

TMD DISCUSSION PAPER NO. 74

**A GENDERED 1993-94 SOCIAL ACCOUNTING
MATRIX FOR BANGLADESH**

**Marzia Fontana
Peter Wobst**

Trade and Macroeconomics Division, IFPRI

**Trade and Macroeconomics Division
International Food Policy Research Institute
2033 K Street, N.W.
Washington, D.C. 20006, U.S.A.**

April 2001

TMD Discussion Papers contain preliminary material and research results, and are circulated prior to a full peer review in order to stimulate discussion and critical comment. It is expected that most Discussion Papers will eventually be published in some other form, and that their content may also be revised. This paper is available at <http://www.cgiar.org/ifpri/divs/tmd/dp.htm>

Abstract

This working paper documents the construction of a 1993-94 Social Accounting Matrix (SAM) for Bangladesh.¹ The SAM distinguishes 10 agricultural sectors—including two different kinds of rice technology—and 19 manufacturing sectors, out of 43 sectors in total. It also differentiates between twelve socio-economic groups, allowing detailed analysis of household welfare and poverty. The SAM has ten factors of production: one type of capital, one type of land and eight different types of labor which are disaggregated by both level of education and gender. The innovative feature of the SAM is that it separates out female and male labor value-added for each educational level and in each sector of the economy, providing a base for gender-sensitive analyses of policy changes. The SAM is estimated with a cross-entropy approach, which makes efficient use of all available data in a framework that incorporates prior information and constraints.

¹ The SAM was built as part of a collaboration between IFPRI and IDS at the University of Sussex, England. Many helpful suggestions by Adrian Wood are gratefully acknowledged.

Table of Contents

| | |
|---|----|
| 1. Introduction..... | 1 |
| 2. The 1993-94 Macro SAM..... | 2 |
| 3. The 1993-94 Micro SAM..... | 7 |
| 3.1. Disaggregation of the production and commodity accounts..... | 7 |
| 3.2. Disaggregation of factors and institutions | 9 |
| 4. Balancing the SAM using a cross-entropy approach | 14 |
| References | 18 |
| Appendices..... | 20 |
| List of Discussion Papers..... | 44 |

List of Abbreviations

| | |
|------------|---|
| BBS | Bangladesh Bureau of Statistics |
| BIDS | Bangladesh Institute of Development Studies |
| CGE | Computable General Equilibrium |
| C.I.F. | Cost, Insurance, Freight |
| GAMS | General Algebraic Modeling System |
| GDP (f.c.) | Gross Domestic Product at Factor Costs |
| GFCF | Gross Fixed Capital Formation |
| GNP (f.c.) | Gross National Product at Factor Costs |
| F.O.B. | Free on Board |
| HES | Household Expenditure Survey |
| IMF | International Monetary Fund |
| IO | Input Output |
| LFS | Labour Force Survey |
| Macro SAM | Macroeconomic Social Accounting Matrix |
| Micro SAM | Microeconomic Social Accounting Matrix |
| ROW | Rest of the World |
| SAM | Social Accounting Matrix |

1. Introduction

This paper documents the construction of a 1993-94 social accounting matrix (SAM)² for Bangladesh. The SAM is based on a 1993-94 Input Output (IO) Table (BIDS 1998), 1993-94 national accounts data, 1995-96 labor and household surveys, and information from an existing SAM for 1993-94 (Khondaker³ 1999, 1999a). Although a number of relatively recent SAMs are available for Bangladesh, none provides the desired level of disaggregation for factors of production and households. Our SAM distinguishes ten factors of production with eight different types of labor (by level of education and gender), one type of capital, and one type of land. It also differentiates between twelve socio-economic groups, allowing detailed analysis of household welfare and poverty. Our SAM is also the first, in our knowledge, to incorporate gender features in a systematic way, by separating female and male labor value-added for each educational level and in each sector of the economy.⁴ Because the analytical focus of our planned analysis is agriculture—especially the rice sector—and the garment industry, the disaggregated SAM contains 10 agricultural sectors—including two different kinds of rice technology—and 19 manufacturing sectors, out of 43 sectors in total.

The construction of a SAM is not only an exercise in putting together a complete data set, but also an estimation process on the basis of insufficient and partly inconsistent data. The first step to achieve a consistent and balanced SAM is to build a macroeconomic SAM (Macro SAM). The Macro SAM gives an aggregated perspective of the flow-of-funds in an economy without sectoral or institutional detail. The second step is the construction of a preliminary Micro SAM. The Micro SAM disaggregates most of the

² For a general discussion of social accounting matrices see Pyatt and Round (1985) and Reinert and Roland-Holst (1997).

³ We thank Bazlul Haque Khondaker for sharing with us all his data and work.

⁴ Most of the gendered data were taken from the 1995-96 Labour Force Survey (LFS). Further developments of the gender features of the SAM include estimation of the activities performed—mainly by women—within the household, such as looking after children and the elderly, taking care of the sick, and preparing meals. These activities contribute significantly to human development and social welfare but are often not remunerated and hence not included in national accounts. For further discussion of this point see Appendix 3.

Macro SAM accounts with respect to desired sectoral and institutional breakdowns, subject to data availability. The accounts of the Micro SAM have to be balanced while also achieving the aggregate control totals from the Macro SAM. A cross-entropy approach to SAM estimation (Robinson, Cattaneo, and El-Said 2001) is used for the balancing process which leads from the preliminary unbalanced Micro SAM to the final estimated 1993-94 balanced Micro SAM for Bangladesh that uses all available information in a consistent framework.

The paper is organized as follows: section 2 provides a description of the 1993-94 Macro SAM, while section 3 describes the Micro SAM, including the datasets used and data transformations applied. Section 4 explains the cross-entropy approach and provides the final balanced Micro SAM of Bangladesh for 1993-94.

2. The 1993-94 Macro SAM

The Bangladesh Macro SAM for the year 1993-94 contains 24 non-zero entries. The initial Macro SAM balances the entire economy at a gross output level of Taka 2,444.4 billion and a total domestic absorption of Taka 2,674.7 billion. The difference reflects Bangladesh's trade deficit in 1993-94 of Taka 60.1 billion—Taka 158.9 billion imports at c.i.f. prices versus Taka 98.7 billion exports at f.o.b. prices—and indirect commodity taxes comprising Taka 71.4 billion.

The Bangladesh Macro SAM is “anchored” to the 1993-94 IO Table constructed by BIDS (1998). Because data availability and consistency of different data is limited, it is useful to choose a “core” publication in order to set the macroeconomic framework of the SAM. Typically, and so in the case of Bangladesh, this is the Input Output Table and/or the National Accounts, but more comprehensive, consistent, and reliable data may be available through other national studies. Data from other sources are adjusted for consistency with the national accounts and IO data to obtain a comprehensive economywide data base.

Table 1 shows the macro totals for the Bangladesh economy according to the 79 sector 1993-94 IO Table by BIDS.

Table 1 - Macro totals from 1993-94 IO Table

| Macro aggregates | billion Taka |
|---|---------------------|
| GDP at factor costs (value-added) | 1,245.4 |
| + Indirect taxes on domestic goods and services | 42.2 |
| = GDP at market prices | 1,287.6 |
| | |
| - Exports | 98.7 |
| + Imports | 158.8 |
| + Indirect taxes on imported goods and services | 29.2 |
| = Total absorption | 1,376.9 |
| | |
| - Private consumption | 1,134.4 |
| - Recurrent government consumption | 57.1 |
| - Gross fixed capital formation (GFCF) | 245.8 |
| - Change in stocks | -58.8 |
| = Computational deficit | -1.6 |

The computational deficit derived in the table above is only of minor interest because the sector-specific change in stock elements have been computed as residuals in the IO Table. Since there is no reliable information on changes in stocks—neither by sector nor for the economy as a whole—we neglect total changes in stocks. Consequently, final private consumption is calculated as a residual by subtracting government consumption and GFCF from total absorption as is typically done in national accounts and IO computations. Hence, final private consumption in the Macro SAM decreases to Taka 1,073.825 billion.

Table 3 presents the complete Macro SAM featuring the above mentioned national accounts data, as well as additional information on direct taxes, domestic savings, and foreign capital flows. Prior to this, in Table 2, we provide a schematic diagram which introduces the different features and the functionality of the Macro SAM.

The gray-shaded cells of the Macro SAM are immediately derived from the 1993-1994 IO Table. Transfers between all institutions—households, enterprises, government, and rest of the world—are adopted from Khondaker's SAM (1999a). The split of total value-

added between labor value-added paid directly to households and capital value-added channeled through the enterprise account is derived from the sectoral value-added split in Khondaker's SAM . Direct taxes and savings of households and enterprises are also based on information from Khondaker's SAM but were adjusted to fulfill the macroeconomic balance of the SAM. Net capital inflow from abroad is adopted from Khondaker's SAM as well, whereas government savings are computed as the difference between total government receipts and total government spending.

Table 2 – Structure of the macroeconomic social accounting matrix

| | Activities | Commodities | Factors | Households | Enterprises | Domestic Taxes | Tariffs | Government Recurrent | Rest of the World | Capital Account | Total |
|----------------------|----------------------|-----------------|--------------------|----------------------|------------------------|-----------------------|----------------|--------------------------|-------------------------|------------------|--------------------------------|
| Activities | | Marketed Supply | | Own HH Consump. | | | | | | | Activity Income (Gross Output) |
| Commodities | Intermediate Demand | | | Marketed HH Consump. | | | | Final Gov. Consump. | Exports f.o.b. | Investment | Demand |
| Factors | Value-Added | | | | | | | | | | Factor Income |
| Households | | | VA Labor and Land | | Operating Surplus | | | Government Transfers | Remittances from Abroad | | Household Income |
| Enterprises | | | VA Capital | | | | | | | | Enterprise Income |
| Domestic Taxes | | Sales Tax | | | | | | | | | Domestic Indirect Taxes |
| Tariffs | | Import Tariffs | | | | | | | | | Import Tariffs |
| Government Recurrent | | | | Income Taxes | Enterprise Taxes | Sales Tax | Import Tariffs | | | | Gov. Recurrent Receipts |
| ROW | | Imports c.i.f. | | | | | | | | | Foreign Exchange Outflow |
| Capital Account | | | | HH Savings | Enterprise Savings | | | Gov. Savings | Net Capital Inflow | | Total Savings |
| Total | Activity Expenditure | Supply | Factor Expenditure | HH Expenditure | Enterprise Expenditure | Domestic Indirect Tax | Import Tariffs | Gov. Recurr. Expenditure | Foreign Exchange Inflow | Total Investment | |

Table 3 – 1993-94 Macro SAM for Bangladesh in billion Taka

| | Activities | Commodities | Factors | Households | Enterprises | Domestic Taxes | Tariffs | Government Recurrent | Rest of the World | Capital Account | Total |
|----------------------|------------|-------------|---------|------------|-------------|----------------|---------|----------------------|-------------------|-----------------|---------|
| Activities | | 2,444.4 | | | | | | | | | 2,444.4 |
| Commodities | 1,199.2 | | | 1,073.8 | | | | 57.1 | 98.7 | 245.8 | 2,674.7 |
| Factors | 1,245.2 | | | | | | | | | | 1,245.2 |
| Households | | | 609.3 | 32.4 | 586.7 | | | 25.6 | 48.1 | | 1,302.1 |
| Enterprises | | | 635.9 | | | | | | | | 635.9 |
| Domestic Taxes | | 42.2 | | | | | | | | | 42.2 |
| Tariffs | | 29.2 | | | | | | | | | 29.2 |
| Government Recurrent | | | | 7.1 | 16.8 | 42.2 | 29.2 | | | | 95.3 |
| ROW | | 158.9 | | | | | | | | | 158.9 |
| Capital Account | | | | 188.8 | 32.4 | | | 12.6 | 12.0 | | 245.8 |
| Total | 2,444.4 | 2,674.7 | 1,245.2 | 1,302.1 | 635.9 | 42.2 | 29.2 | 95.3 | 158.9 | 245.8 | |

3. The 1993-94 Micro SAM

Constructing a Micro SAM involves a process in which the main account types contained in the Macro SAM and their non-zero data entries are disaggregated to provide a more detailed picture of all flows in the economy. Several factors are taken into account when deciding on the level of disaggregation. Because the main focus of our analysis is the impact of trade liberalization on the poor, we constructed a fairly disaggregated labor market and household structure. Special attention was given to the gender features of the economy, which are important to understand overall outcomes, both at markets and household levels. Disaggregation depends, of course, on the availability of data. Various sources were used and several informed judgments were needed, due to missing information or inconsistencies between different data sets.

3. 1. Disaggregation of the production and commodity accounts

The main data source that forms the basis of the 1993-94 Micro SAM is the 1993-94 IO Table. The production of goods and the supply of commodities to domestic and export markets makes up the largest part of the Micro SAM. The 1993-94 Micro SAM distinguishes between 43 productive activities, which are an aggregation of the 79 activities in the 1994-94 IO Table.⁵

Of the 43 productive activities defined in the Micro SAM, 10 are agricultural activities, 19 are manufacturing activities, and 14 are service activities. However, the Micro SAM has only 42 commodities. In most cases, the activity is the sole producer of its respective commodity. The only exception is the commodity paddy, which is produced by two activities (associated with different production technologies representing *aman* and *boro* cropping). Aman constitutes about 44 percent of total rice production, is rain-fed and slightly more labor intensive than boro, which is an irrigated crop with higher fertilizer inputs and higher yields.⁶ The Micro SAM makes also a distinction between several textile sectors and separates out the ready-made garment sector, for its strategic importance in exports. The complete sectoral disaggregation of the Micro SAM is presented in Table 4.

⁵ The way in which the 79 IO sectors were aggregated into the 43 SAM sectors is shown in Appendix 4. More precisely, the 79 IO sectors were aggregated into 42 SAM sectors, and later one sector, paddy, was split into two, *aman* and *boro*.

Table 4 – Activities and commodities in the Micro SAM

| | Activities | Description | Commodities |
|----|------------|-------------------------|-------------|
| 1 | AAMAN | Aman rice | CPADDY |
| 2 | ABORO | Boro and Aus rice | CPADDY |
| 3 | AGRAINS | Grains | CGRAINS |
| 4 | AJUTE | Jute | CJUTE |
| 5 | ACOMCROP | Commercial crops | CCOMCROP |
| 6 | AOTHCROP | Other crops | COTHCROP |
| 7 | ALIVESTO | Livestock | CLIVESTO |
| 8 | APOULTRY | Poultry | CPOULTRY |
| 9 | AOTHFISH | Fishing | COTHFISH |
| 10 | AFOREST | Forestry | CFOREST |
| 11 | ARICEMIL | Rice milling | CRICEMIL |
| 12 | AATAFLOU | Ata & flour | CATAFLOU |
| 13 | AOTHFOOD | Food | COTHFOOD |
| 14 | ALEATHER | Leather | CLEATHER |
| 15 | AJUTETEX | Jute textiles | CJUTETEX |
| 16 | AYARN | Yarn | CYARN |
| 17 | AMILCLOT | Mill clothing | CMILCLOT |
| 18 | ACLOTH | Clothing | CCLOTH |
| 19 | AGARMENT | Garments | CGARMENT |
| 20 | AOTHTEXT | Other textiles | COTHTEXT |
| 21 | ATOBP | Tobacco | CTOBP |
| 22 | AWOODP | Wood & paper | CWOODP |
| 23 | ACHEM | Chemicals | CCHEM |
| 24 | AFERTI | Fertilizers | CFERTI |
| 25 | APETROP | Petroleum | CPETROP |
| 26 | ACLAYP | Clay | CCLAYP |
| 27 | ASTEEL | Steel | CSTEEL |
| 28 | AMACHIN | Machinery | CMACHIN |
| 29 | AMISCIND | Other industries | CMISCIND |
| 30 | AURBBUIL | Urban building | CURBBUIL |
| 31 | ARURBUIL | Rural building | CRURBUIL |
| 32 | ACONST | Construction | CCONST |
| 33 | AUTILITY | Electricity & water | CUTILITY |
| 34 | ATRADES | Trade | CTRADES |
| 35 | ATRANSS | Transport | CTRANSS |
| 36 | AHOUS | Housing | CHOUS |
| 37 | AHEALTH | Health | CHEALTH |
| 38 | AEDU | Education | CEDU |
| 39 | APUBADM | Public administration | CPUBADM |
| 40 | AFINS | Financial services | CFINS |
| 41 | AOTHS | Other personal services | COTHS |
| 42 | AHOTEL | Hotels | CHOTEL |
| 43 | ACOMM | Communications | CCOMM |

⁶ The relatively small non-irrigated *aus* season rice crop is also included in *boro*.

3.2. Disaggregation of factors and institutions

Factors

The 1993-94 Micro SAM distinguishes three factors of production: labor, land, and capital. Information on GDP at factor costs for each sector is taken from the 1993-94 IO Table. Employment and wage data are both derived from the 1995-96 Labour Force Survey (LFS) and used to compute labor value-added. Value-added to land (in the agricultural sectors) and capital (in the non-agricultural sectors) for each sector is calculated residually as the difference between sectoral GDP and total labor value-added.

Labor

Labor, distinguished by both gender and level of education, is disaggregated into eight categories:

- Female labor with no education;
- Male labor with no education;
- Female labor with low education;
- Male labor with low education;
- Female labor with medium education;
- Male labor with medium education;
- Female labor with high education;
- Male labor with high education.

No education indicates that the worker never had any formal schooling; low education means that the worker had between one and five years of education; medium education includes workers with between five and ten years of schooling, and high education refers to workers who have undertaken more than ten years of formal education.⁷

⁷ This classification follows the 1995-96 LFS classification. More precisely, 'no education' is equivalent to 'no school' in the LFS, 'low education' corresponds to 'I-V class', 'medium education' is 'VI-X class', while 'high education' corresponds to 'SSC/HSC and above'.

Detailed information on sectoral employment for the eight different labor categories was extracted from the 1995-96 LFS.⁸ The survey reports persons in the labor force and their activity status, as well as average weekly working time in hours, for both paid employment and unpaid family labor. Drawing on these data, employment is thus recorded in hours, which is useful because it allows us to take into account more accurately differences in time spent in market activities by different labor categories (which is particularly relevant for gender analysis), or even by the same labor category in different activities. It also allows us to record people involved in more than one activity, both in the market and non-market sphere, and to capture underemployment, which is widespread in Bangladesh.

From a glimpse at the data one can observe that female working hours constitute about 24 percent of total hours spent in market activities, mostly in agriculture (66 percent), where women constitute the vast majority of unpaid household labor; personal and household services (12 percent), where women work as maids; and textiles (8 percent), the ready made garment factories. Male hours are more spread across sectors than female hours, but mainly concentrated in agriculture (44 percent), trade (20 percent) and transports (8 percent). More than half of the workforce in agriculture does not have any education, while financial services is the sector with the highest proportion of highly educated workers. A table with the distribution of hours for each sector and each labor type is provided in Appendix 1.

Average hourly wages for the eight labor categories are also computed from the same source (1995-96 LFS). This required several calculations and assumptions, which are documented in Appendix 1, to correct for missing observations in some sectors or categories of workers. Overall, wages are the lowest in agriculture and the highest in financial services. Female wages are lower than male wages in all educational categories in each activity, but the gap is smaller in the ready-made garment sector,⁹ which is by far the most female-intensive sector in the economy.

⁸ Sectors in the LFS are not classified in the same way as sectors in the IO Table. Thus some adjustments had to be made to ensure correspondence between the two sources.

These adjusted data on employment and wage were then used to calculate labor value-added for each labor category in each sector.¹⁰

Land and Capital

Land value-added is calculated residually and accrues only to agricultural activities. It includes agricultural capital.¹¹ Similarly, non-agricultural capital is calculated residually and accrues only to manufacturing and service activities.

Institutions

Households

The households purchase commodities in the market, pay taxes to the government and save. They receive incomes from the sale of their labor, incomes from land and enterprises,¹² and also transfers from the government and the rest of the world. The commodities purchased and their respective values are derived from the 1995-96 Household Expenditure Survey (HES),¹³ with a few adjustments, whereas information on different households' labor endowments¹⁴ is calculated from the 1995-96 LFS. With this information, distribution of labor value-added (as computed in the previous section) to different households is possible: household shares for each labor factor are calculated and applied to the respective total value-added by factor.

The 1993-94 Micro SAM distinguishes between twelve household types, classified according to land holding size, occupation, and gender of the household's head, in rural areas, and to level of education of the household's head, in urban areas. The details are found in Table 5.

⁹ Data on this sector were complemented by additional information from garment industry surveys (Zohir, 1998).

¹⁰ In some cases some further adjustment were required to fix negative capital value added problems. Details of all the adjustments regarding employment and wages are documented in Appendix 1.

¹¹ A further split between agricultural capital and different types of land is planned in the next version of the SAM.

¹² More specifically, in our current version of the SAM, agricultural households receive non-labor income from both land and (non-agricultural) enterprises while non-agricultural households receive income only from enterprises.

¹³ The survey contains also information on households' own-consumption, which we plan to include in further developments of the SAM.

¹⁴ Details about households' labor endowments are provided in Appendix 3.

Table 5 – Household types and their definition

| | |
|---------------------------------------|---|
| 1.Agricultural landless | Rural agricultural households who own no land |
| 2.Agricultural marginal | Rural agricultural households who own up to 0.49 acres |
| 3.Agricultural small | Rural agricultural households who own between 0.5 and 2.49 acres |
| 4.Agricultural large | Rural agricultural households who own more than 2.49 acres |
| 5.Non-agricultural poor female-headed | Rural households whose head is female and not engaged in agricultural activities, and who own less than 0.5 acres of land |
| 6.Non-agricultural poor male-headed | Rural households whose head is male and not engaged in agricultural activities, and who own less than 0.5 acres of land |
| 7.Non-agricultural rich female-headed | Rural households whose head is female and not engaged in agricultural activities, and who own more than 0.5 acres of land |
| 8. Non-agricultural rich male-headed | Rural households whose head is male and not engaged in agricultural activities, and who own more than 0.5 acres of land |
| 9.Urban illiterate | Urban households whose head has no schooling |
| 10.Urban low educated | Urban households whose head's education is 'I-V class' (LFS definition) |
| 11.Urban medium educated | Urban households whose head's education is either 'VI-VIII class' or 'IX-X class' (LFS definition) |
| 12.Urban highly educated | Urban households whose head's education is either 'SSC/HSC' or 'graduate and above' (LFS definition) |

Income distribution is quite unequal: urban educated households receive 28 percent of total income but constitute only 7 percent of the total working population, while landless and marginal farmers receive only 5 percent of total income despite comprising 18 percent of the working population. These latter households derive their income exclusively from labor, mostly uneducated labor (about 70 percent), while about 70 percent of the urban educated households' income comes from capital. Small farmers and large farmers are the only groups receiving income from land.¹⁵

¹⁵ This is a simplification made due to lack of data. In the future we intend to construct a more realistic map of the allocation of land. Scattered information indicates that non-agricultural rural households, and urban households, also own land.

Table 6 – Percentage distribution of SAM households

| SAM Households | No. of hhlds in the LFS sample | % |
|-----------------------|---------------------------------------|--------------|
| Ag landless | 210 | 1.5 |
| Ag marginal | 2,420 | 17.3 |
| Ag small | 2,434 | 17.4 |
| Ag large | 1,079 | 7.7 |
| Nag pfhh | 220 | 1.6 |
| Nag pmhh | 2,067 | 14.8 |
| Nag rfhh | 30 | 0.2 |
| Nag rmhh | 1,001 | 7.1 |
| Urban no ed | 1,480 | 10.6 |
| Urban low ed | 1,014 | 7.2 |
| Urban med ed | 853 | 6.1 |
| Urban high ed | 1,200 | 8.6 |
| Total | 14,008 | 100.0 |

Source: Computed from 1995-95 LFS

This household typology closely follows the household classification of Khondaker's SAM (1999a), with the only difference being that our SAM disaggregates non-agricultural rural households into four further groups: poor households, both female-headed and male-headed, and non-poor households, similarly differentiated by the gender of the head. Another version of Khondaker's SAM (1999) has different household types, and includes, among others, one category consisting of all households headed by women. It was felt that women-headed households are too diverse to be lumped together as an homogenous socio-economic group, so a different typology was attempted in our SAM: we single out female headship in non-agricultural households in rural areas only, which seem to be among the poorest.¹⁶

¹⁶ A preliminary look at the available data in the 1995-96 LFS suggests that female-headed families in urban areas are not a particularly disadvantaged group (compared with male-headed households with similar socio-economic characteristics) nor do they face specific constraints in access to resources, but this is something that needs to be confirmed (some evidence points in the other direction: availability of credit for poor women seems to be a much bigger problem in urban areas than in rural areas). However, there is still scope for improvement in the current classification, which will be taken up in further developments of the SAM. Some limitations of the current classification are discussed in Appendix 2.

Other institutions

Enterprises earn profits from capital. They pay taxes to the government, distribute profits to households, and retain some of the profits as savings.

The government receives indirect taxes (sales taxes and import tariffs) and direct taxes (enterprise taxes and individual income taxes). It spends most of its budget on final consumption of commodities, pays transfers to households, and shows a budget surplus as payment to the savings-investment account.

The rest of the world pays to the commodity accounts for the exports they receive from Bangladesh, transfers remittances to domestic households, and shows a net capital transfer into the domestic savings-investment account, while receiving the sum of all these payments through Bangladesh's imports bill.

The savings-investment account accumulates savings from all domestic institutions and the capital account balance from the rest of the world, while spending the sum of these payments on investment demand for commodities.

For good measure, row and column totals are also represented in the Micro SAM and these should ideally balance. In reality, however, a data framework of this magnitude, derived from different and sometimes contradictory sources is difficult to balance. To balance the Micro SAM, a procedure, known as the cross-entropy method, is employed. This is described in the next section.

4. Balancing the Micro SAM using a cross-entropy approach¹⁷

The Micro SAM entries presented in Appendix 8 are not only the result of sectoral data information and relative spreads within the various sub-groups of accounts, but also the outcome of the final balancing procedure of the SAM. A cross-entropy approach to SAM estimation is used for the balancing process, leading from the unbalanced to the balanced Micro SAM. Since data availability and data consistency are limited, the cross-entropy approach is an appropriate tool for estimating a balanced and consistent data base starting

¹⁷For a more detailed discussion of the cross-entropy approach to SAM estimation see Robinson, Cattaneo, and El-Said (2001).

from an unbalanced data base that contains all available information.

The SAM is defined as a matrix $T_{i,j}$ (a payment from account j to account i) of monetary flows, representing receipts and expenditures of all economic agents. Following the convention of double-entry bookkeeping, total receipts and total expenditures of a particular agent i have to be equal, *i.e.*, respective row and column sums are balanced:

$$y_i = \sum_j T_{i,j} = \sum_j T_{j,i}$$

Dividing every cell entry of the flow matrix T by its respective column total generates a matrix A of column coefficients:

$$A_{i,j} = \frac{T_{i,j}}{y_j} \quad \text{with} \quad \sum_i A_{i,j} = 1 \quad \forall j$$

In matrix notation it follows that:

$$y = A y$$

Balancing a SAM is an underdetermined estimation problem using information from many sources and various years. The cross-entropy approach¹⁸ allows the incorporation of errors in variables, inequality constraints, and prior knowledge about any part of the SAMC not just row and column sums. These features of the cross-entropy estimation technique allow great flexibility in incorporating specific information and implementing certain limits to which the estimation results are restricted. The general cross-entropy approach¹⁹ is described by the following optimization problem:

$$\begin{aligned} \min \sum_i \sum_j A_{i,j}^* \cdot \ln \left(\frac{A_{i,j}^*}{A_{i,j}} \right) \\ \text{s.t.: } \sum_j A_{i,j}^* y_j^* = y_i^* \quad \text{and} \quad \sum_j A_{i,j}^* = 1 \quad \forall i \end{aligned}$$

¹⁸Following information theory developed by Shannon (1948) and further developed by Theil (1967) the expectation of separate information values can be described as the expected information of data points:

$$-I(p:q) = - \sum_{i=1}^n \frac{p_i}{q_i} \ln \frac{p_i}{q_i}, \quad \text{where } q \text{ and } p \text{ are prior and posterior probabilities regarding a set of events}$$

E_i and $-I(p:q)$ is the Kullback-Leiber (1951) measure of the cross-entropy distance between the two probability distributions. The cross-entropy approach minimizes the cross-entropy distance between the probability distributions that are consistent with the information in the data and the prior.

¹⁹As formulated by Golan, Judge, and Robinson (1994) to update an input-output table by solving for a new coefficient matrix A which minimizes the entropy difference between the underlying prior A and the new matrix A .

where \bar{A} is a coefficient matrix representing the (perhaps inconsistent and unbalanced) initial data (prior) that was chosen as a starting point of the cross-entropy balancing process to achieve the desired new coefficient matrix A^* .²⁰ The described problem is set up to minimize the entropy difference between the two coefficient matrices which becomes more obvious by rearranging it to

$$\min \sum_i \sum_j A_{i,j}^* \cdot (\ln A_{i,j}^* - \ln \bar{A}_{i,j})$$

Additional equality and inequality constraints can be formulated as linear adding-up constraints on various elements of the SAM. For an aggregator matrix G , which has ones for those Micro SAM entries that correspond to a certain Macro SAM aggregate and zeros otherwise, the formulation for k such aggregation constraints is given by

$$\sum_i \sum_j G_{i,j}^{(k)} \cdot T_{i,j} = \gamma^{(k)}$$

where $\gamma^{(k)}$ is the value of the aggregate and the T_{ij} 's are the Micro SAM flows.

Measurement errors in variables can be incorporated into the system through

$$y = \bar{x} + e$$

where y is a vector of row sums and \bar{x} the initially known vector of column sums measured with error. The error e is defined as a weighted average of known constants

$$e_i = \sum_w W_{i,w} \cdot \bar{v}_{i,w}$$

where w is a set of weights W , v are constants, and weights are subject to

$$\sum_w W_{i,w} = 1 \quad \text{with} \quad 0 \leq W_{i,w} \leq 1$$

For the purposes of the Bangladesh Micro SAM, a symmetric distribution around zero given lower and upper bounds is chosen, using three weights.²¹ Consequently, the optimization problem of minimizing the entropy difference now contains a term for the weights W

$$\min \left(\sum_i \sum_j A_{i,j}^* \cdot (\ln A_{i,j}^* - \ln \bar{A}_{i,j}) + \sum_i \sum_w W_{i,w} \cdot \ln W_{i,w} \right).$$

The explicit application of the cross-entropy estimation procedure on the Bangladesh

²⁰This means that the prior \bar{A} does *not* need to satisfy the model $y = \bar{A} \cdot y$, but the sum of its column coefficients adds up to one, *i.e.*, $\sum_i \bar{A}_{i,j} = 1 \quad \forall j$.

²¹Note that if the error distribution is symmetrically centered around zero and all weights are equal to their initial prior values the respective error equals zero.

Micro SAM contains a set of additional constraints that constrain various sums over sub-matrices of the SAM to their respective macro control totals that were presented in the Macro SAM.

First, within activities, the sum over all factor payments is fixed to their aggregate value as specified in the Macro SAM. As a result, total GDP at factor costs is constrained to its original value. Sectoral production may change within specified lower and upper limits, which are imposed through the error specification, allowing shifts in relative sector shares of production in the economy. Second, the foreign trade entries are constrained to their macro totals, although the relative commodity composition of imports and exports may change. Third, total final household, government, and investment demands are bound to their macro totals as reported in the Macro SAM, as well as total own household consumption. Finally, total income taxes, sales taxes, other indirect taxes, tariffs, and total remittances to households from abroad are fixed at their macro totals. Some single-cell entries are locked to their initial values if the data source applied is reliable.

The values which are fixed in our Bangladesh SAM-maker are the following: total exports, total imports, total tariffs, total indirect taxes, total value added, total government demand and total investment.

References

- Bangladesh Bureau of Statistics (BBS).1998. *Household Expenditure Survey 1995-96*. Dhaka.
- Bangladesh Bureau of Statistics (BBS). 1998. *Labour Force Survey 1995-96*. Dhaka.
- Bangladesh Institute of Development Studies (BIDS). 1998. *An Input Output table for the Bangladesh economy 1993-94*. BIDS, Dhaka.
- Budlender, D. 1997. The debate about household headship.
<http://www.statssa.gov.za/Debating>.
- Fontana, M. and A. Wood. 2000. Modeling the effects of trade on women, at work and at home. *World Development* Vol. 28, No. 7.
- Golan, A., G. G. Judge, and S. Robinson. 1994. Recovering information from incomplete or partial multisectoral economic data. *Review of Economics and Statistics* 76:541-549. *Journal* 27, 379-423.
- Hamid, S. 1996. *Why Women Count*. University Press Limited. Dhaka.
- IFPRI-BIDS-*INFS*, 1998. Four-round household survey of 47 villages for study on 'Adoption of commercial vegetable and polyculture fish production'.
- IFPRI. 1995. A useful disaggregation or a misleading aggregation? *IFPRI Gender CG Newsletter*, vol.1 no.2 1995.
- Khondaker, B. H. 1999a. SHD SAM for Bangladesh 1993-94. Mimeo.
- Khondaker, B. H. 1999. Numerical specification of the Bangladesh economy: a social accounting matrix 1993-94. *MAP Technical Paper No.9*. CIRDAP, Dhaka.
- Kullback, S. and R.A. Leibler. 1951. On information and sufficiency. *Ann. Math. Stat.* 4, 99-111.
- Pyatt, G. and J. I. Round. 1985. *Social accounting matrices: A basis for planning*. Washington, D.C.: The World Bank.
- Reinert, Kenneth A. and David W. Roland-Holst. 1997. Social Accounting Matrices. In *Applied Methods for Trade Policy Analysis: A Handbook* ed. Joseph F. Francois and Kenneth A. Reinert. Cambridge: Cambridge University Press.

- Robinson, S., Cattaneo, A. and M. El-Said. 2001. Updating and estimating a social accounting matrix using cross entropy methods. *Economic Systems Research*, Vol. 13, No. 1.
- Safilios-Rothschild, C. and S. Mahmud. 1989. *Bangladesh Agriculture Sector Review: Women's roles in agriculture, present trends and potential for growth*, UNDP/UNIFEM.
- Shannon, C. E. 1948. *A mathematical theory of communication*. Bell System Technical.
- Theil, H. 1967. *Economics and Information Theory*. Rand McNally.
- Zohir, S.C. 1998. *Gender implications of industrial reforms and adjustment in the manufacturing sector of Bangladesh*. Unpublished PhD. dissertation. University of Manchester.

Appendices

Appendix 1. Adjustments of employment and wages from LFS 1995-96

Employment

Employment is expressed in terms of total number of hours worked by both paid and unpaid labor. Table 1A was constructed by putting together information on number of workers in paid and unpaid employment and weekly working hours per worker.²² Paid employment includes regular workers, day laborers and the self-employed. The proportion of female employment in the labor force according to this limited definition is only 14% . The LFS also shows unpaid family labor in activities such as crop production, livestock, poultry, milk production and processing, collection, processing and preservation of food, collection of firewood, vegetable production, as well as cottage industries, construction and repairing. This definition of economic activity conforms to the revised 1993 UN System of National Accounts. Unpaid family labor is overwhelmingly female (79%), with no or low education, and concentrated in agriculture. If unpaid labor is added to paid employment (using the extended definition of labor force), the female/male balance changes substantially, with women becoming more than 36 % of the total.²³ According the LFS survey, on average men work longer hours than women in productive (SNA definition) activities.

Further adjustments were required as the LFS has only 40 sectors, which are not as many as (nor do they match exactly) the SAM sectors.²⁴ Use was made, whenever possible, of the wealth of information on employment provided in the IO Table report (BIDS 1998). In this report data on employment (in 'man-year' (*sic*)—equal to 300 full days of work) are available for the 79 sectors and in several occupations (production worker, administrative, etc.). A distinction between female and male workers is made in all sectors but agriculture (where a distinction is made only between hired and family labor).

²² Since the sample in the LFS is of approximately 70,000 observations and the total population of Bangladesh in 1995 was about 122,000,000, the data were multiplied by a factor of 1800 and by 43 (assumption of people working 300 days—or 43 weeks—in a year) to obtain hours worked in a year by the total labor force.

²³ The reason why in table 1A female labor is only 24 % of the total is that on average women work fewer hours than men (in market activities).

²⁴ The correspondence between LFS sectors and IO sectors is imperfect and unclear which might be one of the causes of mismatch (for example what is included in the health, education and public administration

Since labor is categorized in the IO Table only by occupation and gender, more sectorally aggregated LFS were used to obtain a gender/education classification. However, to make maximum use of the IO employment data, employment in the LFS sectors was disaggregated into the 79 sectors by assuming that the male/female ratio in each sub-group was the same as in the IO Table (e.g. if 80% of all women working in textiles are in the garment sector in the IO, 80% of all women in the LFS textile sector were allocated to garment). Having thus obtained the male and female totals for each of the 79 sectors, these were distributed across educational categories according to the LFS proportions (assuming that the educational structures of the male and female labor forces are the same across each of the narrower sectors within a LFS sector).

sectors in the IO may be somewhat different from what is defined as sanitary, social and public administration services in the LFS).

Table 1A - Employment (million hours) in the SAM sectors, by gender and education

| | No-ed male | Low-ed male | Med-ed male | High-ed male | No-ed female | Low-ed female | Med-ed female | High-ed female | F/M ratio | Total F (%) | Total M (%) |
|-----------------------------|---------------|----------------|----------------|-----------------|-----------------|------------------|------------------|-------------------|--------------|----------------|----------------|
| Paddy | 8692.7 | 3933.7 | 1895.9 | 633.3 | 1995.1 | 721.6 | 319.2 | 65.3 | 0.2 | 14.7 | 22.2 |
| Wheat&oth.grains | 426.3 | 192.9 | 93.0 | 31.1 | 42.0 | 15.2 | 6.7 | 1.4 | 0.1 | 0.3 | 1.1 |
| Jute | 653.6 | 295.8 | 142.6 | 47.6 | 60.5 | 21.9 | 9.7 | 2.0 | 0.1 | 0.4 | 1.7 |
| Comm.crops | 423.7 | 191.7 | 92.4 | 30.9 | 24.4 | 8.8 | 3.9 | 0.8 | 0.1 | 0.2 | 1.1 |
| Other crops | 1366.6 | 618.4 | 298.1 | 99.6 | 1024.9 | 370.7 | 164.0 | 33.5 | 0.7 | 7.5 | 3.5 |
| Livestock | 5343.9 | 2418.3 | 1165.5 | 389.3 | 4503.3 | 1628.9 | 720.5 | 147.3 | 0.8 | 33.1 | 13.6 |
| Poultry | 476.2 | 215.5 | 103.8 | 34.7 | 1608.3 | 581.8 | 257.3 | 52.6 | 3.0 | 11.8 | 1.2 |
| Other fish | 77.2 | 83.8 | 152.0 | 107.1 | 136.4 | 16.9 | 12.5 | 7.3 | 0.4 | 0.8 | 0.6 |
| Forestry | 1451.7 | 765.4 | 259.9 | 100.7 | 4.6 | 6.1 | 0.0 | 0.0 | 0.0 | 0.1 | 3.8 |
| Rice milling | 108.7 | 84.0 | 71.1 | 36.1 | 181.4 | 51.7 | 7.9 | 4.1 | 0.8 | 1.2 | 0.4 |
| Ata&flour | 9.8 | 7.5 | 6.4 | 3.2 | 0.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other food | 109.9 | 84.9 | 71.9 | 36.5 | 13.3 | 3.8 | 0.6 | 0.3 | 0.1 | 0.1 | 0.4 |
| Leather | 13.0 | 15.6 | 9.3 | 6.8 | 0.5 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| Jute textile | 78.1 | 94.2 | 56.1 | 41.1 | 0.7 | 0.5 | 0.3 | 0.1 | 0.0 | 0.0 | 0.4 |
| Yarn | 88.6 | 106.9 | 63.7 | 46.6 | 16.5 | 12.0 | 5.9 | 1.7 | 0.1 | 0.2 | 0.4 |
| Mill cloth | 35.8 | 43.2 | 25.7 | 18.8 | 1.2 | 0.9 | 0.4 | 0.1 | 0.0 | 0.0 | 0.2 |
| Other cloth | 484.5 | 584.5 | 348.3 | 254.8 | 103.1 | 75.1 | 37.0 | 10.8 | 0.1 | 1.1 | 2.4 |
| RM garments | 81.0 | 97.8 | 58.3 | 42.6 | 612.9 | 446.8 | 219.9 | 64.5 | 4.8 | 6.4 | 0.4 |
| Other textiles | 25.9 | 31.2 | 18.6 | 13.6 | 36.7 | 26.7 | 13.2 | 3.9 | 0.9 | 0.4 | 0.1 |
| Tobacco products | 27.5 | 21.2 | 18.0 | 9.1 | 27.7 | 7.9 | 1.2 | 0.6 | 0.5 | 0.2 | 0.1 |
| Wood&paper | 186.4 | 166.8 | 112.4 | 64.7 | 108.6 | 41.3 | 19.6 | 2.2 | 0.3 | 0.8 | 0.8 |
| Chemicals | 29.3 | 100.2 | 71.1 | 78.5 | 19.8 | 4.1 | 3.1 | 14.6 | 0.1 | 0.2 | 0.4 |
| Fertilizers | 4.3 | 14.8 | 10.5 | 11.6 | 1.2 | 0.2 | 0.2 | 0.9 | 0.1 | 0.0 | 0.1 |
| Petroleum | 1.2 | 0.6 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Clay&pottery | 310.5 | 149.9 | 68.7 | 28.3 | 80.8 | 10.7 | 2.7 | 0.0 | 0.2 | 0.4 | 0.8 |
| Steel | 41.0 | 104.0 | 91.9 | 33.3 | 2.1 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| Machinery | 17.7 | 44.9 | 39.6 | 14.4 | 5.6 | 3.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 |
| Misc. industries | 33.9 | 59.7 | 50.2 | 35.7 | 29.0 | 16.4 | 4.3 | 0.0 | 0.3 | 0.2 | 0.3 |
| Urban building | 427.6 | 338.2 | 126.8 | 67.8 | 7.8 | 4.5 | 0.0 | 0.0 | 0.0 | 0.1 | 1.4 |

Table 1A (continued)

| | No-ed male | Low-ed male | Med-ed male | High-ed male | No- ed female | Low-ed female | Med-ed female | High-ed female | F/M ratio | Total F (%) | Total M (%) |
|---------------------------|---------------|----------------|----------------|-----------------|---------------------|------------------|------------------|-------------------|--------------|----------------|-------------------|
| Rural building | 153.5 | 121.4 | 45.5 | 24.3 | 6.2 | 3.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 |
| Construction | 418.7 | 139.5 | 56.9 | 73.8 | 86.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 | 1.0 |
| Utilities | 36.7 | 44.3 | 44.7 | 126.9 | 3.3 | 0.0 | 0.0 | 11.1 | 0.1 | 0.1 | 0.4 |
| Trade | 3828.0 | 4050.6 | 3465.5 | 2618.8 | 500.5 | 104.1 | 61.5 | 12.9 | 0.0 | 3.2 | 20.4 |
| Transport | 3317.5 | 1511.4 | 623.1 | 307.7 | 37.4 | 17.5 | 1.3 | 10.9 | 0.0 | 0.3 | 8.4 |
| Housing | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Health | 3.4 | 13.9 | 28.0 | 147.5 | 9.7 | 4.2 | 7.7 | 57.0 | 0.4 | 0.4 | 0.3 |
| Education | 17.0 | 69.6 | 140.1 | 718.8 | 22.1 | 20.9 | 38.5 | 284.8 | 0.4 | 1.7 | 1.4 |
| Pub. Administr. | 72.4 | 146.9 | 312.7 | 962.0 | 24.1 | 6.0 | 47.2 | 129.5 | 0.1 | 1.0 | 2.2 |
| Financial services | 15.9 | 50.9 | 75.2 | 438.3 | 0.0 | 3.7 | 6.2 | 27.6 | 0.1 | 0.2 | 0.8 |
| Other services | 986.0 | 1085.9 | 830.0 | 458.7 | 1866.0 | 416.3 | 205.7 | 95.0 | 0.8 | 12.2 | 4.9 |
| Hotels | 219.9 | 264.6 | 134.4 | 115.6 | 48.0 | 4.3 | 3.4 | 1.6 | 0.1 | 0.3 | 1.1 |
| Communications | 83.5 | 59.9 | 56.7 | 83.7 | 0.0 | 4.3 | 0.0 | 9.1 | 0.0 | 0.1 | 0.4 |
| Total | 30178.9 | 18424.4 | 11334.7 | 8394.1 | 13252.2 | 4664.3 | 2181.8 | 1053.7 | 0.3 | 100.0 | 100.0 |

The allocation of total labor across agricultural sub-sectors followed the IO employment structure (as in the non-agricultural sectors). There was however no information on the male/female split. The LFS data indicate that the female/male ratio in agriculture (including— mainly female—unpaid labor) is on average 0.47. This ratio was corrected for each agricultural IO sub-sector on the basis of some evidence provided in Safilios-Rothschild and Mahmud (1989). This report does not provide actual ratios by crop but suggests what are the most female-intensive crops and to what extent: poultry and livestock are the domain of women, who are also quite heavily involved in homestead agriculture (vegetables, fruits, spices, etc.); women also work in the rice sector, but probably less than men (and on specific tasks which can be carried out within the homestead), while all commercial crops are more male-intensive. So the ratios were set as follows:

Table 2A – Female/Male Employment Ratios in Agriculture

| | |
|---------------------|-------|
| Paddy | 0.205 |
| Wheat | 0.089 |
| Other Grains | 0.071 |
| Jute | 0.082 |
| Sugarcane | 0.059 |
| Potato | 0.846 |
| Vegetables | 1.098 |
| Pulses | 1.019 |
| Oilseeds | 0.874 |
| Fruits | 1.178 |
| Cotton | 0.021 |
| Tobacco | 0.020 |
| Tea | 0.063 |
| Major Spices | 0.752 |
| Other Crops | 0.065 |
| Livestock | 0.751 |
| Poultry | 3.011 |

The resulting distribution of women's working hours in agriculture has more than 65% allocated to livestock and poultry, about 22% to rice, and about 9% to homestead produce.

Wages

Because some cells with few observations were producing odd results, the LFS sectors were aggregated into fewer broader categories in order to calculate the hourly wage rates.²⁵ The relative wages of different education and gender categories in each broad sector were therefore applied to all the narrower sectors within the broad sector concerned. The wages were calculated as weighted average of earnings of regular workers, daily laborers and self-employed, with hours worked by each group as the weights.

It was possible to calculate earnings only for paid workers. To allow for the earnings of unpaid workers, the total wage bill in each sector was kept constant, and all wages in each sector lowered in proportion to the ratio of total unpaid workers to total paid workers over total paid workers in that sector.²⁶ This procedure assumes that the recorded earnings of paid workers are shared with (or redistributed to) unpaid workers in a particular way (and that unpaid workers are not remunerated out of non-labor value added).²⁷ The sector affected the most is agriculture; changes in other sectors are marginal. Wages in the garment sector were also slightly changed to reflect evidence that the female/male wage gap is lower in this sector than it is in other light manufacturing (Zohir 1998).

Further adjustments

The employment figures for the 79 sectors obtained after all these adjustments were then multiplied by the wages estimated for the broad LFS categories, and the resulting labor value added compared with the available data on total sectoral value added. Applying our labor value added would have resulted in some sectors having negative capital value added. This could be because of inconsistencies of sectoral coverage between the value added and employment data, or it might be because of variation in wages within the broad

²⁵ An explanation of how the 40 LFS sectors were aggregated is provided in the corresponding Excel files.

²⁶ Attempts based on other assumptions generated less plausible results.

²⁷ A better option than assuming that all unpaid labor is paid out of other workers' wages, might be to assume a share of 50 % out of labor and 50% out of capital. Given the total value added in agriculture, however, this would leave only an implausibly small amount of non-labor value added (possibly also because total value added in agriculture seems to be understated).

LFS categories created for wage estimation (for example, other data²⁸ suggest that wages for poultry and livestock are much lower than wages for agricultural crops, and that wages in the clay and pottery sector are much lower than wages in other heavy industry sectors).

To solve this problem of negative non-labor value added,²⁹ either wages or employment figures were lowered by an arbitrary amount.³⁰

Appendix 2. Household classification

Some suggestions for improvement of the current classification of households are made here:

1. Non-agricultural rural households are defined by us, and similarly by Khondakher (1999a), as families whose head is not engaged in agricultural activities. However it is often the case that these households still own land (indeed even some urban households appear to own significant amounts of land) and that other family members are working on it. Another possible criterion for differentiating between agricultural and non-agricultural households would be what activity provides the main source of income (but this information might not be available).
2. The difference between poor and non-poor non-agricultural households is based on land ownership (families with less than 0.49 acres were all classified as poor, families with more than that as rich). This could be changed to be based on level of income instead.
3. In the current classification landless farmers are only those who own no land at all. It might be better to adopt the definition of functionally landless (e.g. owning less than 0.04 acres).

²⁸ IO report (BIDS 1998), Appendix 11.

²⁹ But following however some common beliefs on sectoral labor/capital intensity.

³⁰ This problem was particularly large in the public sectors.

4. Much controversy surrounds the issue of female-headed households, the emphasis on them as the most vulnerable group and the difficulties in concepts and interpretation of statistics regarding them.³¹ One common problem is the difference in perceptions among respondents, interviewers and researchers of what constitutes female headship and what is socially acceptable (which often leads to under-reporting in official statistics). This emerges, for example, in the study of Bangladeshi female-headed households by Shamim Hamid (in Rahman and Hossain 1995), who shows how including *de facto* female-headed households (or rather what she defines as such) in addition to *de jure* female-headed households (the only ones recorded in official statistics), produces a quite different picture. More importantly in our view, there is the issue of why a researcher may wish to single out female-headed households. Although much of the interest in household headship arises because of perceived differences between households headed by women and those headed by men, some of the focus on female-headed household results from interest in gender disaggregation combined with the difficulty in individualizing most household data. Female-headed households are hence used as a proxy for the missing gender breakdowns (Budlender 1997). If that is the case, efforts are better placed in collecting individual-disaggregated data in consumption, time use, etc. (and encouraging further collection of such data): these would help more than the simple distinction between male-headed and female-headed households in capturing inequalities in gender relations.

Appendix 3. Households' labor endowments and first steps toward estimating the value of non-market activities.

Households' labor endowments

The 1995-96 LFS records both workers who are in paid employment and workers who work as unpaid family labor. In addition the survey reports that some (mainly women) are engaged full-time in household work. The proportion of these three categories in total availability of people of working age varies with the type of household. Non-agricultural poor female-headed households are the households with by far the highest proportion of

31 For an excellent discussion of all these issues see Budlender (1997) and also IFPRI Gender CG Newsletter (1995).

workers in paid employment (80% of the total).³² On average, the proportion of paid workers seems to be slightly higher in urban households, which also have the highest proportion of full time housewives. Agricultural small and large households have, as expected, the highest proportion of unpaid family labor.

In landless households, the majority of paid work is done by men (75%), mostly with no education (63% of total paid workers). Uneducated female workers are 20 % of the total working family members. Similar patterns can be seen among marginal farmers, while, among small and large farmers, the gender and educational composition of the family members engaged in paid activities has a greater male dominance and higher levels of education. Working family members in these households are almost exclusively men (91% in small-farmer households and 93% in large-farmer households). More than half of these working men have some education. In large-farmer households more than 5 % of working men have university degrees. Among non-agricultural households, male-headed households have the same structure as agricultural households of corresponding land ownership categories, while the situation is totally reversed for female-headed households, both poor and rich, where women constitute the majority of working family members (80 % and 63% respectively). Most of these women do not have any education, and a few have some primary education. In urban families, about 20 percent of working family members are women in illiterate and highly educated households, while this percentage is lower (about 13%) in both low and medium educated households. Similarly the majority of paid workers is constituted by illiterate males (67%) in illiterate households, low-educated males (71%) in low-educated households, medium-educated males (76%) in medium-educated households and highly-educated males (74%) in highly-educated households. It is interesting to note that women's participation in paid work declines as the socio-economic status of their families improves in rural areas (women work in landless and marginal households, as well as in female-headed households, only because of need), while in urban areas it declines only up to a certain point, to increase once again in the most highly educated households.

³² These households are smaller in size than most households, and with a much higher proportion of women. Because of economic need these women do not have the 'choice' to be unpaid workers or full-time housewives (these are both options for women in working age, while most men would be in paid work anyway).

Most unpaid family workers belong to rural households: 62% of total unpaid workers are in agricultural households and 26% are in non agricultural households. The gender distribution is the exact opposite of that among paid workers: women are the large majority of unpaid family workers in all types of households. They are about 80 % of total unpaid workers, and most of them (63%) have no education. Women are about 93% of total unpaid workers in landless and marginal farmers households, while they are about 80% in small farmer households. In large farmer households unpaid family workers are more evenly distributed across both genders (64 % are women and 36% men) and educational levels (45 % have no education but about 30% have at least primary and 6% high education).

The prevalence of women among people engaged in household work is even more striking than it is among unpaid family workers. In all households people in full-time household work are almost exclusively women, with the exception of poor non-agricultural female-headed households where 8% is male. In absolute terms, the highest number of men in full time household work (still very few however) can be found in urban households.

Allocation of time between market and non-market activities

Time use data in Bangladesh are quite sparse. There are a few *ad hoc* surveys (for example IFPRI-BIDS-INFS 1998, and Hamid 1996). However in none of these surveys is the sample representative of the total population - both cover only rural areas, and indeed only specific districts. The 1990-91 (but it seems not the 1995-96) Labour Force Survey reports information on weekly hours spent in household activities, but the way these activities are classified is not always clear. The 1995-96 LFS reports weekly working hours for both workers in paid employment and unpaid family labor, but does not provide the same information for people whose activity status is 'household work'.

Hence compiling a matrix of the allocation of time between market activities, social

reproduction³³ and leisure for the eight labor types in each of the twelve households would prove quite difficult and would require several assumptions. A better and wider collection of data on time use is strongly encouraged as this could provide the basis for further useful economic analysis with a gender focus.

Only some points are made here as first steps toward constructing a more gender-sensitive SAM that incorporates non-market activities. Drawing on some evidence (mainly from Hamid 1996), a few 'rules' governing the allocation of social reproduction time can be set up:

- Men spend less than half the time of women in social reproduction, and this holds across all household types.
- While there is no variation in the (little) time spent in social reproduction by men across socio-economic groups, there is some across-household variation in the time women allocate to social reproduction.
- Women in relatively well-off households (the large farmers, the non-agricultural rich male-headed, the urban medium educated and the urban highly educated) spend about 20% less time than women in other households on social reproduction.

The LFS does not provide information on the amount of hours worked by people who are full-time house workers. If all the necessary data on time spent in social reproduction were available, an estimation of the monetary value of non-market productive activities could be made (based on the principle of the opportunity cost - see Fontana and Wood (2000) - or other methodology), and this could be included in the SAM, thus providing a much better account of women's and men's work.

³³ This is one of the terms commonly used in the literature to describe the many household activities, such as cleaning and cooking, looking after children and elderly people, which are an important but rarely recognized form of production, often performed by women. Another frequently used term is 'unpaid care work'.

Appendix 4 —Aggregation of the 79 IO sectors into the 43 SAM sectors

| | SAM sectors | IO sectors |
|----|-------------|---|
| 1 | AAMAN | Paddy |
| 2 | ABORO | Paddy |
| 3 | AGRAINS | Wheat, Other grains |
| 4 | AJUTE | Jute |
| 5 | ACOMCROP | Sugarcane, Tobacco, Tea, Cotton |
| 6 | AOTHCROP | Potato, Vegetables, Pulses, Oilseeds, Fruits, Major spices, Other crops |
| 7 | ALIVESTO | Livestock |
| 8 | APOULTRY | Poultry |
| 9 | AOTHFISH | Shrimp, Other fish |
| 10 | AFOREST | Forestry |
| 11 | ARICEMIL | Rice milling |
| 12 | AATAFLOU | Ata & flour |
| 13 | AOTHFOOD | Fish & seafood processing, Edible oil, Sugar and gur, Salt, Other food, Tea processing |
| 14 | ALEATHER | Tanning & Leather finishing, Leather products |
| 15 | AJUTETEX | Jute bailing, Jute textiles |
| 16 | AYARN | Yarn |
| 17 | AMILCLOT | Mill clothing |
| 18 | ACLOTH | Handloom cloth, Dyeing & bleaching |
| 19 | AGARMENT | Ready-made garments, Knitting & hosiery |
| 20 | AOTHTEXT | Other textiles |
| 21 | ATOBP | Cigarettes, Bidi |
| 22 | AWOODP | Saw & planning mills, Wooden furniture, Pulp, paper & board, Printing and publishing |
| 23 | ACHEM | Drugs & pharmaceuticals, Other chemicals |
| 24 | AFERTI | Fertilizers |
| 25 | APETROP | Petroleum products |
| 26 | ACLAYP | Pottery & earthenware, China & ceramic, Glass & glass products, Bricks, Tiles and tiles products, Cement |
| 27 | ASTEEL | Iron & steel basic industry, Fabricated metal products |
| 28 | AMACHIN | Machinery, Transport equipment |
| 29 | AMISCIND | Miscellaneous industries |
| 30 | AURBBUIL | Urban building |
| 31 | ARURBUIL | Rural building |
| 32 | ACONST | Construction: electricity & gas, Construction: rural road, Construction: other transport, Other construction |
| 33 | AUTILITY | Electricity, Gas, Mining & quarrying |
| 34 | ATRADES | Trade services |
| 35 | ATRANSS | Transport services |
| 36 | AHOUS | Housing services |
| 37 | AHEALTH | Health services |
| 38 | AEDU | Education services |
| 39 | APUBADM | Public administration |
| 40 | AFINS | Banking & insurance, Professional services |
| 41 | AOTHS | Other services |
| 42 | AHOTEL | Hotels & restaurants |
| 43 | ACOMM | Communications |

Appendix 5 — Structure of the Bangladesh economy by activity (as % of total)

| | GDP f.c. Production | | Labor | Capital | Land |
|---------------------|----------------------------|-------|--------------|----------------|-------------|
| AAman | 3.9 | 3.5 | 5.2 | | 13.0 |
| ABoro | 4.5 | 4.4 | 5.4 | | 17.0 |
| AGrains | 0.3 | 0.4 | 0.5 | | 0.9 |
| AJute | 0.5 | 0.4 | 0.7 | | 1.1 |
| AComCrop | 0.8 | 0.8 | 0.5 | | 4.6 |
| AOthCrop | 3.6 | 3.5 | 1.9 | | 21.3 |
| ALivesto | 2.7 | 2.8 | 4.3 | | 6.7 |
| APoultry | 0.6 | 0.7 | 0.8 | | 1.9 |
| AOthFish | 2.8 | 3.1 | 0.4 | | 20.7 |
| AForest | 2.3 | 2.8 | 1.5 | | 12.8 |
| ARiceMil | 2.0 | 9.2 | 0.6 | 4.0 | |
| AAtaFlou | 0.3 | 0.7 | 0.0 | 0.7 | |
| AOthFood | 1.7 | 3.4 | 0.6 | 3.4 | |
| ALeather | 0.2 | 0.6 | 0.1 | 0.4 | |
| AJuteTex | 0.3 | 0.8 | 0.5 | 0.2 | |
| AYarn | 0.4 | 0.7 | 0.7 | 0.3 | |
| AMilClot | 0.2 | 0.4 | 0.2 | 0.3 | |
| ACloth | 1.4 | 2.3 | 2.8 | 0.5 | |
| AGarment | 1.5 | 2.8 | 2.9 | 0.5 | |
| AOthText | 0.1 | 0.1 | 0.2 | 0.0 | |
| ATobP | 0.5 | 0.5 | 0.2 | 1.1 | |
| AWoodP | 0.6 | 1.1 | 1.2 | 0.3 | |
| AChem | 0.7 | 1.2 | 0.8 | 0.8 | |
| AFerti | 0.1 | 0.5 | 0.1 | 0.2 | |
| APetroP | 0.6 | 0.7 | 0.0 | 1.3 | |
| AClayP | 0.3 | 0.4 | 0.4 | 0.3 | |
| ASteel | 0.6 | 1.2 | 0.6 | 0.8 | |
| AMachin | 0.3 | 0.4 | 0.3 | 0.3 | |
| AMiscInd | 0.7 | 0.7 | 0.4 | 1.1 | |
| AUrbBuil | 1.7 | 2.0 | 1.8 | 2.0 | |
| ARurBuil | 7.5 | 6.3 | 0.6 | 16.6 | |
| AConst | 0.7 | 1.1 | 1.4 | 0.3 | |
| AUtility | 2.4 | 1.7 | 1.1 | 4.3 | |
| ATradeS | 16.2 | 10.9 | 28.5 | 8.6 | |
| ATransS | 13.8 | 10.2 | 11.0 | 20.7 | |
| AHous | 7.0 | 4.8 | | 16.2 | |
| AHealth | 0.8 | 0.8 | 0.7 | 1.2 | |
| AEdu | 1.8 | 1.3 | 3.6 | 0.6 | |
| APubAdm | 2.5 | 1.9 | 4.7 | 1.1 | |
| AFinS | 5.5 | 4.8 | 2.6 | 10.1 | |
| AOthS | 3.9 | 2.2 | 8.4 | 0.7 | |
| AHotel | 0.6 | 0.9 | 0.9 | 0.4 | |
| AComm | 0.7 | 0.4 | 0.8 | 0.8 | |
| Tot Agriculture | 22.2 | 22.5 | 21.3 | 100.0 | 100.0 |
| Tot Non-Agriculture | 77.8 | 77.5 | 78.7 | | |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Appendix 6 — Structure of the Bangladesh economy by commodity

| | Composition (% of total) | | | Exports (% of output) | Imports (% of absorption) |
|----------|--------------------------|---------|------------|--------------------------|------------------------------|
| | Exports | Imports | Absorption | | |
| CPaddy | | | 7.2 | | |
| CGrains | | 2.6 | 0.5 | | 33.3 |
| CJute | | | 0.4 | | |
| CComCrop | 0.0 | 4.3 | 1.0 | 0.0 | 26.5 |
| COthCrop | 0.3 | 1.1 | 3.3 | 0.4 | 2.3 |
| CLivesto | 0.1 | 0.9 | 2.6 | 0.1 | 2.0 |
| CPoultry | | 0.0 | 0.7 | | 0.1 |
| COthFish | 7.7 | | 2.9 | 10.0 | |
| CForest | | | 2.6 | | |
| CRiceMil | | | 8.4 | | |
| CAtaFlou | | 0.0 | 0.7 | | 0.2 |
| COthFood | 4.9 | 2.3 | 3.5 | 5.7 | 6.9 |
| CLeather | 11.0 | 0.1 | 0.6 | 69.4 | 2.5 |
| CJuteTex | 11.1 | 0.1 | 0.8 | 53.0 | 2.3 |
| CYarn | 0.1 | 5.5 | 1.1 | 0.7 | 34.2 |
| CMilClot | 0.0 | 15.1 | 1.4 | 0.2 | 71.1 |
| CCloth | | | 2.1 | | |
| CGarment | 60.8 | 0.5 | 2.6 | 87.5 | 8.1 |
| COthText | 1.0 | 1.6 | 0.2 | 37.7 | 61.2 |
| CTobP | 0.0 | 0.1 | 0.8 | 0.0 | 0.4 |
| CWoodP | 0.0 | 2.1 | 1.2 | 0.0 | 13.7 |
| CChem | 0.2 | 10.3 | 2.0 | 0.7 | 37.3 |
| CFerti | 0.7 | 1.2 | 0.5 | 6.2 | 14.7 |
| CPetroP | 0.3 | 9.7 | 1.5 | 1.9 | 48.1 |
| CClayP | 0.2 | 5.3 | 0.8 | 2.1 | 44.0 |
| CSteel | 0.1 | 11.5 | 2.0 | 0.2 | 39.5 |
| CMachin | 0.4 | 21.1 | 2.0 | 4.4 | 74.0 |
| CMiscInd | 0.9 | 4.7 | 1.1 | 5.1 | 36.0 |
| CUrbBuil | | | 1.8 | | |
| CRurBuil | | | 5.7 | | |
| CConst | | | 1.0 | | |
| CUtility | | | 1.7 | | |
| CTradeS | | | 10.0 | | |
| CTransS | | | 9.4 | | |
| CHous | | | 4.4 | | |
| CHealth | | | 0.7 | | |
| CEdu | | | 1.2 | | |
| CPubAdm | | | 1.7 | | |
| CFinS | | | 4.4 | | |
| COthS | | | 2.0 | | |
| CHotel | | | 0.9 | | |
| CComm | | | 0.4 | | |
| Total | 100.0 | 100.0 | 100.0 | | |

Appendix 7 — Structure of production by activity

| | % of total VA | | | Inputs (% of gross output) |
|----------------|---------------|---------|------|-------------------------------|
| | Labor | Capital | Land | |
| AAman | 57.4 | | 42.6 | 42.3 |
| ABoro | 51.8 | | 48.2 | 47.7 |
| AGrains | 63.7 | | 36.3 | 56.2 |
| AJute | 69.0 | | 31.0 | 46.2 |
| AComCrop | 27.4 | | 72.6 | 47.6 |
| AOthCrop | 23.5 | | 76.5 | 48.2 |
| ALivesto | 68.5 | | 31.5 | 50.4 |
| APoultry | 59.9 | | 40.1 | 56.3 |
| AOthFish | 6.3 | | 93.7 | 53.5 |
| AForest | 28.0 | | 72.0 | 58.5 |
| ARiceMil | 12.5 | 87.5 | | 89.1 |
| AAtaFlou | 6.9 | 93.1 | | 78.9 |
| AOthFood | 14.4 | 85.6 | | 74.3 |
| ALeather | 18.8 | 81.2 | | 84.8 |
| AJuteTex | 66.6 | 33.4 | | 81.3 |
| AYarn | 71.8 | 28.2 | | 70.9 |
| AMilClot | 45.1 | 54.9 | | 69.4 |
| ACloth | 84.1 | 15.9 | | 68.5 |
| AGarment | 84.9 | 15.1 | | 73.1 |
| AOthText | 93.1 | 6.9 | | 64.2 |
| ATobP | 14.2 | 85.8 | | 48.2 |
| AWoodP | 80.3 | 19.7 | | 69.5 |
| AChem | 49.5 | 50.5 | | 70.2 |
| AFerti | 41.8 | 58.2 | | 87.6 |
| APetroP | 0.2 | 99.8 | | 56.5 |
| AClayP | 54.3 | 45.7 | | 63.0 |
| ASteel | 41.9 | 58.1 | | 73.6 |
| AMachin | 43.3 | 56.7 | | 66.6 |
| AMiscInd | 28.9 | 71.1 | | 52.6 |
| AUrbBuil | 47.2 | 52.8 | | 57.7 |
| ARurBuil | 3.7 | 96.3 | | 39.1 |
| AConst | 84.0 | 16.0 | | 68.0 |
| AUtility | 20.5 | 79.5 | | 28.4 |
| ATradeS | 76.8 | 23.2 | | 24.5 |
| ATransS | 34.8 | 65.2 | | 31.3 |
| AHous | | 100.0 | | 25.0 |
| AHealth | 38.6 | 61.4 | | 48.4 |
| AEdu | 86.2 | 13.8 | | 29.7 |
| APubAdm | 80.7 | 19.3 | | 31.5 |
| AFinS | 20.4 | 79.6 | | 42.0 |
| AOthS | 92.7 | 7.3 | | 9.8 |
| AHotel | 71.5 | 28.5 | | 69.6 |
| AComm | 48.3 | 51.7 | | 17.8 |
| Ag average | 41.8 | | 58.2 | |
| Non-ag average | 44.1 | 55.9 | | |
| Total average | 43.6 | 43.5 | 12.9 | |

Appendix 8 The 1993-94 social accounting matrix for Bangladesh

| | APaddy1 | APaddy2 | AGrains | AJute | AComCrop | AOthCrop | ALivesto | APoultry | AOthFish | AForest | ARiceMil | AAtaFlou | AOthFood | ALeather | AJuteTex | AYam |
|----------|---------|---------|---------|--------|----------|----------|----------|----------|----------|---------|----------|----------|----------|----------|----------|--------|
| APaddy1 | | | | | | | | | | | | | | | | |
| APaddy2 | | | | | | | | | | | | | | | | |
| AGrains | | | | | | | | | | | | | | | | |
| AJute | | | | | | | | | | | | | | | | |
| AComCrop | | | | | | | | | | | | | | | | |
| AOthCrop | | | | | | | | | | | | | | | | |
| ALivesto | | | | | | | | | | | | | | | | |
| APoultry | | | | | | | | | | | | | | | | |
| AOthFish | | | | | | | | | | | | | | | | |
| AForest | | | | | | | | | | | | | | | | |
| ARiceMil | | | | | | | | | | | | | | | | |
| AAtaFlou | | | | | | | | | | | | | | | | |
| AOthFood | | | | | | | | | | | | | | | | |
| ALeather | | | | | | | | | | | | | | | | |
| AJuteTex | | | | | | | | | | | | | | | | |
| AYam | | | | | | | | | | | | | | | | |
| AMidClot | | | | | | | | | | | | | | | | |
| ACloth | | | | | | | | | | | | | | | | |
| AGarment | | | | | | | | | | | | | | | | |
| AOthText | | | | | | | | | | | | | | | | |
| ATobP | | | | | | | | | | | | | | | | |
| AWoodP | | | | | | | | | | | | | | | | |
| AChem | | | | | | | | | | | | | | | | |
| AFerti | | | | | | | | | | | | | | | | |
| APetroP | | | | | | | | | | | | | | | | |
| AClayP | | | | | | | | | | | | | | | | |
| AShel | | | | | | | | | | | | | | | | |
| AMischm | | | | | | | | | | | | | | | | |
| AMiscInd | | | | | | | | | | | | | | | | |
| AIrhBuil | | | | | | | | | | | | | | | | |
| ARurBuil | | | | | | | | | | | | | | | | |
| AConst | | | | | | | | | | | | | | | | |
| AUtility | | | | | | | | | | | | | | | | |
| ATradeS | | | | | | | | | | | | | | | | |
| ATransS | | | | | | | | | | | | | | | | |
| AHous | | | | | | | | | | | | | | | | |
| AHealth | | | | | | | | | | | | | | | | |
| AEdu | | | | | | | | | | | | | | | | |
| APubAdm | | | | | | | | | | | | | | | | |
| AFinS | | | | | | | | | | | | | | | | |
| AOthS | | | | | | | | | | | | | | | | |
| AHotel | | | | | | | | | | | | | | | | |
| AComm | | | | | | | | | | | | | | | | |
| CPaddy | 8.657 | 9.103 | | | | | 13.303 | 1.341 | | | 161.993 | | 0.009 | | | |
| CGrains | | | 1.029 | | | | 0.053 | 1.341 | | | | 11.202 | 0.293 | | | |
| CJute | | | | 0.342 | | 0.342 | | | | | | | | | 9.136 | |
| CComCrop | | | | | 1.283 | | | | | | | | 3.920 | | | 8.879 |
| COthCrop | | | | | 15.493 | 2.073 | 0.694 | | | | | | 19.079 | 0.004 | | |
| CLivesto | 10.321 | 9.411 | 1.275 | 1.044 | 0.691 | 3.801 | | 0.239 | 0.003 | | | | 0.321 | 7.931 | | |
| CPoultry | | | | | | | 1.507 | | | | | | 0.049 | | | |
| COthFish | | | | | | | 0.101 | 3.212 | | | | | 9.096 | | | |
| CForest | | | | | 0.004 | 0.780 | | 0.093 | | 0.820 | | | 0.241 | | 0.004 | |
| CRiceMil | | | | | | 2.547 | 1.342 | 0.455 | | | | | 0.001 | | | |
| CAtaFlou | | | | | | | 3.166 | 0.005 | 0.129 | | | | 2.330 | | 0.021 | |
| COthFood | | | | | | 0.088 | 4.461 | 0.202 | 0.402 | | | 0.002 | 9.942 | 0.071 | 0.010 | 0.006 |
| CLeather | | | | | | | | | | | | | 0.002 | 0.816 | | |
| CJuteTex | 0.003 | 0.006 | | | | | 0.094 | 0.008 | 0.061 | 0.001 | 1.533 | 0.109 | 0.287 | 0.022 | 0.099 | |
| CYam | | | | | | | | | 0.200 | | | | | 0.002 | 0.199 | 0.007 |
| CMidClot | | | | | | | | | | | | | 0.020 | 0.086 | 0.051 | |
| CCloth | | | | | | | | | | | | | | | | |
| CGarment | | | | | | | | | | | | | | | | |
| COthText | | | | | | | | | | | | | | | | |
| CTobP | | | | | | | | | | | | | | | | |
| CWoodP | | | | | 0.038 | | | 0.029 | 0.387 | | 0.243 | 0.011 | 0.886 | 0.054 | 0.057 | 0.008 |
| CChem | 2.024 | 2.782 | 0.103 | 0.180 | 0.293 | 0.464 | 0.675 | 0.785 | 0.230 | 0.001 | 0.005 | 0.002 | 0.886 | 1.997 | 0.391 | 0.373 |
| CFerti | 3.009 | 4.979 | 1.227 | 0.317 | 1.062 | 1.938 | 0.014 | | 0.167 | 0.001 | | | | | | |
| CPetroP | 0.128 | 2.077 | 0.110 | 0.016 | 0.072 | 0.078 | | 0.031 | 1.224 | | 0.406 | 0.019 | 0.892 | 0.017 | 0.184 | 0.023 |
| CClayP | | | | | | | 0.137 | | | | 0.006 | | 0.061 | | | |
| CShel | | | | | 0.005 | | 0.097 | 0.039 | 0.322 | 0.096 | 0.093 | 0.070 | 0.943 | 0.135 | 0.871 | 0.308 |
| CMischm | 0.275 | 0.363 | 0.032 | 0.007 | 0.020 | 0.103 | 0.007 | 0.075 | 0.313 | 0.348 | 0.625 | 0.209 | 3.193 | 0.262 | 0.643 | 0.903 |
| CMiscInd | | | | | 0.002 | 0.090 | 0.107 | 1.189 | 1.420 | 0.170 | 0.761 | 0.032 | 0.784 | 0.026 | 0.064 | |
| CIrhBuil | | | | | | | | | | | 0.327 | 0.090 | 0.839 | 0.113 | 0.182 | 0.174 |
| CRurBuil | | | | | | | | | | | 4.462 | 0.071 | 0.031 | | 0.003 | |
| CConst | 0.130 | 0.224 | 0.017 | 0.002 | 0.002 | 0.012 | | | | 0.008 | | | 0.004 | | | |
| CUtility | 0.031 | 0.573 | 0.011 | 0.001 | 0.003 | 0.023 | 0.068 | 0.103 | | | 7.954 | 0.343 | 1.030 | 0.239 | 1.230 | 1.337 |
| CTradeS | 9.328 | 18.205 | 1.187 | 2.365 | 4.720 | 13.100 | 3.155 | 1.801 | 30.919 | 34.291 | 15.838 | 1.812 | 3.628 | 0.671 | 1.328 | 0.348 |
| CTransS | 1.873 | 3.575 | 0.239 | 0.485 | 0.994 | 5.236 | 3.653 | 0.279 | 0.741 | 4.732 | 4.244 | 0.205 | 1.913 | 0.335 | 1.461 | 0.103 |
| CHous | | | | | | | 0.528 | 0.308 | 0.110 | | 0.035 | 0.003 | 0.003 | | | |
| AHealth | | | | | | | 0.313 | 0.005 | | | 0.001 | | 0.023 | 0.010 | | 0.003 |
| CEdu | | | | | | | | | | | | | | | | |
| CPubAdm | 0.024 | 0.045 | 0.012 | 0.014 | 0.076 | 0.036 | 0.019 | 0.005 | 0.023 | 0.728 | 0.010 | 0.008 | 0.223 | 0.056 | 0.052 | 0.078 |
| CFinS | | | 0.037 | 0.115 | 0.027 | 0.054 | 0.044 | 0.011 | 0.127 | 0.004 | 0.348 | 0.009 | 1.369 | 0.357 | 0.749 | 0.439 |
| COthS | 0.114 | 0.213 | 0.007 | 0.029 | 0.005 | 0.011 | 0.031 | 0.005 | 0.060 | 0.001 | | | 0.010 | | | |
| AHotel | | | | | | | | | | | | | | | | |
| AComm | | | | | | | | | | | 0.056 | 0.015 | 0.241 | 0.127 | 0.051 | 0.015 |
| LEdu0M | 11.851 | 12.368 | 1.190 | 1.795 | 1.307 | 3.388 | 7.182 | 0.656 | 0.216 | 3.847 | 0.601 | 0.069 | 0.801 | 0.092 | 0.536 | 0.755 |
| LEdu1M | 6.568 | 6.846 | 0.662 | 0.999 | 0.727 | 1.880 | 3.985 | 0.366 | 0.287 | 2.488 | 0.504 | 0.059 | 0.677 | 0.122 | 0.706 | 0.994 |
| LEdu2M | 4.131 | 4.309 | 0.416 | 0.628 | 0.457 | 1.185 | 2.506 | 0.230 | 0.669 | 1.105 | 0.634 | 0.073 | 0.884 | 0.108 | 0.626 | 0.882 |
| LEdu3M | 1.842 | 1.919 | 0.186 | 0.281 | 0.205 | 0.531 | 1.119 | 0.103 | 0.629 | 0.574 | 0.486 | 0.037 | 0.659 | 0.120 | 0.695 | 0.980 |
| LEdu0F | 2.017 | 2.091 | 0.089 | 0.127 | 0.056 | 1.880 | 4.500 | 1.673 | 0.283 | 0.010 | 0.572 | 0.002 | 0.060 | 0.002 | 0.003 | 0.075 |
| LEdu1F | 1.138 | 1.157 | 0.054 | 0.077 | 0.034 | 1.060 | 2.571 | 0.999 | 0.060 | 0.022 | 0.209 | 0.001 | 0.026 | 0.002 | 0.003 | 0.082 |
| LEdu2F | 0.527 | 0.536 | 0.025 | 0.036 | 0.016 | 0.491 | 1.187 | 0.463 | 0.047 | | 0.038 | 0.000 | 0.004 | 0.001 | 0.002 | 0.040 |
| LEdu3F | 0.116 | 0.120 | 0.005 | 0.007 | 0.003 | 0.108 | 0.252 | 0.097 | 0.027 | | 0.030 | 0.000 | 0.003 | 0.000 | 0.001 | 0.016 |
| LAND | 20.904 | 27.154 | 1.495 | 1.771 | 7.427 | 34.197 | 10.724 | 3.072 | 33.230 | 20.634 | 21.428 | | 3.533 | 18.510 | 1.938 | 1.292 |
| CAPITAL | | | | | | | | | | | | | | | | |
| Landless | | | | | | | | | | | | | | | | |
| Marginal | | | | | | | | | | | | | | | | |
| Small | | | | | | | | | | | | | | | | |
| Large | | | | | | | | | | | | | | | | |
| NAEPF | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | |
| NARFF | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | |
| Illiter | | | | | | | | | | | | | | | | |
| LowEdu | | | | | | | | | | | | | | | | |
| MedEdu | | | | | | | | | | | | | | | | |
| HighEdu | | | | | | | | | | | | | | | | |
| CORP | | | | | | | | | | | | | | | | |
| ITAX | | | | | | | | | | | | | | | | |
| TAR | | | | | | | | | | | | | | | | |
| COV | | | | | | | | | | | | | | | | |
| ROW | | | | | | | | | | | | | | | | |
| SJ | | | | | | | | | | | | | | | | |
| TOTAL | 85.013 | 108.033 | 9.409 | 10.638 | 19.528 | 86.389 | 68.573 | 17.524 | 76.302 | 69.061 | 224.371 | 18.009 | 84.189 | 15.717 | 20.648 | 18.332 |

Appendix 8 (continued) - The 1993-94 social accounting matrix for Bangladesh

| | AMiClot | ACloth | AGarment | AOthText | ATobP | AWoodP | AChem | AFerti | APetroP | AClayP | ASteel | AMachin | AMiscInd | AUrbBul | ARurBul | AConst | AUtility |
|----------|---------|--------|----------|----------|--------|--------|--------|--------|---------|--------|--------|---------|----------|---------|---------|--------|----------|
| APaddy1 | | | | | | | | | | | | | | | | | |
| APaddy2 | | | | | | | | | | | | | | | | | |
| AGrains | | | | | | | | | | | | | | | | | |
| AJute | | | | | | | | | | | | | | | | | |
| AComCrop | | | | | | | | | | | | | | | | | |
| AOthCrop | | | | | | | | | | | | | | | | | |
| ALivesto | | | | | | | | | | | | | | | | | |
| AFoultry | | | | | | | | | | | | | | | | | |
| AOthFish | | | | | | | | | | | | | | | | | |
| AForest | | | | | | | | | | | | | | | | | |
| ARiceMl | | | | | | | | | | | | | | | | | |
| AAtaFlou | | | | | | | | | | | | | | | | | |
| AOthFood | | | | | | | | | | | | | | | | | |
| ALeather | | | | | | | | | | | | | | | | | |
| AJuteTex | | | | | | | | | | | | | | | | | |
| AYam | | | | | | | | | | | | | | | | | |
| AMiClot | | | | | | | | | | | | | | | | | |
| ACloth | | | | | | | | | | | | | | | | | |
| AGarment | | | | | | | | | | | | | | | | | |
| AOthText | | | | | | | | | | | | | | | | | |
| ATobP | | | | | | | | | | | | | | | | | |
| AWoodP | | | | | | | | | | | | | | | | | |
| AChem | | | | | | | | | | | | | | | | | |
| AFerti | | | | | | | | | | | | | | | | | |
| APetroP | | | | | | | | | | | | | | | | | |
| AClayP | | | | | | | | | | | | | | | | | |
| ASteel | | | | | | | | | | | | | | | | | |
| AMachin | | | | | | | | | | | | | | | | | |
| AMiscInd | | | | | | | | | | | | | | | | | |
| AUrbBul | | | | | | | | | | | | | | | | | |
| ARurBul | | | | | | | | | | | | | | | | | |
| AConst | | | | | | | | | | | | | | | | | |
| AUtility | | | | | | | | | | | | | | | | | |
| ATradeS | | | | | | | | | | | | | | | | | |
| ATransS | | | | | | | | | | | | | | | | | |
| AHous | | | | | | | | | | | | | | | | | |
| AHealth | | | | | | | | | | | | | | | | | |
| AEdu | | | | | | | | | | | | | | | | | |
| APubAdm | | | | | | | | | | | | | | | | | |
| AFinS | | | | | | | | | | | | | | | | | |
| AOthS | | | | | | | | | | | | | | | | | |
| AHotel | | | | | | | | | | | | | | | | | |
| AComm | | | | | | | | | | | | | | | | | |
| CFaddy | | | | | | | | | | 0.001 | | | | | | | |
| CGrains | | | | | | 0.003 | | | | | | | | | | | |
| Clute | | 0.342 | | 0.002 | | 0.004 | | | | | | | 0.013 | 0.009 | 0.347 | | |
| CComCrop | 0.005 | | 0.053 | 0.518 | 2.096 | 0.002 | | | | | | | 0.004 | | | | |
| COthCrop | | | | | 0.002 | | 0.014 | | | | | | | | | | |
| CLivesto | | | | | | | 0.748 | | | | | | | | | | |
| CFoultry | | | | | | | | | | | | | 0.017 | | | | |
| COthFish | | | | | | | | | | | | | | | | | |
| CForest | | 0.036 | | 0.023 | | 1.460 | 0.577 | | | 1.292 | 0.005 | 0.013 | 0.298 | 2.120 | 25.004 | 0.385 | |
| CRiceMl | | | | | | | | | | | | | | | | | |
| CAtaFlou | | 1.996 | | | | 0.002 | 0.006 | | | | | | | | | 0.002 | |
| COthFood | 0.002 | 0.002 | 0.055 | | 0.005 | 0.001 | 0.282 | 0.005 | | 0.005 | 0.013 | 0.004 | | | 0.232 | | |
| CLeather | | | | | | | | | | | | | | | | 0.005 | |
| CluteTex | | | | | | 0.001 | 0.003 | | | 0.002 | 0.002 | | | 0.003 | 0.007 | 0.037 | 0.008 |
| CYam | 5.161 | 17.987 | 5.838 | 0.267 | | | | | | | | | | | | | |
| CMiClot | | 1.735 | 29.884 | 0.411 | | 0.011 | 0.014 | 0.010 | | | | 0.013 | 0.005 | 0.236 | | | |
| CCloth | | 4.872 | | | | | | | | | | | | | | | |
| CGarment | | | 0.510 | | | | | | | | | | | | | | |
| COthText | | | 4.173 | 0.035 | | | | | | | | | | | | | |
| CTobP | | | | | 0.034 | | | | | | | | | | | | |
| CWoodP | 0.048 | 0.511 | 0.894 | 0.018 | 0.921 | 9.683 | 1.261 | 0.020 | 0.038 | 0.143 | 0.090 | 0.227 | 0.550 | | | 0.072 | 0.015 |
| CChem | 0.117 | 3.801 | 0.283 | 0.017 | 0.097 | 1.832 | 10.891 | 3.360 | 0.041 | 0.197 | 1.079 | 0.486 | 1.106 | 1.467 | 1.045 | 0.602 | 0.021 |
| CFerti | | | | | 0.002 | | | | | | | | | | | | |
| CPetroP | 0.008 | 0.054 | 0.105 | | 0.006 | 0.941 | 0.089 | 0.025 | 2.267 | 0.188 | 0.137 | 0.030 | 0.063 | 0.230 | 0.016 | 0.667 | 2.188 |
| CClayP | | | | | | 0.005 | 0.357 | | | 0.001 | 0.022 | 0.222 | 0.069 | 5.417 | 8.904 | 2.114 | |
| CSteel | 0.087 | 0.074 | 0.896 | 0.012 | 0.183 | 0.593 | 0.395 | 0.524 | 0.812 | 0.224 | 15.908 | 2.138 | 0.397 | 6.135 | 8.039 | 4.194 | 0.029 |
| CMachin | 0.276 | 0.355 | 0.440 | 0.017 | 0.058 | 0.530 | 1.250 | 1.800 | 1.903 | 0.200 | 0.680 | 1.838 | 0.285 | 0.323 | 0.033 | 3.637 | 0.860 |
| CMiscInd | | 0.116 | 0.538 | 0.019 | 0.182 | 0.482 | 0.453 | 0.177 | | 0.770 | 0.068 | 0.024 | 0.912 | 2.755 | 1.020 | 0.814 | 0.168 |
| CUrbBul | 0.052 | 0.053 | 0.808 | 0.011 | 0.021 | 0.244 | 0.410 | 0.394 | 0.326 | 0.113 | 0.251 | 0.209 | 0.133 | | | | |
| CRurBul | 0.009 | 0.144 | 0.004 | 0.090 | 0.001 | 0.059 | 0.002 | | | 0.079 | 0.022 | 0.003 | 0.215 | | | | |
| AConst | | | | | | | | | | 0.002 | | | | | | 0.084 | 0.158 |
| AUtility | 0.455 | 0.270 | 0.346 | 0.021 | 0.024 | 0.691 | 0.416 | 1.395 | 0.111 | 2.028 | 1.598 | 0.147 | 1.773 | 1.128 | 1.254 | 2.401 | 3.673 |
| CTradeS | 0.361 | 5.316 | 3.247 | 0.062 | 2.444 | 0.686 | 1.897 | 0.274 | 0.468 | 0.451 | 0.836 | 0.196 | 1.433 | 5.036 | 9.152 | 1.282 | 3.399 |
| CTransS | 0.173 | 1.183 | 1.728 | 0.083 | 0.138 | 0.712 | 1.118 | 0.930 | 0.497 | 1.163 | 0.480 | 0.209 | 1.242 | 3.569 | 5.244 | 1.232 | 0.874 |
| CHous | | | | | | | | | | | | | | | | | |
| AHealth | | | 0.002 | | | | 0.007 | | | | 0.031 | 0.005 | | | | | |
| CEdu | | | | | | | 0.004 | | | | 0.032 | 0.008 | | | | | |
| CPubAdm | 0.023 | 0.019 | 0.052 | 0.002 | 0.004 | 0.055 | 0.148 | 0.036 | 0.091 | 0.007 | 0.115 | 0.019 | | | | 0.541 | 0.099 |
| CFinS | 0.135 | 0.094 | 0.117 | 0.005 | 0.022 | 0.166 | 0.388 | 1.167 | 2.935 | 0.035 | 0.732 | 0.378 | 0.145 | 0.017 | | 0.645 | 0.128 |
| COthS | | | | | | | | | | | | | | | | | |
| AHotel | | | | | | | | | | | | | | | | | |
| CComm | 0.005 | 0.003 | 0.215 | 0.004 | | 0.034 | 0.095 | 0.014 | 0.018 | 0.011 | 0.032 | 0.117 | 0.072 | | | 0.026 | 0.005 |
| LEdu0M | 0.279 | 2.955 | 0.560 | 0.115 | 0.205 | 1.433 | 0.159 | 0.024 | 0.006 | 0.906 | 0.223 | 0.098 | 0.185 | 3.278 | 1.150 | 3.198 | 0.263 |
| LEdu1M | 0.368 | 3.884 | 1.129 | 0.152 | 0.173 | 1.400 | 1.025 | 0.151 | 0.005 | 0.557 | 1.128 | 0.447 | 0.587 | 3.180 | 1.119 | 1.310 | 0.675 |
| LEdu2M | 0.526 | 3.449 | 0.656 | 0.135 | 0.218 | 1.405 | 0.798 | 0.115 | 0.003 | 0.327 | 1.092 | 0.453 | 0.541 | 1.576 | 0.553 | 0.706 | 0.745 |
| LEdu3M | 0.363 | 3.821 | 1.110 | 0.150 | 0.168 | 1.228 | 1.920 | 0.283 | 0.002 | 0.191 | 0.866 | 0.345 | 0.840 | 1.681 | 0.592 | 1.826 | 4.016 |
| LEdu0F | 0.005 | 0.264 | 3.878 | 0.101 | 0.122 | 0.510 | 0.992 | 0.006 | 0.000 | 0.173 | 0.010 | 0.026 | 0.133 | 0.032 | 0.026 | 0.570 | 0.015 |
| LEdu1F | 0.006 | 0.405 | 4.497 | 0.111 | 0.052 | 0.288 | 0.022 | 0.001 | 0.000 | 0.038 | 0.006 | 0.017 | 0.087 | 0.026 | 0.021 | | |
| LEdu2F | 0.003 | 0.201 | 2.244 | 0.054 | 0.008 | 0.137 | 0.018 | 0.001 | 0.000 | 0.010 | | | 0.025 | | | | |
| LEdu3F | 0.001 | 0.057 | 1.565 | 0.021 | 0.006 | 0.020 | 0.340 | 0.020 | | | | | | | | | 0.310 |
| LAND | | | | | | | | | | | | | | | | | |
| CAPITAL | 1.646 | 2.846 | 2.789 | 0.063 | 5.752 | 1.571 | 4.459 | 0.838 | 7.292 | 1.851 | 4.601 | 1.788 | 5.903 | 10.918 | 89.925 | 1.413 | 23.328 |
| Landless | | | | | | | | | | | | | | | | | |
| Marginal | | | | | | | | | | | | | | | | | |
| Small | | | | | | | | | | | | | | | | | |
| Large | | | | | | | | | | | | | | | | | |
| NARPF | | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | | |
| NARFF | | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | | |
| NARFF | | | | | | | | | | | | | | | | | |
| liters | | | | | | | | | | | | | | | | | |
| LowEdu | | | | | | | | | | | | | | | | | |
| MedEdu | | | | | | | | | | | | | | | | | |
| HighEdu | | | | | | | | | | | | | | | | | |
| CORP | | | | | | | | | | | | | | | | | |
| ITAX | | | | | | | | | | | | | | | | | |
| TAR | | | | | | | | | | | | | | | | | |
| GOV | | | | | | | | | | | | | | | | | |
| ROW | | | | | | | | | | | | | | | | | |
| SI | | | | | | | | | | | | | | | | | |
| TOTAL | 9.796 | 56.844 | 68.637 | 2.519 | 12.945 | 26.182 | 29.645 | 11.583 | 16.816 | 10.967 | 30.072 | 9.429 | 17.502 | 48.900 | 153.453 | 27.557 | 40.978 |

Appendix 8 (continued) - The 1993-94 social accounting matrix for Bangladesh

| | ATradeS | ATransS | AHous | AHealth | AEdu | APubAdm | AFinS | AOTHS | AHotel | AComm | CPaddy | CGrains | CJute | CComCrop | COthCrop | CLivesto | CFoultry |
|----------|---------|---------|---------|---------|--------|---------|---------|--------|--------|--------|---------|---------|--------|----------|----------|----------|----------|
| APaddy1 | | | | | | | | | | | 85.013 | | | | | | |
| APaddy2 | | | | | | | | | | | 108.053 | | | | | | |
| AGrains | | | | | | | | | | | | 9.409 | | | | | |
| AJute | | | | | | | | | | | | | 10.638 | | | | |
| AComCrop | | | | | | | | | | | | | | 19.528 | | | |
| AOthCrop | | | | | | | | | | | | | | | 86.389 | | |
| ALivesto | | | | | | | | | | | | | | | | 68.573 | |
| AFoultry | | | | | | | | | | | | | | | | | 17.524 |
| AOthFish | | | | | | | | | | | | | | | | | |
| AForest | | | | | | | | | | | | | | | | | |
| ARiceMil | | | | | | | | | | | | | | | | | |
| AAtaFlou | | | | | | | | | | | | | | | | | |
| AOthFood | | | | | | | | | | | | | | | | | |
| ALeathr | | | | | | | | | | | | | | | | | |
| AJuteTex | | | | | | | | | | | | | | | | | |
| AYam | | | | | | | | | | | | | | | | | |
| AMilClot | | | | | | | | | | | | | | | | | |
| ACloth | | | | | | | | | | | | | | | | | |
| AGarment | | | | | | | | | | | | | | | | | |
| AOthText | | | | | | | | | | | | | | | | | |
| ATobP | | | | | | | | | | | | | | | | | |
| AWoodP | | | | | | | | | | | | | | | | | |
| AChem | | | | | | | | | | | | | | | | | |
| AFerti | | | | | | | | | | | | | | | | | |
| APetroP | | | | | | | | | | | | | | | | | |
| AClayP | | | | | | | | | | | | | | | | | |
| ASeri | | | | | | | | | | | | | | | | | |
| AMachm | | | | | | | | | | | | | | | | | |
| AMiscInd | | | | | | | | | | | | | | | | | |
| AIrhBual | | | | | | | | | | | | | | | | | |
| ARurBual | | | | | | | | | | | | | | | | | |
| AConst | | | | | | | | | | | | | | | | | |
| AUtility | | | | | | | | | | | | | | | | | |
| ATradeS | | | | | | | | | | | | | | | | | |
| ATransS | | | | | | | | | | | | | | | | | |
| AHous | | | | | | | | | | | | | | | | | |
| AHealth | | | | | | | | | | | | | | | | | |
| AEdu | | | | | | | | | | | | | | | | | |
| APubAdm | | | | | | | | | | | | | | | | | |
| AFinS | | | | | | | | | | | | | | | | | |
| AOTHS | | | | | | | | | | | | | | | | | |
| AHotel | | | | | | | | | | | | | | | | | |
| AComm | | | | | | | | | | | | | | | | | |
| CPaddy | | | | | | | | | | | | | | | | | |
| CGrains | | | | 0.001 | | | | | | | | | | | | | |
| CJute | | | | | | | | | | | | | | | | | |
| CComCrop | | | | | | | | | | | | | | | | | |
| COthCrop | | | | 0.023 | | | 0.279 | | 2.524 | | | | | | | | |
| CLivesto | | | | 0.057 | | | | | 2.332 | | | | | | | | |
| CFoultry | | | | 0.052 | | | | | 1.741 | | | | | | | | |
| COthFish | | | | 0.017 | | | | | 1.683 | | | | | | | | |
| CForest | | | | | | | | | 0.694 | | | | | | | | |
| CRiceMil | | | | 0.008 | | | | | 1.017 | | | | | | | | |
| CAtaFlou | | | | 0.002 | | | | | 2.777 | | | | | | | | |
| COthFood | 8.363 | | | 0.010 | 0.004 | 0.046 | 1.566 | 0.119 | | | | | | | | | |
| CLeather | 0.028 | | | | | | | | | | | | | | | | |
| CJuteTex | 1.179 | | | 0.002 | | | 0.010 | 0.012 | | 0.006 | | | | | | | |
| CYam | | | | | | | 0.033 | 0.018 | | | | | | | | | |
| CMilClot | 0.028 | 0.014 | | 0.149 | 0.076 | 0.127 | 0.252 | 0.745 | | 0.009 | | | | | | | |
| CCloth | | | | 0.013 | 0.003 | | | | | | | | | | | | |
| CGarment | | | | | | | | | | | | | | | | | |
| COthText | | | | | | | | | | | | | | | | | |
| CTobP | | | | | | | 0.030 | 0.178 | | | | | | | | | |
| CWoodP | 1.308 | 0.031 | 0.122 | 0.027 | 0.792 | 0.633 | 3.281 | 0.054 | 0.054 | 0.119 | | | | | | | |
| CChem | 3.102 | 0.123 | | 1.616 | 0.232 | 0.443 | 1.488 | | | 0.069 | | | | | | | |
| CFerti | | | | | | | | | | | | | | | | | |
| CPetroP | 0.145 | 13.595 | 0.002 | 0.096 | 0.375 | 0.521 | 0.195 | | | 0.026 | | | | | | | |
| CClayP | | | | | | | 0.015 | | 0.265 | | | | | | | | |
| CSeri | 0.062 | 0.039 | | | 0.035 | | 0.239 | 1.052 | | | | | | | | | |
| CMachm | 0.295 | 5.204 | 0.002 | 0.003 | 0.761 | 0.701 | 0.279 | 0.462 | | 0.066 | | | | | | | |
| CMiscInd | 9.344 | 0.401 | | 0.031 | 0.348 | 1.560 | 1.123 | 0.178 | 0.035 | 0.047 | | | | | | | |
| CIrhBual | 0.356 | 0.005 | 3.492 | 0.060 | 0.152 | 4.104 | 0.133 | | | | | | | | | | |
| CRurBual | | 0.014 | 4.016 | | 0.262 | | | | | 0.011 | | | | | | | |
| AConst | | 0.040 | | | | | | | | | | | | | | | |
| AUtility | 3.120 | 0.141 | | 0.178 | 0.612 | 0.490 | 0.888 | 0.055 | 0.838 | 0.096 | | | | | | | |
| ATradeS | 37.359 | 19.078 | | 6.291 | 4.357 | | 19.816 | | 1.118 | | | | | | | | |
| ATransS | 3.698 | 11.584 | 0.003 | 0.070 | 0.180 | 1.242 | 10.658 | 2.137 | 0.173 | 0.149 | | | | | | | |
| AHous | 13.243 | 0.476 | | 0.618 | 0.019 | 0.017 | 5.036 | 0.297 | 0.445 | 0.320 | | | | | | | |
| AHealth | | 0.029 | | | | | | | | | | | | | | | |
| AEdu | | | | | | | | | | | | | | | | | |
| APubAdm | 4.363 | 3.670 | 0.002 | 0.108 | 0.711 | 1.213 | 0.180 | | 0.190 | | | | | | | | |
| AFinS | 7.989 | 0.425 | 2.506 | 0.190 | 0.120 | 1.015 | 0.427 | | 0.019 | 0.045 | | | | | | | |
| AOTHS | 3.715 | 4.017 | | | 0.189 | 0.004 | 1.262 | | | 0.073 | | | | | | | |
| AHotel | | 0.566 | | | 0.090 | 0.178 | 0.383 | | | 0.017 | | | | | | | |
| AComm | 5.004 | 0.065 | 0.001 | 0.069 | 0.301 | 2.202 | 1.230 | | 0.027 | 0.361 | | | | | | | |
| LEdu1M | 33.348 | 28.623 | | 0.028 | 0.141 | 0.616 | 0.148 | 8.053 | 1.159 | 0.699 | | | | | | | |
| LEdu1M | 40.552 | 15.160 | | 0.151 | 0.761 | 1.621 | 0.609 | 9.794 | 1.626 | 0.591 | | | | | | | |
| LEdu2M | 40.247 | 7.839 | | 0.342 | 1.720 | 3.879 | 1.033 | 8.332 | 0.954 | 0.697 | | | | | | | |
| LEdu3M | 37.078 | 7.662 | | 2.580 | 12.697 | 17.159 | 11.409 | 9.442 | 1.015 | 2.066 | | | | | | | |
| LEdu0F | 2.578 | 0.226 | | 0.055 | 0.125 | 0.136 | | 5.984 | 0.163 | | | | | | | | |
| LEdu1F | 0.477 | 0.152 | | 0.025 | 0.124 | 0.036 | 0.027 | 1.828 | 0.016 | 0.044 | | | | | | | |
| LEdu2F | 0.392 | | | 0.054 | 0.262 | 0.320 | 0.088 | 1.113 | 0.018 | | | | | | | | |
| LEdu3F | 0.169 | 0.184 | | 0.759 | 3.783 | 1.716 | 0.673 | 0.838 | 0.016 | 0.176 | | | | | | | |
| LAND | | | | | | | | | | | | | | | | | |
| CAPITAL | 46.717 | 112.279 | 87.702 | 6.359 | 3.134 | 6.101 | 54.529 | 3.579 | 1.984 | 4.567 | | | | | | | |
| Landless | | | | | | | | | | | | | | | | | |
| Marginal | | | | | | | | | | | | | | | | | |
| Small | | | | | | | | | | | | | | | | | |
| Large | | | | | | | | | | | | | | | | | |
| NARFF | | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | | |
| NARF | | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | | |
| Illiter | | | | | | | | | | | | | | | | | |
| LowEdu | | | | | | | | | | | | | | | | | |
| MedEdu | | | | | | | | | | | | | | | | | |
| HighEdu | | | | | | | | | | | | | | | | | |
| CORP | | | | | | | | | | | | | | | | | |
| ITAX | | | | | | | | | | | | | | 0.020 | 0.074 | | |
| TAR | | | | | | | | | | | | | 0.521 | 0.137 | 0.266 | | |
| GOV | | | | | | | | | | | | | | | | | |
| ROW | | | | | | | | | | | | | 4.169 | 6.896 | 1.732 | 1.408 | 0.010 |
| SI | | | | | | | | | | | | | | | | | |
| TOTAL | 266.909 | 250.515 | 116.925 | 20.045 | 32.365 | 46.081 | 118.037 | 54.291 | 22.883 | 10.733 | 193.066 | 14.099 | 10.638 | 26.581 | 88.462 | 69.980 | 17.534 |

Appendix 8 (continued) - The 1993-94 social accounting matrix for Bangladesh

| | COthFish | CForest | CRiceMl | CAtaFlou | COthFood | CLeather | CJuteTex | CYam | CMiClot | CCloth | CGarment | COthText | CTobP | CWoodP | CChem | CFerti | CPetroP |
|----------|----------|---------|---------|----------|----------|----------|----------|--------|---------|--------|----------|----------|--------|--------|--------|--------|---------|
| APaddy1 | | | | | | | | | | | | | | | | | |
| APaddy2 | | | | | | | | | | | | | | | | | |
| AGrains | | | | | | | | | | | | | | | | | |
| AJute | | | | | | | | | | | | | | | | | |
| AComCrop | | | | | | | | | | | | | | | | | |
| AOthCrop | | | | | | | | | | | | | | | | | |
| ALivesto | | | | | | | | | | | | | | | | | |
| AFoultry | | | | | | | | | | | | | | | | | |
| AOthFish | 76.302 | | | | | | | | | | | | | | | | |
| AForest | | 69.061 | | | | | | | | | | | | | | | |
| ARiceMl | | | 224.371 | | | | | | | | | | | | | | |
| AAtaFlou | | | | 18.009 | | | | | | | | | | | | | |
| AOthFood | | | | | 84.189 | | | | | | | | | | | | |
| ALeathr | | | | | | 15.717 | | | | | | | | | | | |
| AJuteTex | | | | | | | 20.648 | | | | | | | | | | |
| AYam | | | | | | | | 18.332 | | | | | | | | | |
| AMiClot | | | | | | | | | 9.796 | | | | | | | | |
| ACloth | | | | | | | | | | 56.844 | | | | | | | |
| AGarment | | | | | | | | | | | 68.637 | | | | | | |
| AOthText | | | | | | | | | | | | 2.519 | | | | | |
| ATobP | | | | | | | | | | | | | 12.945 | | | | |
| AWoodP | | | | | | | | | | | | | | 26.182 | | | |
| AChem | | | | | | | | | | | | | | | 29.645 | | |
| AFerti | | | | | | | | | | | | | | | | 11.583 | |
| APetroP | | | | | | | | | | | | | | | | | 16.816 |
| AClayP | | | | | | | | | | | | | | | | | |
| ASeri | | | | | | | | | | | | | | | | | |
| AMachm | | | | | | | | | | | | | | | | | |
| AMiscInd | | | | | | | | | | | | | | | | | |
| AIrhBuil | | | | | | | | | | | | | | | | | |
| ARurBuil | | | | | | | | | | | | | | | | | |
| AConst | | | | | | | | | | | | | | | | | |
| AUtility | | | | | | | | | | | | | | | | | |
| ATradeS | | | | | | | | | | | | | | | | | |
| ATransS | | | | | | | | | | | | | | | | | |
| AHous | | | | | | | | | | | | | | | | | |
| AHealth | | | | | | | | | | | | | | | | | |
| AEdu | | | | | | | | | | | | | | | | | |
| APubAdm | | | | | | | | | | | | | | | | | |
| AFinS | | | | | | | | | | | | | | | | | |
| AObS | | | | | | | | | | | | | | | | | |
| AHotel | | | | | | | | | | | | | | | | | |
| AComm | | | | | | | | | | | | | | | | | |
| CPaddy | | | | | | | | | | | | | | | | | |
| CGrains | | | | | | | | | | | | | | | | | |
| CJute | | | | | | | | | | | | | | | | | |
| CComCrop | | | | | | | | | | | | | | | | | |
| COthCrop | | | | | | | | | | | | | | | | | |
| CLivesto | | | | | | | | | | | | | | | | | |
| CFoultry | | | | | | | | | | | | | | | | | |
| COthFish | | | | | | | | | | | | | | | | | |
| CForest | | | | | | | | | | | | | | | | | |
| CRiceMl | | | | | | | | | | | | | | | | | |
| CAtaFlou | | | | | | | | | | | | | | | | | |
| COthFood | | | | | | | | | | | | | | | | | |
| CLeather | | | | | | | | | | | | | | | | | |
| CJuteTex | | | | | | | | | | | | | | | | | |
| CYam | | | | | | | | | | | | | | | | | |
| CMiClot | | | | | | | | | | | | | | | | | |
| CCloth | | | | | | | | | | | | | | | | | |
| CGarment | | | | | | | | | | | | | | | | | |
| COthText | | | | | | | | | | | | | | | | | |
| CTobP | | | | | | | | | | | | | | | | | |
| CWoodP | | | | | | | | | | | | | | | | | |
| CChem | | | | | | | | | | | | | | | | | |
| CFerti | | | | | | | | | | | | | | | | | |
| CPetroP | | | | | | | | | | | | | | | | | |
| CClayP | | | | | | | | | | | | | | | | | |
| CSeri | | | | | | | | | | | | | | | | | |
| CMachm | | | | | | | | | | | | | | | | | |
| CMiscInd | | | | | | | | | | | | | | | | | |
| CIrhBuil | | | | | | | | | | | | | | | | | |
| CRurBuil | | | | | | | | | | | | | | | | | |
| CConst | | | | | | | | | | | | | | | | | |
| CUtility | | | | | | | | | | | | | | | | | |
| CTradeS | | | | | | | | | | | | | | | | | |
| CTransS | | | | | | | | | | | | | | | | | |
| CHous | | | | | | | | | | | | | | | | | |
| CHHealth | | | | | | | | | | | | | | | | | |
| CEdu | | | | | | | | | | | | | | | | | |
| CPubAdm | | | | | | | | | | | | | | | | | |
| CFinS | | | | | | | | | | | | | | | | | |
| CObS | | | | | | | | | | | | | | | | | |
| CHotel | | | | | | | | | | | | | | | | | |
| CComm | | | | | | | | | | | | | | | | | |
| LEdu0M | | | | | | | | | | | | | | | | | |
| LEdu1M | | | | | | | | | | | | | | | | | |
| LEdu2M | | | | | | | | | | | | | | | | | |
| LEdu3M | | | | | | | | | | | | | | | | | |
| LEdu0F | | | | | | | | | | | | | | | | | |
| LEdu1F | | | | | | | | | | | | | | | | | |
| LEdu2F | | | | | | | | | | | | | | | | | |
| LEdu3F | | | | | | | | | | | | | | | | | |
| LAND | | | | | | | | | | | | | | | | | |
| CAPITAL | | | | | | | | | | | | | | | | | |
| Landless | | | | | | | | | | | | | | | | | |
| Marginal | | | | | | | | | | | | | | | | | |
| Small | | | | | | | | | | | | | | | | | |
| Large | | | | | | | | | | | | | | | | | |
| NARFP | | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | | |
| NARRF | | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | | |
| Illiter | | | | | | | | | | | | | | | | | |
| LowEdu | | | | | | | | | | | | | | | | | |
| MedEdu | | | | | | | | | | | | | | | | | |
| HighEdu | | | | | | | | | | | | | | | | | |
| CORP | | | | | | | | | | | | | | | | | |
| ITAX | 0.148 | | | | 2.506 | 0.185 | 0.322 | 1.341 | 1.038 | | 0.107 | 0.076 | 8.696 | 0.828 | 4.349 | 0.001 | 3.843 |
| TAR | | | 0.015 | 0.004 | 2.355 | | | 1.501 | 2.597 | | 0.030 | 0.095 | 0.002 | 0.983 | 3.779 | 0.002 | 3.460 |
| GOV | | | | | | | | | | | | | | | | | |
| ROW | | | 0.094 | 0.026 | 3.729 | 0.126 | 0.231 | 8.682 | 24.011 | | 0.735 | 2.495 | 0.087 | 3.308 | 16.294 | 1.871 | 15.401 |
| SI | | | | | | | | | | | | | | | | | |
| TOTAL | 76.451 | 69.061 | 224.480 | 18.038 | 92.780 | 16.028 | 21.201 | 29.856 | 37.463 | 56.844 | 69.509 | 5.184 | 21.729 | 31.302 | 54.067 | 13.457 | 39.519 |

Appendix 8 (continued). The 1993-94 social accounting matrix for Bangladesh

| | CClayP | CSteel | CMechan | CMiscInd | CUrbBul | CRurBul | CConst | CUtility | CTradeS | CTransS | CHous | CHealth | CEdu | CPubAdm | CFinS | COthS | CHotel | CComm |
|----------|--------|--------|---------|----------|---------|---------|--------|----------|---------|---------|---------|---------|--------|---------|---------|--------|--------|--------|
| APaddy1 | | | | | | | | | | | | | | | | | | |
| APaddy2 | | | | | | | | | | | | | | | | | | |
| AGrains | | | | | | | | | | | | | | | | | | |
| AJute | | | | | | | | | | | | | | | | | | |
| AComCrop | | | | | | | | | | | | | | | | | | |
| AOthCrop | | | | | | | | | | | | | | | | | | |
| ALivesto | | | | | | | | | | | | | | | | | | |
| AFoultry | | | | | | | | | | | | | | | | | | |
| AOthFish | | | | | | | | | | | | | | | | | | |
| AForest | | | | | | | | | | | | | | | | | | |
| ARiceMil | | | | | | | | | | | | | | | | | | |
| AAtaFlou | | | | | | | | | | | | | | | | | | |
| AOthFood | | | | | | | | | | | | | | | | | | |
| ALeather | | | | | | | | | | | | | | | | | | |
| AJuteTex | | | | | | | | | | | | | | | | | | |
| AYam | | | | | | | | | | | | | | | | | | |
| AMiClot | | | | | | | | | | | | | | | | | | |
| ACloth | | | | | | | | | | | | | | | | | | |
| AGarment | | | | | | | | | | | | | | | | | | |
| AOthText | | | | | | | | | | | | | | | | | | |
| ATobP | | | | | | | | | | | | | | | | | | |
| AWoodP | | | | | | | | | | | | | | | | | | |
| AChem | | | | | | | | | | | | | | | | | | |
| AFerti | | | | | | | | | | | | | | | | | | |
| APetroP | | | | | | | | | | | | | | | | | | |
| AClayP | 10.967 | | | | | | | | | | | | | | | | | |
| ASteel | | 30.072 | | | | | | | | | | | | | | | | |
| AMechan | | | 9.429 | | | | | | | | | | | | | | | |
| AMiscInd | | | | 17.502 | | | | | | | | | | | | | | |
| AIrhBul | | | | | 48.900 | | | | | | | | | | | | | |
| ARurBul | | | | | | 153.433 | | | | | | | | | | | | |
| AConst | | | | | | | 27.557 | | | | | | | | | | | |
| AUtility | | | | | | | | 40.978 | | | | | | | | | | |
| ATradeS | | | | | | | | | 266.909 | | | | | | | | | |
| ATransS | | | | | | | | | | 250.515 | | | | | | | | |
| AHous | | | | | | | | | | | 116.925 | | | | | | | |
| AHealth | | | | | | | | | | | | 20.045 | | | | | | |
| AEdu | | | | | | | | | | | | | 32.365 | | | | | |
| APubAdm | | | | | | | | | | | | | | 46.081 | | | | |
| AFinS | | | | | | | | | | | | | | | 118.037 | | | |
| AOthS | | | | | | | | | | | | | | | | 54.291 | | |
| AHotel | | | | | | | | | | | | | | | | | 22.883 | |
| AComm | | | | | | | | | | | | | | | | | | 10.733 |
| CPaddy | | | | | | | | | | | | | | | | | | |
| CGrains | | | | | | | | | | | | | | | | | | |
| CJute | | | | | | | | | | | | | | | | | | |
| CComCrop | | | | | | | | | | | | | | | | | | |
| COthCrop | | | | | | | | | | | | | | | | | | |
| CLivesto | | | | | | | | | | | | | | | | | | |
| CFoultry | | | | | | | | | | | | | | | | | | |
| COthFish | | | | | | | | | | | | | | | | | | |
| CForest | | | | | | | | | | | | | | | | | | |
| CRiceMil | | | | | | | | | | | | | | | | | | |
| CAtaFlou | | | | | | | | | | | | | | | | | | |
| COthFood | | | | | | | | | | | | | | | | | | |
| CLeather | | | | | | | | | | | | | | | | | | |
| CJuteTex | | | | | | | | | | | | | | | | | | |
| CYam | | | | | | | | | | | | | | | | | | |
| CMiClot | | | | | | | | | | | | | | | | | | |
| CCloth | | | | | | | | | | | | | | | | | | |
| CGarment | | | | | | | | | | | | | | | | | | |
| COthText | | | | | | | | | | | | | | | | | | |
| CTobP | | | | | | | | | | | | | | | | | | |
| CWoodP | | | | | | | | | | | | | | | | | | |
| CChem | | | | | | | | | | | | | | | | | | |
| CFerti | | | | | | | | | | | | | | | | | | |
| CPetroP | | | | | | | | | | | | | | | | | | |
| CClayP | | | | | | | | | | | | | | | | | | |
| CSteel | | | | | | | | | | | | | | | | | | |
| CMechan | | | | | | | | | | | | | | | | | | |
| CMiscInd | | | | | | | | | | | | | | | | | | |
| CUrhBul | | | | | | | | | | | | | | | | | | |
| CRurBul | | | | | | | | | | | | | | | | | | |
| CConst | | | | | | | | | | | | | | | | | | |
| CUtility | | | | | | | | | | | | | | | | | | |
| CTradeS | | | | | | | | | | | | | | | | | | |
| CTransS | | | | | | | | | | | | | | | | | | |
| CHous | | | | | | | | | | | | | | | | | | |
| CHealth | | | | | | | | | | | | | | | | | | |
| CEdu | | | | | | | | | | | | | | | | | | |
| CPubAdm | | | | | | | | | | | | | | | | | | |
| CFinS | | | | | | | | | | | | | | | | | | |
| COthS | | | | | | | | | | | | | | | | | | |
| CHotel | | | | | | | | | | | | | | | | | | |
| CComm | | | | | | | | | | | | | | | | | | |
| LEdu0M | | | | | | | | | | | | | | | | | | |
| LEdu1M | | | | | | | | | | | | | | | | | | |
| LEdu2M | | | | | | | | | | | | | | | | | | |
| LEdu3M | | | | | | | | | | | | | | | | | | |
| LEdu0F | | | | | | | | | | | | | | | | | | |
| LEdu1F | | | | | | | | | | | | | | | | | | |
| LEdu2F | | | | | | | | | | | | | | | | | | |
| LEdu3F | | | | | | | | | | | | | | | | | | |
| LAND | | | | | | | | | | | | | | | | | | |
| CAPITAL | | | | | | | | | | | | | | | | | | |
| Landless | | | | | | | | | | | | | | | | | | |
| Marginal | | | | | | | | | | | | | | | | | | |
| Small | | | | | | | | | | | | | | | | | | |
| Large | | | | | | | | | | | | | | | | | | |
| NARPF | | | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | | | |
| NARRF | | | | | | | | | | | | | | | | | | |
| NARFM | | | | | | | | | | | | | | | | | | |
| Illiter | | | | | | | | | | | | | | | | | | |
| LowEdu | | | | | | | | | | | | | | | | | | |
| MedEdu | | | | | | | | | | | | | | | | | | |
| HighEdu | | | | | | | | | | | | | | | | | | |
| CORP | | | | | | | | | | | | | | | | | | |
| ITAX | 1.584 | 3.007 | 4.960 | 1.378 | | | | 5.825 | 0.263 | 0.004 | | 0.003 | 0.015 | 0.099 | 0.612 | | 0.229 | 0.621 |
| TAR | 1.279 | 3.270 | 6.249 | 2.703 | | | | | | | | | | | | | | |
| GOV | | | | | | | | | | | | | | | | | | |
| ROW | 8.397 | 18.270 | 33.467 | 7.415 | | | | | | | | | | | | | | |
| SI | | | | | | | | | | | | | | | | | | |
| TOTAL | 22.227 | 54.619 | 54.105 | 28.998 | 48.900 | 153.433 | 27.557 | 46.803 | 267.172 | 250.519 | 116.925 | 20.049 | 32.380 | 46.180 | 118.649 | 54.291 | 23.113 | 11.375 |

Appendix 8 (continued) - The 1993-94 social accounting matrix for Bangladesh

| | LEdu0M | LEdu1M | LEdu2M | LEdu3M | LEdu0F | LEdu1F | LEdu2F | LEdu3F | LAND | CAPITAL | Landless | Marginal | Small | Large | NARFF | NARPM | NARFP |
|-----------|---------|---------|--------|---------|--------|--------|--------|--------|---------|---------|----------|----------|---------|---------|--------|---------|-------|
| APaddy1 | | | | | | | | | | | | | | | | | |
| APaddy2 | | | | | | | | | | | | | | | | | |
| AGrains | | | | | | | | | | | | | | | | | |
| AJute | | | | | | | | | | | | | | | | | |
| AComCrop | | | | | | | | | | | | | | | | | |
| AOthCrop | | | | | | | | | | | | | | | | | |
| ALivesto | | | | | | | | | | | | | | | | | |
| AFoultry | | | | | | | | | | | | | | | | | |
| AOthFish | | | | | | | | | | | | | | | | | |
| AForest | | | | | | | | | | | | | | | | | |
| ARiceMl | | | | | | | | | | | | | | | | | |
| AAtaFlou | | | | | | | | | | | | | | | | | |
| AOthFood | | | | | | | | | | | | | | | | | |
| ALeather | | | | | | | | | | | | | | | | | |
| AJuteTex | | | | | | | | | | | | | | | | | |
| AYam | | | | | | | | | | | | | | | | | |
| AMdClot | | | | | | | | | | | | | | | | | |
| ACloth | | | | | | | | | | | | | | | | | |
| AGarment | | | | | | | | | | | | | | | | | |
| AOthText | | | | | | | | | | | | | | | | | |
| ATobP | | | | | | | | | | | | | | | | | |
| AWoodP | | | | | | | | | | | | | | | | | |
| AChem | | | | | | | | | | | | | | | | | |
| AFerti | | | | | | | | | | | | | | | | | |
| APetroP | | | | | | | | | | | | | | | | | |
| AClayP | | | | | | | | | | | | | | | | | |
| AShel | | | | | | | | | | | | | | | | | |
| AMachm | | | | | | | | | | | | | | | | | |
| AMiscInd | | | | | | | | | | | | | | | | | |
| AIrthBuil | | | | | | | | | | | | | | | | | |
| ARurBuil | | | | | | | | | | | | | | | | | |
| AConst | | | | | | | | | | | | | | | | | |
| AUtility | | | | | | | | | | | | | | | | | |
| ATradeS | | | | | | | | | | | | | | | | | |
| ATransS | | | | | | | | | | | | | | | | | |
| AHous | | | | | | | | | | | | | | | | | |
| AHealth | | | | | | | | | | | | | | | | | |
| AEdu | | | | | | | | | | | | | | | | | |
| APubAdm | | | | | | | | | | | | | | | | | |
| AFinS | | | | | | | | | | | | | | | | | |
| AOthS | | | | | | | | | | | | | | | | | |
| AHotel | | | | | | | | | | | | | | | | | |
| AComm | | | | | | | | | | | | | | | | | |
| CPaddy | | | | | | | | | | | | | | | | | |
| CGrains | | | | | | | | | | | 0.001 | 0.015 | 0.037 | 0.037 | 0.002 | 0.021 | 0.001 |
| CJute | | | | | | | | | | | | 0.009 | 0.021 | 0.021 | 0.001 | 0.012 | 0.000 |
| CComCrop | | | | | | | | | | | 0.297 | 1.686 | 1.336 | 0.930 | 0.465 | 1.255 | 0.202 |
| COthCrop | | | | | | | | | | | 0.091 | 2.117 | 8.566 | 9.896 | 0.164 | 4.155 | 0.064 |
| CLivesto | | | | | | | | | | | 0.071 | 1.083 | 2.646 | 4.433 | 0.211 | 2.626 | 0.089 |
| CFoultry | | | | | | | | | | | 0.030 | 0.473 | 1.172 | 1.970 | 0.089 | 1.155 | 0.038 |
| COthFish | | | | | | | | | | | 0.230 | 3.693 | 9.222 | 9.751 | 0.564 | 6.739 | 0.239 |
| CForest | | | | | | | | | | | 0.321 | 3.709 | 7.487 | 6.256 | 0.440 | 5.469 | 0.186 |
| CRiceMl | | | | | | | | | | | 3.788 | 27.661 | 36.802 | 19.606 | 3.333 | 35.717 | 1.485 |
| CAtaFlou | | | | | | | | | | | 0.094 | 1.080 | 1.695 | 0.974 | 0.108 | 1.445 | 0.045 |
| COthFood | | | | | | | | | | | 0.187 | 3.017 | 9.190 | 11.524 | 0.448 | 5.968 | 0.189 |
| CLeather | | | | | | | | | | | 0.007 | 0.087 | 0.408 | 0.554 | 0.019 | 0.237 | 0.008 |
| CJuteTex | | | | | | | | | | | 0.022 | 0.320 | 0.876 | 1.030 | 0.046 | 0.682 | 0.020 |
| CYam | | | | | | | | | | | | | | | 0.000 | | 0.000 |
| CMdClot | | | | | | | | | | | 0.041 | 0.348 | 0.497 | 0.472 | 0.083 | 0.489 | 0.036 |
| CCloth | | | | | | | | | | | 0.226 | 2.875 | 7.117 | 8.088 | 0.464 | 5.756 | 0.196 |
| CGarment | | | | | | | | | | | 0.037 | 0.462 | 1.227 | 1.401 | 0.077 | 0.987 | 0.033 |
| COthText | | | | | | | | | | | | 0.005 | 0.002 | | 0.001 | 0.004 | 0.000 |
| CTobP | | | | | | | | | | | 0.166 | 1.903 | 3.803 | 3.307 | 0.228 | 2.725 | 0.097 |
| CWoodP | | | | | | | | | | | 0.011 | 0.080 | 0.245 | 0.309 | 0.026 | 0.211 | 0.011 |
| CChem | | | | | | | | | | | 0.052 | 0.625 | 1.295 | 1.329 | 0.118 | 1.147 | 0.051 |
| CFerti | | | | | | | | | | | | | | | | | |
| CPetroP | | | | | | | | | | | 0.038 | 0.411 | 0.849 | 0.710 | 0.099 | 0.922 | 0.042 |
| AClayP | | | | | | | | | | | 0.011 | 0.112 | 0.776 | 1.612 | 0.038 | 0.374 | 0.016 |
| CShel | | | | | | | | | | | | 0.001 | 0.006 | 0.087 | 0.000 | 0.006 | 0.000 |
| CMachm | | | | | | | | | | | 0.004 | 0.025 | 0.091 | 0.149 | 0.012 | 0.098 | 0.005 |
| CMiscInd | | | | | | | | | | | 0.003 | 0.036 | 0.144 | 0.318 | 0.011 | 0.138 | 0.005 |
| CIrthBuil | | | | | | | | | | | | | | | | | |
| CRurBuil | | | | | | | | | | | | | | | | | |
| CConst | | | | | | | | | | | | | | | | | |
| CUtility | | | | | | | | | | | 0.019 | 0.229 | 0.610 | 0.547 | 0.049 | 0.615 | 0.021 |
| CTradeS | | | | | | | | | | | | | | | | | |
| CTransS | | | | | | | | | | | 0.184 | 2.638 | 10.389 | 15.822 | 1.039 | 13.706 | 0.438 |
| CHous | | | | | | | | | | | 0.193 | 3.002 | 7.956 | 12.004 | 0.539 | 6.820 | 0.228 |
| AHealth | | | | | | | | | | | 0.030 | 0.467 | 1.589 | 3.030 | 0.111 | 1.387 | 0.046 |
| CEdu | | | | | | | | | | | 0.016 | 0.232 | 0.960 | 1.813 | 0.095 | 1.204 | 0.040 |
| CPubAdm | | | | | | | | | | | 0.002 | 0.025 | 0.055 | 0.072 | 0.004 | 0.051 | 0.002 |
| CFinS | | | | | | | | | | | 0.377 | 4.304 | 9.901 | 12.729 | 0.680 | 9.099 | 0.287 |
| AOthS | | | | | | | | | | | 0.177 | 2.012 | 4.590 | 5.884 | 0.320 | 4.230 | 0.135 |
| AHotel | | | | | | | | | | | 0.101 | 0.920 | 2.203 | 1.956 | 0.237 | 3.220 | 0.100 |
| AComm | | | | | | | | | | | 0.002 | 0.020 | 0.044 | 0.057 | 0.003 | 0.041 | 0.001 |
| LEdu0M | | | | | | | | | | | | | | | | | |
| LEdu1M | | | | | | | | | | | | | | | | | |
| LEdu2M | | | | | | | | | | | | | | | | | |
| LEdu3M | | | | | | | | | | | | | | | | | |
| LEdu0F | | | | | | | | | | | | | | | | | |
| LEdu1F | | | | | | | | | | | | | | | | | |
| LEdu2F | | | | | | | | | | | | | | | | | |
| LEdu3F | | | | | | | | | | | | | | | | | |
| LAND | | | | | | | | | | | | | | | | | |
| CAPITAL | | | | | | | | | | | | | | | | | |
| Landless | 3.721 | 1.079 | 0.307 | | 0.580 | 0.121 | | | | | | | | | 0.011 | | 0.000 |
| Marginal | 36.841 | 15.228 | 5.048 | 0.936 | 6.767 | 1.785 | 0.306 | 0.174 | | | | | | | 0.002 | | 0.000 |
| Small | 26.261 | 22.298 | 13.765 | 7.557 | 5.855 | 3.475 | 1.288 | 0.941 | 56.656 | | 0.002 | 0.004 | | 0.154 | | 0.002 | 0.000 |
| Large | 10.524 | 11.242 | 13.493 | 11.127 | 2.614 | 2.194 | 1.479 | 1.012 | 104.056 | | | | | | | | |
| NARFF | 0.561 | 0.428 | 0.196 | 0.162 | 1.275 | 0.215 | 0.079 | 0.184 | | | | | | | | | |
| NARPM | 23.021 | 20.054 | 11.067 | 7.876 | 4.073 | 2.225 | 0.895 | 0.401 | | | | | | | | | |
| NARFP | 0.098 | | 0.029 | 0.217 | 0.111 | 0.043 | | 0.079 | | | | | | | | | |
| NARRM | 5.040 | 10.427 | 10.427 | 19.396 | 1.370 | 1.834 | 1.419 | 1.505 | | | | | | | | | |
| Illitera | 26.998 | 5.603 | 2.976 | 1.512 | 3.642 | 0.798 | 0.359 | 0.109 | | | | | | | | | |
| LowEdu | 1.009 | 27.625 | 4.840 | 2.744 | 0.720 | 1.939 | 0.338 | 0.395 | | | 0.011 | 0.016 | 0.055 | 2.480 | | | 0.010 |
| MedEdu | 0.182 | 1.265 | 32.282 | 5.162 | 0.404 | 0.635 | 1.178 | 0.519 | | | 0.042 | 0.056 | 0.085 | 4.471 | | | 0.028 |
| HighEdu | 0.252 | 0.776 | 2.530 | 74.208 | 1.060 | 0.536 | 0.919 | 6.119 | | | | | | | | | |
| CORP | | | | | | | | | | 542.143 | | | | | | | |
| ITAX | | | | | | | | | | | | | | | | | |
| TAR | | | | | | | | | | | | | | | | | |
| GOV | | | | | | | | | | | | | 1.564 | 1.742 | | | |
| ROW | | | | | | | | | | | | | | | | | |
| SI | | | | | | | | | | | | 1.460 | 12.112 | 26.380 | | | 3.598 |
| TOTAL | 134.506 | 116.025 | 96.961 | 130.896 | 28.471 | 15.800 | 8.360 | 11.439 | 160.711 | 542.143 | 6.926 | 67.227 | 147.622 | 173.839 | 10.124 | 118.833 | 7.998 |

Appendix 8 (continued) - The 1993-94 social accounting matrix for Bangladesh

| | NARFM | Illitea | LowEdu | MedEdu | HighEdu | CORP | ITAX | TAR | GOV | ROW | S.I | TOTAL |
|----------|--------|---------|--------|---------|---------|---------|--------|--------|--------|---------|---------|---------|
| APaddy1 | | | | | | | | | | | | 85 013 |
| APaddy2 | | | | | | | | | | | | 108 033 |
| AGrains | | | | | | | | | | | | 9 409 |
| AJute | | | | | | | | | | | | 10 638 |
| AComCrop | | | | | | | | | | | | 19 528 |
| AOthCrop | | | | | | | | | | | | 86 389 |
| ALivesto | | | | | | | | | | | | 68 573 |
| AFoultry | | | | | | | | | | | | 17 524 |
| AOthFish | | | | | | | | | | | | 76 302 |
| AForest | | | | | | | | | | | | 69 061 |
| ARiceMl | | | | | | | | | | | | 224 371 |
| AAtaFlou | | | | | | | | | | | | 18 009 |
| AOthFood | | | | | | | | | | | | 84 139 |
| ALeathbr | | | | | | | | | | | | 15 717 |
| AJuteTex | | | | | | | | | | | | 20 648 |
| AYam | | | | | | | | | | | | 18 332 |
| AMdClot | | | | | | | | | | | | 9 796 |
| ACloth | | | | | | | | | | | | 56 844 |
| AGarment | | | | | | | | | | | | 68 637 |
| AOthText | | | | | | | | | | | | 2 519 |
| ATobP | | | | | | | | | | | | 12 945 |
| AWoodP | | | | | | | | | | | | 26 182 |
| AChem | | | | | | | | | | | | 29 645 |
| AFerti | | | | | | | | | | | | 11 583 |
| APetroP | | | | | | | | | | | | 16 816 |
| AClayP | | | | | | | | | | | | 10 967 |
| AShel | | | | | | | | | | | | 30 072 |
| AMachm | | | | | | | | | | | | 9 429 |
| AMiscInd | | | | | | | | | | | | 17 302 |
| AIrhEual | | | | | | | | | | | | 48 900 |
| ARurEual | | | | | | | | | | | | 153 453 |
| AConst | | | | | | | | | | | | 27 537 |
| AUtility | | | | | | | | | | | | 40 978 |
| ATradeS | | | | | | | | | | | | 266 909 |
| ATransS | | | | | | | | | | | | 250 515 |
| AHous | | | | | | | | | | | | 116 925 |
| AHealth | | | | | | | | | | | | 20 045 |
| AEdu | | | | | | | | | | | | 32 365 |
| APubAdm | | | | | | | | | | | | 46 081 |
| AFinS | | | | | | | | | | | | 118 037 |
| AOthS | | | | | | | | | | | | 54 291 |
| AHotel | | | | | | | | | | | | 22 883 |
| AComm | | | | | | | | | | | | 10 733 |
| CPaddy | | | | | | | | | | | | 193 066 |
| CGrains | 0.014 | 0.009 | 0.011 | 0.014 | 0.016 | | | | | | | 14 099 |
| CJute | 0.008 | 0.005 | 0.006 | 0.008 | 0.010 | | | | | | | 10 638 |
| CComCrop | 1.076 | 1.114 | 0.999 | 0.412 | 0.029 | | | | | 0.001 | | 26 581 |
| COthCrop | 2.231 | 1.108 | 1.725 | 3.630 | 14.209 | | | | | 0.321 | | 88 462 |
| CLivesto | 1.635 | 1.395 | 2.596 | 4.696 | 10.222 | | | | | 0.090 | | 69 980 |
| CFoultry | 0.717 | 0.606 | 1.133 | 2.086 | 4.716 | | | | | | | 17 534 |
| COthFish | 4.231 | 2.785 | 3.667 | 5.524 | 8.042 | | | | | 7.634 | | 76 451 |
| CForest | 3.404 | 2.221 | 2.297 | 2.410 | 1.708 | | | | | | | 69 061 |
| CRiceMl | 21 434 | 17 608 | 15 643 | 19 875 | 16 476 | | | | | 0.005 | | 224 480 |
| CAtaFlou | 0.887 | 0.564 | 0.647 | 0.805 | 1.019 | | | | | | | 18 038 |
| COthFood | 3.862 | 2.633 | 3.387 | 6.376 | 12.508 | | | | | 4.815 | | 92 780 |
| CLeather | 0.210 | 0.127 | 0.233 | 0.529 | 1.722 | | | | | | | 16 038 |
| CLuteTex | 0.415 | 0.266 | 0.437 | 0.776 | 1.869 | | | | | | | 21 201 |
| CYam | | | | | | | | | | 0.134 | | 29 836 |
| CMdClot | 0.357 | 0.312 | 0.401 | 0.352 | 0.173 | | | | | 0.024 | | 37 463 |
| CCloth | 3.585 | 2.419 | 3.828 | 6.033 | 11.348 | | | | | | | 56 844 |
| CGarment | 0.589 | 0.395 | 0.629 | 1.052 | 2.039 | | | | | 60 072 | | 69 509 |
| COthText | 0.004 | 0.005 | 0.005 | | | | | | | | | 5 184 |
| CTobP | 1.711 | 1.106 | 1.591 | 2.264 | 2.587 | | | | | 0.002 | | 21 729 |
| CWoodP | 0.144 | 0.073 | 0.087 | 0.231 | 0.194 | | | | | 0.008 | 7 048 | 31 302 |
| CChem | 0.754 | 0.610 | 0.874 | 1.065 | 1.227 | | | | | | | 54 067 |
| CFerti | | | | | | | | | | 0.720 | | 13 437 |
| CPetroP | 0.611 | 1.017 | 1.619 | 2.482 | 3.064 | | | | | 0.319 | | 39 519 |
| CClayP | 0.246 | 0.155 | 0.274 | 0.271 | 0.520 | | | | | 0.227 | | 22 227 |
| CShel | 0.004 | 0.002 | 0.004 | 0.005 | 1.722 | | | | | | 9 478 | 54 619 |
| CMachm | 0.069 | 0.048 | 0.078 | 0.111 | 0.143 | | | | | 0.417 | 22 587 | 54 103 |
| CMiscInd | 0.087 | 0.050 | 0.096 | 0.214 | 0.793 | | | | | 0.892 | | 28 998 |
| CIrhEual | | | | | | | | | | | 35 826 | 48 900 |
| CRurEual | | | | | | | | | | | 143 957 | 153 453 |
| CConst | | | | | | | | | | | 26 874 | 27 537 |
| CUtility | 0.376 | 0.579 | 0.994 | 1.893 | 3.794 | | | | | | | 46 803 |
| CTradeS | | | | | | | | | | | | 267 172 |
| CTransS | 8.423 | 6.169 | 9.416 | 20.710 | 81.045 | | | | | | | 250 519 |
| CHous | 4.229 | 4.160 | 7.807 | 12.251 | 36.277 | | | | | | | 116 925 |
| AHealth | 0.864 | 0.575 | 0.773 | 1.688 | 2.546 | | | | 6.491 | | | 20 049 |
| CEdu | 0.730 | 0.337 | 0.989 | 2.285 | 5.534 | | | | | 18 059 | | 32 380 |
| CPubAdm | 0.033 | 0.024 | 0.038 | 0.068 | 0.166 | | | | | 32 587 | | 46 180 |
| CFinS | 5.577 | 4.025 | 6.568 | 11.759 | 29 809 | | | | | | | 118 649 |
| COthS | 2.600 | 1.883 | 3.063 | 5.436 | 13 306 | | | | | | | 54 291 |
| AHotel | 1.989 | 2.187 | 2.064 | 2.038 | 4.832 | | | | | | | 22 113 |
| AComm | 0.026 | 0.019 | 0.030 | 0.034 | 0.163 | | | | | | | 11 375 |
| LEdu0M | | | | | | | | | | | | 134 506 |
| LEdu1M | | | | | | | | | | | | 116 025 |
| LEdu2M | | | | | | | | | | | | 96 961 |
| LEdu3M | | | | | | | | | | | | 130 896 |
| LEdu0F | | | | | | | | | | | | 28 471 |
| LEdu1F | | | | | | | | | | | | 15 800 |
| LEdu2F | | | | | | | | | | | | 8 360 |
| LEdu3F | | | | | | | | | | | | 11 439 |
| LAND | | | | | | | | | | | | 160 711 |
| CAPITAL | | | | | | | | | | | | 542 143 |
| Landless | 0.001 | | | 0.520 | 0.587 | | | | | | | 6 926 |
| Marginal | 0.000 | | | 0.036 | 0.023 | | | | | | | 67 227 |
| Small | 0.015 | | | 0.327 | 0.214 | 6.907 | | | 0.640 | 1.262 | | 147 622 |
| Large | 0.002 | | | 0.088 | 0.096 | 12.673 | | | 1.134 | 2.231 | | 173 859 |
| NARFF | | | | 0.007 | 0.004 | 6.422 | | | 0.198 | 0.391 | | 10 124 |
| NARFM | | | | 0.050 | 0.030 | 45 084 | | | 1.359 | 2.699 | | 118 833 |
| NARRF | | | | 0.008 | 0.005 | 6.755 | | | 0.219 | 0.431 | | 7 998 |
| NARFM | | | | 0.047 | 0.029 | 40 688 | | | 1.288 | 2.545 | | 96 015 |
| Illitea | 0.063 | | | 4.321 | 6.055 | | | | 1.818 | 1.139 | | 57 968 |
| LowEdu | 0.170 | 1.354 | | 11.203 | 5.872 | 23 051 | | | 0.803 | 1.596 | | 88 363 |
| MedEdu | | | | | | 106 855 | | | 8 839 | 17 451 | | 174 865 |
| HighEdu | | | | | | 253 187 | | | 9 666 | 19 020 | | 368 270 |
| CORP | | | | | | | | | | | | 542 143 |
| ITAX | | | | | | | | | | | | 42 156 |
| TAR | | | | | | | | | | | | 29 246 |
| GOV | | | | 1.743 | 3.071 | 15 772 | 42 156 | 29 246 | | | | 95 294 |
| ROW | | | | | | | | | | 12 193 | 11 352 | 158 856 |
| S.I | 22 834 | | 14 154 | 37 077 | 79 862 | 24 748 | | | | | | 245 770 |
| TOTAL | 96 015 | 57 968 | 88 363 | 174 865 | 368 270 | 542 143 | 42 156 | 29 246 | 95 294 | 158 856 | 245 770 | |

List of Discussion Papers

- No. 40 - "Parameter Estimation for a Computable General Equilibrium Model: A Maximum Entropy Approach" by Channing Arndt, Sherman Robinson and Finn Tarp (February 1999)
- No. 41 - "Trade Liberalization and Complementary Domestic Policies: A Rural-Urban General Equilibrium Analysis of Morocco" by Hans Löfgren, Moataz El-Said and Sherman Robinson (April 1999)
- No. 42 - "Alternative Industrial Development Paths for Indonesia: SAM and CGE Analysis" by Romeo M. Bautista, Sherman Robinson and Moataz El-Said (May 1999)
- No. 43* - "Marketing Margins and Agricultural Technology in Mozambique" by Channing Arndt, Henning Tarp Jensen, Sherman Robinson and Finn Tarp (July 1999)
- No. 44 - "The Distributional Impact of Macroeconomic Shocks in Mexico: Threshold Effects in a Multi-Region CGE Model" by Rebecca Lee Harris (July 1999)
- No. 45 - "Economic Growth and Poverty Reduction in Indochina: Lessons From East Asia" by Romeo M. Bautista (September 1999)
- No. 46* - "After the Negotiations: Assessing the Impact of Free Trade Agreements in Southern Africa" by Jeffrey D. Lewis, Sherman Robinson and Karen Thierfelder (September 1999)
- No. 47* - "Impediments to Agricultural Growth in Zambia" by Rainer Wichern, Ulrich Hausner and Dennis K. Chiwele (September 1999)
- No. 48 - "A General Equilibrium Analysis of Alternative Scenarios for Food Subsidy Reform in Egypt" by Hans Lofgren and Moataz El-Said (September 1999)
- No. 49*- "A 1995 Social Accounting Matrix for Zambia" by Ulrich Hausner (September 1999)
- No. 50 - "Reconciling Household Surveys and National Accounts Data Using a Cross Entropy Estimation Method" by Anne-Sophie Robilliard and Sherman Robinson (November 1999)

- No. 51 - "Agriculture-Based Development: A SAM Perspective on Central Viet Nam" by Romeo M. Bautista (January 2000)
- No. 52 - "Structural Adjustment, Agriculture, and Deforestation in the Sumatera Regional Economy" by Nu Nu San, Hans Löfgren and Sherman Robinson (March 2000)
- No. 53 - "Empirical Models, Rules, and Optimization: Turning Positive Economics on its Head" by Andrea Cattaneo and Sherman Robinson (April 2000)
- No. 54 - "Small Countries and the Case for Regionalism vs. Multilateralism" by Mary E. Burfisher, Sherman Robinson and Karen Thierfelder (May 2000)
- No. 55 - "Genetic Engineering and Trade: Panacea or Dilemma for Developing Countries" by Chantal Pohl Nielsen, Sherman Robinson and Karen Thierfelder (May 2000)
- No. 56 - "An International, Multi-region General Equilibrium Model of Agricultural Trade Liberalization in the South Mediterranean NIC's, Turkey, and the European Union" by Ali Bayar, Xinshen Diao, A. Erinc Yeldan (May 2000)
- No. 57* - "Macroeconomic and Agricultural Reforms in Zimbabwe: Policy Complementarities Toward Equitable Growth" by Romeo M. Bautista and Marcelle Thomas (June 2000)
- No. 58 - "Updating and Estimating a Social Accounting Matrix Using Cross Entropy Methods" by Sherman Robinson, Andrea Cattaneo and Moataz El-Said (August 2000)
- No. 59 - "Food Security and Trade Negotiations in the World Trade Organization : A Cluster Analysis of Country Groups" by Eugenio Diaz-Bonilla, Marcelle Thomas, Andrea Cattaneo and Sherman Robinson (November 2000)
- No. 60* - "Why the Poor Care About Partial Versus General Equilibrium Effects Part 1: Methodology and Country Case" by Peter Wobst (November 2000)
- No. 61 - "Growth, Distribution and Poverty in Madagascar : Learning from a Microsimulation Model in a General Equilibrium Framework" by Denis Cogneau, and Anne-Sophie Robilliard (November 2000)

- No. 62 - “Farmland Holdings, Crop Planting Structure and Input Usage: An Analysis of China’s Agricultural Census” by Xinshen Diao, Yi Zhang, and Agapi Somwaru (November 2000)
- No. 63 - “Rural Labor Migration, Characteristics, and Employment Patterns: A Study Based on China’s Agricultural Census” by Francis Tuan, Agapi Somwaru and Xinshen Diao (November 2000)
- No. 64 - “GAMS Code for Estimating a Social Accounting Matrix (SAM) Using Cross Entropy (CE) Methods” by Sherman Robinson and Moataz El-Said (December 2000)
- No. 65 - “A Computable General Equilibrium Analysis of Mexico’s Agricultural Policy Reforms” by Rebecca Lee Harris (January 2001)
- No. 66 - “Distribution and Growth in Latin America in an Era of Structural Reform” by Samuel A. Morley (January 2001)
- No. 67 - “What has Happened to Growth in Latin America” by Samuel A. Morley (January 2001)
- No. 68 - “China’s WTO Accession: Conflicts with Domestic Agricultural Policies and Institutions” by Hunter Colby, Xinshen Diao, and Francis Tuan (January 2001)
- No. 69 - “A 1998 Social Accounting Matrix for Malawi” by Osten Chulu and Peter Wobst (February 2001)
- No. 70 - “A CGE Model for Malawi: Technical Documentation” by Hans Löfgren (February 2001)
- No. 71 - “External Shocks and Domestic Poverty Alleviation: Simulations with a CGE Model of Malawi” by Hans Löfgren with Osten Chulu, Osky Sichinga, Franklin Simtowe, Hardwick Tchale, Ralph Tseka, and Peter Wobst (February 2001)
- No. 72 - “Less Poverty in Egypt? Explorations of Alternative Pasts with Lessons for the Future” Hans Löfgren (February 2001)

No. 73 - “Macro Policies and the Food Sector in Bangladesh: A General Equilibrium Analysis” Marzia Fontana, Peter Wobst, and Paul Dorosh (February 2001)

No. 74 - “A gendered 1993-94 Social Accounting Matrix for Bangladesh” Marzia Fontana, and Peter Wobst (April 2001)

TMD Discussion Papers marked with an ‘*’ are MERRISA-related. Copies can be obtained by calling Maria Cohan at 202-862-5627 or e-mail: m.cohan@cgiar.org