they would not be smart if they themselves also did not use their plant as an additional cover to share in more lucrative non-industrial profits. Real investment suffers. That is the economic loss. In addition there are other losses of the indicated practices, into which one need not go here.

b) Harm to Industrialization
due to Lack of Competition

Efficiency in production economics may be defined as an organization in which no change in technique of production or combination of resources can produce more output value.

There are two welfare theorems relating to efficiency:

(1) Any competitive market equilibrium is efficient

(2) Every efficient allocation is a market equilibrium

Corresponding to these there are two lemmas:

(a) Every efficient allocation is a welfare maximum

(b) Every welfare maximum is an efficient allocation.

One other theorem that is relevant in this context may also be mentioned. It is called the "zero-profit theorem", according to which, in the absence of a stream of technological changes or new superior resources, competition will reduce economic profits to zero. The absence of alternative investment opportunities (also a result of lack of technological change), furthermore, may lead to a crowding-in situation and thereby may even reduce economic profits to negative. That is a low-level equilibrium trap. Bangladesh's manufacturing industry shows symptoms of being trapped there.

In this connection, one can identify three approaches, by three premier international agencies, to aiding development. They seem to be pursuing their objectives single-mindedly. These are:

World Bank (and IMF): Structural adjustment, a name used to balancing the government's budget, public enterprise budget (indeed denationalization), forign-trade accounts, checking inflation, and similar policies. These policies are often imposed against resistance from national governments because they do not consider these changes as unmixed blessing.

USAID: Privatization, namely divesting, denationalizing, and promoting private initiative in general. Aid leverage and intellectual persuasion is used to push privatization irrespective of whether or not competitive environment is also established and

often without sufficient analysis about the problems involved in privatization. For instance, denationalization was pushed in Bangladesh (not necessarily by USAID, but it was pleased to see this done), without much analysis of the public enterprise accounts and the financial viability of purchasers. As a result, privatization has scarcely attained the intended or expected results in terms of efficient operation of denationalized firms or new investment and BMR or financial discipline.

HIID: Get the prices right. This is a textbook neoclassical approach, which runs into the face of market failure and other weaknesses of free enterprise.

The latter approach recognizes the merits of competition more than the previous two approaches. What went wrong with the public enterprises of the world is that they were removed from the competitive domain, the profit-maximization objective was tempered with socio-political objectives, and their losses were underwritten by the general budget. What has gone wrong with Bangladesh's denationalized enterprises is that they were assured neither fair competition from public enterprises of the respective industries nor competitive environment among themselves nor constrained against monopolistic practices by private imperfectly competitive firms. All the three objectives--conditions for structural adjustments, privatization, and get prices right--will

be consistent with one another provided each pays genuine attention to competition.

The preoccupation with privatization per se has created such a bandwagon that the real objective of competitive environments is often lost from sight.

The shift from nationalization to privatization started for 4 reasons among others: (1) governments failed to enforce competition among public enterprises and between public and private enterprises; which led to large inefficiencies in public enterprises and adversely affected private enterprises; (2) the incentive system was absent among management and workers of public enterprises; (3) there was too much bureaucratic and political interference in the day-to-day operations of public enterprises; and (4) the goal of profit maximization was replaced or drastically subordinated to socio-political objectives.

Privatization will, no doubt, solve the last three problems. But the key factor is competition. If privatization creates private monopolies; if "discouraged-sector" categorization and similar declarations protect the monopoly of those already in the sector; public enterprises continue being soft in granting wage increases, thereby creating the basis for the private sector labor to demand matching raises; public enterprises continue to be subsidized from general budgets and patronized by public demand or favorable quota allocations; and conditions for competitive climate are created, privatization per se is not likely to attain the efficiency objective.

Privatization is a solution to the industrial ailment of many developing countries of today, provided it is a route to

competitive economy. At the risk of repetition, it should be emphasized that while for the establishment of competition, which is the key to industrial efficiency, privatization is very helpful. Per se it is not even a necessary condition.

In short, in the present state of public enterprises, while privatization with competition is certainly much more conducive to efficiency-creation than nationalization, it is not known upto what degree of imperfectness of competition (within and between private and public enterprises) privatization can still be a superior economic order.

Practical organizational and policy measures exist whereunder all the four drawbacks of public enterprises noted earlier can be removed.

1) Competition can be assured and all the Pareto optimality criteria can be satisfied in principle even in centralized socialistic societies, as was shown half a century ago by the famous Lange-Leaner Rule, namely when managers of public enterprises are required to follow the guideposts of shadow prices (however calculated, e.g., by a central planning agency through a giant computer) and act as profit-maximizers. In mixed economies, where prices are determined in competitive markets, the requirement of competitive behavior by public enterprise managers should do the needful.

2) As regards incentives, whether in a socialistic society or in a market mixed economy, insofar as managers are concerned, it is not difficult to induce them to maximize profits. One simple way to do so, for instance, is to tie their remunerations

to profits, for example, to fix their salaries in proportion to profits.

The problem of managerial incentives is solved by the condition of remuneration just mentioned. The worker incentives can also be maintained by rewards (e.g., promotion and piece rates) and penalties (threat of being fired or demoted) of the same type as used by the private sector. Efficiency in public enterprises will increase when the threat of firm bankruptcy and reduced wage for managers hangs over the heads of management and that of dismissal on the heads of workers, and when the rewards of higher remunerations are also built into the system. Alternatively public enterprises may be put under workers' control as in Yugoslavia or sold to workers as in some instances in the US.

3) Bureaucratic interference will largely cease when public enterprises are required to act as profit-maximizers and do not depend upon public subsidies or patronage for their survival.

4) Finally, since the profit-maximization objective is inconsistent with the constraint on individual enterprises to pursue social goals, public enterprises ought to be relieved of the latter goals. Socio-political objectives are attained much more economically and efficiently through lumpsum taxes and transfers and by direct provision of social services out of the general budget. Likewise, efficient redistribution of welfare is brought about through direct property redistribution rather than through pricing policies, whose primary role is resource allocation rather than income redistribution. It is a fact that, in many cases, in the long run taxes on privately

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produced goods and services bring in more revenue for the general budget than when they are produced in the public sector. For instance, an excise tax on casinoes may yield more revenue than when they are nationalized (as is the case in several countries, e.g., Republic of Panama).

The project should begin with a study to discern what kind of regulatory constraints on public enterprises exist, what kind of institutional reorganization of public enterprises is appropriate (if it is not feasible or desired to privatize them), and what steps are needed to shift from deficit enterprise budgets to profit-maximizing stage. It will also be necessary toguard against monopolistic elements in private industries.

B. TECHNOLOGY-BASED DEVELOPMENT PLANNING

Introduction

In a path-breaking study in the late 1950s, Economics Professor Robert Solow of MIT, now Nobel Laureate, discovered that primary factors, labor and capital, could explain no more than 12 percent of the economic growth of America and several western countries. A bulk of the rest 88 - percent was due to technological change. Technological change is the main source of total-factor-productivity growth. It was high upto the 1960s in America, became low in the 1970s, and is on the upcoming again in the 1980s. Despite some ups and downs in it, technology remains the single most important source of economic growth. The rate of return from investment in technology is much higher than investment in traditional capital.

Without technological improvements, no developing country can advance towards closing the gap between its low per capita income and those of well-off countries. Korea, Singapore, and other Asian lions have not reached in a matter of two decades where they have with static technologies.

Bangladesh lags benind its neighbors in technology

The research of this project has revealed that Bangladesh has fallen behind in productivity growth even in relation to its neighboring developing countries--for instance, Thailand, Malaysia, India. In absolute terms, total-factor productivity in manufacturing industries has declined since the early 1970s.

Sarees and lungis from across the border are considered more qualitative than local products. Productivity in the coir industry of India is estimated to have increased significantly over that of Bangladesh. The recovery rate of juice from sugar cane by the Indian sugar industry is 10.5 percent as against 8.5 percent in Bangladesh. One may go on and on citing such cases.

The role of technology is to reduce the human toil and increase labor, rather total-factor, productivity. Technological advance is such a critical source of total-factor-productivity growth (or increase in output per unit of input), that it is often used synonymously with productivity growth.

The usual image of technology is that it is embodied in machines. While that is a fact of life and some technology is, indeed, embodied in machines, parts of it are also embodied in human beings and institutions. Discovery of new products, new processes of production, markets, management practices, accounting procedures; improved organization of production, distribution, co-ordination, balancing, work procedures; preparation of more efficient softwares; and so forth are all components of the same technological environment. Basic sciences and applied sciences have to go hand in hand in the development and adaptation of technology.

Even though advanced technology cannot be implanted in a society that is not educationally, institutionally, and [illegible] today can be bought at short notice, whether embodied in hardware or software. Fortunately, South Asian countries, and Bangladesh

for that matter, are advanced enough educationally, language-wise, and otherwise with industrial base, universities, and other institutions, to absorb technology if imported.

Yet technology transfer is not a simple import process. It has to be assessed in the country of its origin; as being consistent with Bangladesh's factor endowment, it has to be bought or otherwise arranged to be transferred; it has to be adapted and digested; and it has to be disseminated to the entrepreneurs who should have the capacity of using it.

Since in the present state of arts and factor endowment of Bangladesh, technology has to have a labor-bias and should be addressed as much to small and medium industries as large industries, some highly specialized agency has to "go fetch" and adapt and digest technology, as individual entrepreneurs do not have resources and capacity to do so. Small enterprises vis-a-vis manufacturing technology are no different from individual farmers vis-a-vis agricultural technology. Just as farm experiment stations are needed to be run by society as they involve massive funds and returns from their innovations cannot be internalized by individual farmers, so R&D in industry is to be undertaken by the society for the benefit of small enterprises.

Agreed that Bangladesh is a young industrial country with first-generation entrepreneurs. At the same time, it also has the advantage of the latecomer. Technology does not have to be developed from a scratch. As stated above, it can be bought at any stage, but has to be adapted.

Faced with lack of employment jobs, many Bangladeshis seek self-employment and try to start small businesses. Some can marshal funds to make modest investments. But there aren't any on-line, off-the-shelf superior technologies, new products, and new methods of production to choose from. They look around. Finding that their neighbors have made some money in traditional lines--rice mills, powerlooms, photostatic copying services, garment making, and so on--they crowd in the same traditional industries by simply replicating the existing equipment and processes without any cost reduction to capture the market from established firms. They lower each other's profits for static demand, instead of lowering prices through lower costs and thereby expanding the market. The result is that that they cannot earn surpluses to expand their businesses.

Institutes of technology started almost simultaneously in South Asian countries. Today, while India's IITs are an envy of the developing world as are its polytechnics, Bangladesh's 4 BITs remain largely undergraduate teaching institutions. Bangladesh's 17 polytechnics are nowhere close to the levels of those of India. Over 90 percent of Bangladesh's faculties and research institutes are staffed by those who earned their Ph.D. degrees from abroad. Local graduate education is weak. Bangladesh's council of Science and Industrial Research has had no research funds till last year when it (with 70 Ph.Ds) got a pittance allocation of Tk 15 lakh. Other institutes of science and technology are not developing innovations. The authors of the Bangladesh's Agricultural Sector Review, completed early this year by a team of experts, and evaluated by two dozen economists

and agricultural specialists from all over the world, under the auspices of the UNDP, found much of agricultural research unproductive and so undeserving of increased funding. While that conclusion is non sequitur (see my Comment on the report, WP17), the dismal state of R&D in this country is underscored. Probably not many of Bangladesh's agricultural research institutes have the necessary critical mass of agricultural scientists. This is the state of agricultural research. Industrial research of Bangladesh is far behind its agricultural research. Even within a research institute, imbalances are known to exist. For instance, only about 5 or so of the 70-some Ph.Ds. of the BCSIR are engineering researchers. A major thrust in upgrading the research effort for technological improvement is clearly in order.

Little action plan for technology in Bangladesh

The Planning Commission documents include statements on technology improvements as one of the main objectives for the Fourth Five-Year Plan. They have done so in earlier years almost as a ritual. But hardly any action plan has ever been prepared for technology transfer. Presumably, in part, in response to the recommendations of a multi-volume study on technology for the Third FYP, the Planning Commission has revised its Project Proforma (PP) for the Fourth FYP in which a number of questions about technology have to be answered. It remains to be seen whether the choice of technology selected in the PPs for the 4FYP is cosmetic or genuinely made among available technologies on the

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basis of some sort of cost-benefit analysis.

Such an evaluation of alternatives and selection ought possible, be done, to use the terminology of Drs. Iqbal Mahmud and Nawaz Sharif, in terms of technoware, humanware, inforware, and orgaware. In evaluating the projects and pruning the overall set of projects from various line ministries to keep the overall cost within available resources, the Planning Commission will probably look at the technologies by "exporting technology domain," "traditional technology domain," and "importing technology domain,". Various environmental factors have to be carefully considered. Constraints have to be identified and overcome. In other words, while technology need not be developed locally at high cost in terms of time and scientific manpower but can be bought and transferred, about as much cost is needed to adapt and improvise it to suit local factor endowments as in buying it in its embodied form in hardware, software, and other wares. Skilled manpower, experienced and knowledgeable scientists, and well-fitted labs and libraries are needed for the job.

Needed a Big Effort to
Improve Technology

Given Bangladesh's present dependency on foreign aid and the distance it has to travel to catch up with its neighbors and then advance forward, tinkering with technology is not going to do this country much good. A big effort, a big leap forward, is needed. In view of this, we suggest that Bangladesh consider building up a KIST/KAIST type of institute of transfer of technology. An institute of this nature cannot be efficient,

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productive, and fruitful unless it is set up and operated in a way which is free from government interference, i.e., in the private sector. Side by side with the public-purpose research, the output of which should be distributed widely, especially for small-scale production, the specialized institute under reference must have full flexibility in terms of hiring and salary-setting as well as producing technology and innovations on commercial basis on orders and in expectation of patenting it. The institute should have enough endowment to carry on public-purpose research whose benefits are available to all as a public good. But it should also have the autonomy to receive orders from big firms or associations of small firms for made-to-order innovations.

Current State of the Proposal
for the Proposed Institute
of Transfer of Technology

Since the research of the HIID/ESEPP Project revealed a widening lag in industrial technology in Bangladesh and the effort that is afoot in the country to covering the gap was found inadequate, this project has given a serious thought to the transfer of technology. With the special purpose of finding ways to improving the technological level of small enterprises, this project invited an experienced expert on transfer of technology as short-term consultant for a period of two weeks in May, namely, Professor Robert House, Distinguished Professor of Science and Technology, Vanderbilt University, an ex-associate of BETELLE's Columbus, Ohio, Laboratories (the agency which helped

set up the KIST. His visit coincided with the week-long international forum on technology planning for industrial development in Bangladesh, organized by the Division of Science and Technology, UN-ESCAP, and UNDP/Dhaka.

At this forum the President of the country, the Prime Minister, the Finance Minister, and the Minister of Planning, all spoke of giving priority to technology. Participants included Dr. Hyung Sup Choi, Member, National Academy of Sciences, Republic of Korea, the founder and director of the KIST, who also had a meeting with the President. At this forum it became transparent that political will now exists in Bangladesh for a big frogleap to promote transfer of technology.

Professor Robert House and HIID's Resident Economic Advisor, Professor G. S. Sahota had a post-forum meeting with Mr. Farid, Secretary, Division of Science and Technology, Ministry of Education and broached the idea of starting a KIST-type institute in Bangladesh. Mr. Farid asked the two professors to develop the project and give a position paper to him, which he could include in the agenda of the next meeting of the NCS&T (whose secretary-general is the secretary of the Division of S&T and whose chairman is the President of the country).

Soon after that Mr. Farid was sent abroad as ambassador of the country. The new secretary, Mr. Yusuf, held a widely-represented meeting of local experts on technology and concerned officers on July 8, at which HIID's advisor, G. S. Sahota, was invited to present the reference idea. An enthusiastic response came out of that meeting also.

Pursuant to that, two local consultants--Professor Iqbal

Mahmud of the Bangladesh University of Science and Technology who authored the multi-volume report, Technology Transfer and Development, for the Third Five Year Plan, 1986-1990, and Dr. M. Nawaz Sharif, until recently the Director UN-ESCAP/APCTT (Institute of Technology Transfer)--have been hired to work on the proposed project. They have been working on it since July 16. Professor House will make his second short trip to Dhaka to complete his report on technology transfer for small enterprises.

At the meeting with the secretary of the Division of S&T, HIID's advisor was asked if an Asian expert on transfer of technology could also be added to the preparation of the project. He tentatively agreed that consultancy of 3 to 4 weeks for an additional expatriate expert could be arranged. It is in pursuance to this background, process is afoot to inviting Dr. Choi, the founder of KIST for a short-term consultancy to this project.

3. Promotion of Food-processing Industries

On the basis of our studies from 4 different data sets on alternative indicators--including investment from the DI data, employment from the Econ. Census, and total factor productivity and factor intensities from the data of the Census of Manufacturing Industries, as well as a study of the agricultural sector--food-processing industry comes out with high potential for growth. Besides, this industry has several other desirable

characteristics. It is a rural industry, which can absorb unemployed and underemployed labor; can lessen rural-urban migration, and can thus reduce the high costs of urbanization. It uses domestic raw materials and provides the conditions for a demand-led growth for agriculture. It is likely to be a labor-intensive sector with backward linkages with one of the most labor-intensive sector, namely agriculture. Finally, the food-processing industry is, in general, made up of small enterprises. Processed fruits and vegetables, frozen fish, and similar industries are instances. As such, the industry will provide lucrative avenues for private investment.

This project depends for its success on the former two projects. The greatest need for the promotion of this industry is R&D to innovate appropriate techniques, lines, and processes of production. Among the questions to be asked are: How and what types of fruit juices, jams, tomato catchups, and the like can be produced? How can they be standardized for possible export? What kind of technology and machines can be used to keep the small plants running year-round when most fruits and vegetables are seasonal? How overseas market intelligence can be generated for Bangladesh's frozen fish and other processed foods? How quality can be controlled in small and medium establishments? What kind of raw materials are cost-effective for what kind of products? And many other similar questions are relevant.

The three projects proposed here are closely related and complementary. All the three projects require technical aid for preliminary research and analysis and subsequent project support. By the end of the third year of the second phase, when we have

the relevant data on small enterprises and its analysis in hand, additional projects may be thrown up and policies implicated.

A tentative list of policy recommendations is summarized below:

Tentative Set of Policy Recommendations

1. Deregulation:
   a) Reduce tariffs
   b) Auction licenses
   *c) Simplify sanctioning procedure and credit application procedures
   *d) Government to concentrate on infrastructure and R&D
   e) Reduce controls and other undesirable regulations

2. Competition:
   a) Introduce competition among public firms:
      i) Either denationalize, or
      ii) Break up corporations and let firms compete, or
      iii) Eliminate subsidies (underwriting of losses)
   b) Surveillance over private monopolies
   *c) Reduce assistance to highly protected industries/sectors instead of increasing assistance to less-protected industries/sectors/size-classes
   d) Eliminate price distortions in general

3. Technology policy: The serious-most source of lower productivity growth and slow industrialization
   *a) Institute of transfer of technology
   b) Assessment of technology of projects for the Fourth 5YP

4. Other:
   a) Reduce procedural complexities
   b) Needed a review of labor laws
   c) The root cause of smuggling, rent-seeking, and corruption is too much regulation
   *d) Drastic increase in R&D needed (see 3 above)
   e) Privatize the distribution of power (and study the viability of privatization of other utilities)
   *f) Drastic increase in training of entrepreneurs, managers, and artisans needed

*g) Promote (through innovations) industries that used domestic raw materials, specifically food-processing.

*Addressed specially to small sector.

APPENDIX A

CONCLUSIONS OF THE ANALYSIS OF THE SURVEY OF INDUSTRIAL LEADERS

Conclusions and Policy Implications

The factors affecting Bangladesh's industrialization may be viewed to fall in 4 classes: smugglers, rent-seekers, traders, and industrialists. The incentives and concessions of the industrial policy packages of 1982 and 1986 were addressed to industrialists, but the gains seem to have gone to the other 3

groups.

1. Smugglers.--In a free-enterprise economy, workers are premised to maximize their earnings, entrepreneurs their profits, and consumers their utility. Even in these economies, however, certain modes of earning and making money are considered immoral, which in pursuance of that social more are usually made illegal. Prostitution, robbing, black marketing, smuggling, and rack-renting are examples. These occupations have nevertheless continued throughout history and across all countries whenever conditions make them more remunerative than alternatives, given the costs, including the implicit costs of social stigma, bribing law-enforcement officers, and the risk of getting caught. In this note, we are concerned with smuggling.

Causes and effects of smuggling.--Smuggling arises whenever imports are banned, such as cigarettes, sarees, livestock, etc., in Bangladesh, or are subject to high tariffs, e.g., canned food, certain steel products, and so on. According to the guesses of business leaders, the costs of smuggling are such that whenever an import duty exceeds 40 percent, profits from smuggling become so attractive that much of the commodity concerned is smuggled in to the detriment of the domestic producer. (Goods that are easily noticeable, such as cars are exception to this practice.) High tariffs and bans, which are galore in Bangladesh, despite some reduction in the last two budgets, may, therefore, be defeating their purpose of protecting domestic infant industries.

Government's domestic policy of industrial expansion is, to a large extent, also frustrated, as, according to the opinions expressed by business leaders in the survey, "smugglers make more

money than importers and the laterr more than industrial producers." Entrepreneurs are smart people, whose objective is profit-maximization. When they see that profits are low and risk is high in industrial production while the reverse is the case in alternative investments, they would, in general, not be smart if they forewent higher profits for low. "If you are smart, then why are you not rich," so goes the quip in the U.S., a free enterprise economy of entrepreneurs. In short, smuggling and rent-seeking are not supplementary to investment in machines and mortar; they are largely substitutes. They divert resources to socially far less productive avenues and thus lead to a net reduction in real investment in industry. Surveilence against smuggling (preferred by industrialists) is made ineffective because the palms of many law-enforcement officers can be greased and because there is no leakproof remedy against smuggling, as the drug traffic in America has shown, and because major smugglers may have their men in the court or amongst the influential politicians. The effective remedy is the elimination of quantity restrictions and lowering of tariffs. Unfortunately, this remedy is not liked by protection-minded industrialists. The ramifications and pros and cons of the suggested remedy are many, into which we will not go here.

2. Rent-seekers[5].--Licenses, sanctions, and notifications that may create scarcities artificially are issued for some desirable objectives. But they are also sources of rents (unearned incomes). The recent ban on the use of natural gas for brickfields in last fall (when for the past several years the

consumption of gas as a fuel had been promoted), which led to a significant rise in the price of coal and which, thus, created windfall profits for those who had imported coal under license, is an instance of rent, earned in this case by licencee coal importers. A whole class of rent-seekers seems to have arisen in Bangladesh.[6]

Rent-seeking is bad, not only because it is an unproductive activity--it constitutes a mere transfer from some groups of the society to rent-seekers (and their partakers) in rents--but much more so because it is injurious to genuine investors. Rent-seekers are, however, in an advantageous position vis-a-vis smugglers, inasmuch as rent-seeking is not a crime. It is a perfectly legal activity. In the absence of favorable conditions many rent-seekers are likely to look for alternative productive activities for themselves.

Licenses, permits, and sanctioning requirements cannot be entirely eliminated, but can, and should in the present conditions of Bangladesh, be minimized. The remedy against the abuse of those that are otherwise essential lies in the simplification and nonarbitrary implementation of their sanctioning and licensing procedures, expeditious action, and abstention from the issuance of industry-connected notifications and other policy directives without expert analysis of their costs and benefits for industrialization and without the transfer of welfare or income from one group of agents to another. A simple, straightforward procedure to reducing the gap between the rates of return to rent-seekers and genuine investors and importers, and thereby reducing the unproductive rent-seeking

activity and promoting investment in industry, is to auction licenses. That should also bring in lucrative revenue to government.

3. Traders.--Traders in general are complementary to producers, but importers are largely competitors of domestic producers, as they supply substitutes to domestic products. In a regime choked with bans and high tariffs, those who can obtain import licence of critical commodities can not only make quick money relative to industrial investors, but their capacity to import in excess of licensed quantities (tantamount to smuggling) also goes up. No wonder that industrial leaders believe that traders make more money than producers.

Once again, one effective measure towards reducing the noted disincentive to investment in plant and machinery is to eliminate or reduce the element that artificially increases the gap between domestic price and c.i.f. import price, namely bans and high tariffs.

4. Industrial investors.--Finally, there are industrialists for whom all sorts of genuine incentives are provided, many of whose benefits are indirectly reaped by smugglers and rent-seekers. At the same time, the four classes distinguished here are not necessarily distinct. They also overlap. After all, industrial entrepreneurs are not dumb workholics. When they cannot earn a normal rate of return from investment in mortar and machinery, they find out where the rate of return is higher. Some of them, too, may join the profiteering groups, whenever they can. In the present environment of Bangladesh, it may,

even, be more feasible and less risky for them to do so. They may use their industry, in part, to serve as an instrument for them to import goods in excess of their quotas.

An effective remedy to promoting those activities which are productive and discouraging those which are sterile is the same as noted earlier. The main causes of smuggling, rent-seeking, and similar unproductive activities lie in licensing and sanctioning procedures and similar restrictive measures. These can be drastically reduced, if not completely rooted out, by deregulation, in the economic policy field, and strict enforcement of accountability in the political arena. Measures other than "deregulation" are likely to be mere palliatives, which usually happen to be nothing but rhetoric. Complaints were aired to this team that while industrialists have been put behind bars for default of loan (not an industrial-promotion action), hardly anyone is known to have gone to prison for bribery (an act likely to be conducive to industrial growth).

However, if deregulation is not feasible in the near future, interference in private initiative should be reduced to the extent feasible. Even the innocuous-looking, paternalistic categorization of certain industries as "discouraged sector" usually is suspected to be of hideous connotation. It may protect existing firms from additional competition from new entrants. At least it will be an on-th-job training for industrialist entrepreneurs to lear by trail and error. A maze of other industrial and trade regulations exist that breed corruption, bureaucratic sloth, inefficiency, and rent-seeking activities. A reduction of government regulations and

formalities is highly desirable, which would minimize the implementation problem, contain corruption, and consequently improve the confidence of investors.

Subsidiary problems.--To promote industrial growth, the problem of power needs to be addressed. Power problem can be minimized by curtailing the system loss (technical inefficiency), reducing corrupt practices, rationalizing the electricity price schedule, and stopping arbitrary switches in the sources of fuel and power supply to industrialists. Similar problems and suggested solutions apply to telegraph and telephone (T&T) services. Only as a last resort, the privatization of electricity and T&T may be considered, with proper insulation against the abuses of private monopolies.

To attract investment to backward areas--away from the cities of Dhaka and Chittagong--requires significant improvement of the infrastruture. Some economists think that if pucca roads and electricity are supplied to connect every village, the two services will induce development of other sources of growth. Unfortunately, this is a rather costly and long-run prespective. Industrialists, nevertheless, desire infrastructure before they can risk investment in less-developed areas.

A review of the labor policy is in order. The present wage and bonus setting policies in the public sector are very unpopular among entrepreneurs. The role and limitations of union leaders should be addressed not only on political grounds but also on their impact on labor productivity and representation of labor's demands. This is not to say that unionism is

undesirable. It is indeed, highly desirable for industrial discipline and labor rights. Bangladesh is fortunate to have a union system; in the court of law, most of the ILO-chartered labor laws are honored. Only its political leadership is causing problems.

To motivate government officials to work diligently and without being tempted to share in the rents from licenses and sanctions, remunerations competitive with those of equivalently qualified persons in the private sector would be a step in the right direction. The present pay structure needs to be overhauled, allowing higher pay and attractive compensation to the more productive officials. Let monetary wage be competitive with those for equivalently qualified persons in the private sector (with the same carrot and stick for promotion and firing), and let all or most emoluments consist of monetary payment instead of part of it as in-kind payment. In particular, existing public houses may be let at market rent (or sold) to any one whether public servant or not, with compensating raise in monetry wage of public employees.

The most serious problems faced by industrialists are the following:

Problems

1.	Financial	Procedural complexities and delays in obtaining credit from banks
2.	Raw material	High import duty on, and high price, of raw materials
3.	Labor	Political influence among workers and lack of skilled manpower

4.	Marketing	Smuggling
5.	Machinery	Increase in investment cost due to financial problems, lack of local-made machinery, and long delays in obtaining permission to import machinery
6.	Technology	Lack of information and extension of whatever technology there is
7.	Management	Not enough R&D by government, so management has little access to new processes/products
8.	Power	Taxes on power, irregular supply, pricing schedule, and pilferage of electricity
9.	General	Smugglers make more money than traders, traders more than producers; bureaucratic sloth; bribery; political uncertainity

The most widely used incentives are the following:

Incentives	
1. Investment incentives	Concessionary customs duties on machinery and carrying forward business losses for tax purposes
2. Export incentives	Back-to-back LC; XPB; WES Scheme; concessional interest rate; and reduced customs duty on machinery for export industries

3	Capacity utilization	None
4.	Small-scale industries	Exemption from excise tax; training of artisans; training of managers, arrangement of credit and subcontracting by BSCIC
5.	Location in less-developed areas	Concessional import duty on machinery
6.	Domestic raw materials	Concessional import duty on machinery for using more than 70 percent indigenous raw materials

Additional incentives are available but responses to them are feeble, which would be due either to the delay and complexity of availing of them or not profitable otherwise. Examples of these are: the now defunct one-stop service; concession for overseas travel; capital gain tax; accelerated depreciation allowances; all concession for exceeding sanctioned capacity; arrangement (by BSCIC) of raw material purchases; definite percentage of credit for SCI set apart by banks; help to sick industries; and credit guarantee scheme.

A lesson from these findings is to remove impediments to those policies which are efficient in attending their objective of investment expansion and drop altogether those which are hardly used; perhaps they create unnecessary confusion and complexity.

Finally, it should be noted that even apart from the problems related to smuggling and rent-seeking activities, all is not well with Bangladesh's entrepreneurs. There is a lot of

substance in the official view that private investors tend to crowd in traditional industries instead of new lines and rarely "go fetch" advanced techniques; many do not do their homework properly before they apply for loans and sanction; some try to get ahead of others by breaking the queue and complain of corruption on the part of officials; and that most lack experience and training.

Of course they are the first-generation entrepreneurs of a young country. The social and business contacts of small investors are very limited. They can marshall some investment funds but have very little knowledge of which avenues are potentially profitable. For instance, 18 months ago, there were only 3 or 4 photostatic firms in the Gulshan market DIT 2, of Dhaka city, which charged Taka 2 per copy. Today their number has roughly doubled. They are almost replicas of the old ones, having simple, manually operated 1 or 2 machines and an amonia print roller with one porprietor and 1 to 2 employees who toil for a long 12-to-15 hour day. The competition has become so stiff that the price has come down from Taka 2 to Taka 1 per copy, including the cost of xerox paper and ink (drum of ink is quite a costly material). There were probably some profits before. Anybody would wonder how these photostatic firms at this price can earn profits to expand, indeed whether the net profits match the going wage! This is the story of typical small investors in Bangladesh. New technology and information about new lines of production are woefully lacking.

Two remedies almost suggest themselves: expanded training of

entrepreneurs and R&D by government agencies to develop new investment avenues.

To summarise, policy reform is in order towards a curtailment of regulations; increased accountability from public officials; improved pay structure for bureaucrats in lieu of in-kind services; exposing public and private enterprises to competition without subsidizing the former; training of entrepreneurs; and a quantum increase in R&D to improve and transfer technology. These are some of the steps to create a milieu conducive to the generation of resources for investment and industrial growth. In one sentence, the key to the Bangladesh's industrialization lies in four policies: deregulation, public accountability, competition, and R&D.