

**POVERTY PROFILE AND POVERTY
ALLEVIATION EFFECTS IN BANGLADESH
A SAM BASED ANALYSIS**

MAP TECHNICAL PAPER SERIES No. 2

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1. INTRODUCTION

Raising the living standards of the vast majority of the poor is the prime objective of development efforts in Bangladesh. Over the years, substantial resources, both financial and others, have increasingly been devoted to poverty alleviation programmes in realizing the objectives. These have also been supplemented by various studies to analyze the poverty profile, to understand the causal factors in poverty and to examine and monitor relative efficacy of alternative sectoral interventions in alleviating poverty. However, the focus of most of these studies is limited within a micro framework based on sample surveys. In this paper, a macro framework has been adopted to perform alternative simulations and analyze their poverty alleviation impacts. A social accounting matrix (SAM) constructed for 1992/93, served as the data base for the analysis (CIRDAP 1997). The novelty of the approach is that it uses a general equilibrium framework which enables the estimation of direct and indirect impacts of exogenous shocks. The decomposition of the multipliers into direct and indirect effects provides information on causal linkages underlying the structure of the economy.

Like any other modelling system, the SAM has its own limitations. The SAM multipliers may overestimate the adjustments to exogenous shocks. They do not allow substitutions, and there is no room for price effects. It does, however, correctly estimate the interdependence between production and primary and secondary distribution of income (Adelman and Robinson 1989).

The remainder of the paper is organised in five sections. Section 2 shows the derivation of SAM multipliers. The results of accounting multipliers are briefly discussed in Section 3. Poverty measures and their association with accounting multipliers are established in Section 4. The simulation results are discussed in Section 5. Section 6 presents the concluding observations and some policy options.

2. SOCIAL ACCOUNTING MULTIPLIERS FOR BANGLADESH

One of the uses of the SAM is to generate impact multipliers of socio-economic linkages on the basis of an accounting model which can depict, among other things, the sectors with large linkages on which development policy can focus. The SAM model analyses these linkages within a general equilibrium framework that enables the estimation of direct and indirect impacts of exogenous shocks. The computation of these linkages provides insights into the level of complexity of the economy. On the other hand, the decomposition of the multipliers into direct and indirect effects shows information on the causal linkages underlying the structure of the economy.

A SAM multiplier model is an extension of the input-output type fixed priced demand driven model with the addition that the SAM model takes into account the structure of factor income and its distribution across institutions along with production structure of the economy. The degree of linearity assumptions increases with the extension of input-output table into a SAM. In the SAM model, the average tax rate, savings rate, investment expenditure, the distribution of value added among factors, and the sectoral composition of consumption are assumed to be fixed. A SAM model is very much a general equilibrium model satisfying the “Walras Law” (e.g., the excess demand is zero) along with maintaining the major macro balances and allowing a “Keynesian” closure.

To move from a SAM to a model structure requires that each account should be designated as an endogenous or exogenous account. Generally, the government, the capital, and the rest of the world accounts are treated as exogenous on the assumption that spending decisions of the government, investment decisions of the firms, exports and inflows of foreign capital are externally determined. The model thus becomes “Keynesian” as supplies are assumed to adjust to demand. The treatment of some accounts as exogenous basically closes the model.

For the purpose of derivation of SAM multipliers, the data SAM is presented schematically separating the endogenous accounts and consolidating the exogenous accounts into one aggregate (Table 1).

Table 1: Schematic Presentation of Data SAM

	Factor	Household	Activities	Others A/C	Total
Factor	0	0	S_{13}	0	Y_1
Household	S_{21}	0	0	S_{24}	Y_2
Activities	0	S_{32}	S_{33}	S_{34}	Y_3
Others A/C	0	S_{42}	S_{43}	S_{44}	Y_4
Total	Y_1	Y_2	Y_3	Y_4	

(1)

Matrix S_{13} shows generation of value added for nine factors by eleven production sectors. S_{21} Depicts the distribution of household income from factors. Matrix S_{32} reveals the expenditure patterns of household groups. S_{33} shows the interdependence among sectors i.e. the input-output transactions matrix. The remaining accounts e.g. government, corporate, rest of the world, and capital accounts are treated as exogenous and are consolidated into one account classified here as the “other” account. Rest of the accounts are called leakages. The next step is to obtain coefficient matrices A_{ij} , dividing each elements of the SAM, S_{ij} by the corresponding column total Y_j .

$$\begin{bmatrix} Y_1 \\ Y_2 \\ Y_3 \\ Y_4 \end{bmatrix} = \begin{bmatrix} 0 & 0 & A_{13} \\ A_{21} & 0 & 0 \\ 0 & A_{32} & A_{33} \\ 0 & A_{42} & A_{43} \end{bmatrix} \begin{bmatrix} Y_1 \\ Y_2 \\ Y_3 \\ Y_4 \end{bmatrix} + \begin{bmatrix} X_1 \\ X_2 \\ X_3 \\ X_4 \end{bmatrix} \quad (2)$$

Separation of endogenous accounts from leakages yields the following equation

$$\begin{bmatrix} Y_1 \\ Y_2 \\ Y_3 \end{bmatrix} = \begin{bmatrix} 0 & 0 & A_{13} \\ A_{21} & 0 & 0 \\ 0 & A_{32} & A_{33} \end{bmatrix} * \begin{bmatrix} Y_1 \\ Y_2 \\ Y_3 \end{bmatrix} + \begin{bmatrix} X_1 \\ X_2 \\ X_3 \end{bmatrix} \quad (3)$$

$$\text{and } Y_4 = A_{42}Y_2 + A_{43}Y_3 + X_4 \quad (4)$$

Aggregating the exogenous accounts into one vector X , defining the total incomes of the endogenous accounts as vector Y , and the transactions of the endogenous accounts relative to total income as matrix A leads to the following model solutions:

$$Y = A \cdot Y + X = (I - A)^{-1} \cdot X = M \cdot X \quad (5)$$

Where M is the aggregate multiplier matrix. Equation 5 can be written as :

$$Y = M \cdot X = (I + T + O + C) \cdot X \quad (6)$$

where I is the initial impulse or identity multiplier (unit increase); T is the transfer multiplier; O is the open-loop multiplier; and C is the closed-loop multiplier. The aggregate M matrix is decomposed into three matrices. That is

$$M = M_3 \cdot M_2 \cdot M_1 \quad (7)$$

where, $M_1 = (I - A_{00})^{-1}$ is the direct multiplier. It captures effects of transfers within accounts. $M_2 = (I + A^{01} + A^{02})$ is the indirect or circular multiplier. It indicates how an exogenous injection into the economy will result in endogenous demand which circulate back to increase incomes beyond the size of the initial injection. $M_3 = (I - A^{03})^{-1}$ is the cross multiplier which captures the effects of an exogenous injection into one part of the economy on other parts.

The additive decomposition of aggregate multiplier can also be written as :

$$T = (M_1 - I); \quad O = (M_2 - I) \cdot M_1; \quad \text{and} \quad C = (M_3 - I) \cdot M_2 \cdot M_1 \quad (8)$$

Detailed derivation of SAM multipliers is provided in Appendix 1.

3. COMPUTATION OF ACCOUNTING MULTIPLIERS AND THEIR IMPLICATIONS

Direct, indirect and cross effects and finally total multipliers for 30 accounts have been computed following the methodology of multiplier derivation discussed in Section 2. Furthermore, transfer effect multipliers, open-loop multipliers and closed-loop multipliers are also calculated using the information of derived direct, indirect and cross effect multipliers. Detailed results of multiplier computation and subsequent decomposition of total multipliers are presented in Appendix 2 (Table 1 to Table 7). For the purpose of brevity of discussion, the aggregate values of the multipliers decomposed into different types of effects are presented in Table 2. Values in column M give the sum of the columns / rows of the aggregate multiplier matrix; **I**, **T**, **O**, and **C** denote the sum of the column / rows of the unit matrix of initial impulse, the matrix of transfer multiplier, the matrix of open-loop multiplier, and the matrix of closed-loop multiplier.

Table 2 : Decomposition of Total Multiplier Effects

	Column Total					Row Total				
Description	M	I	T	O	C	M	I	T	O	C
Administrative	9.025	1.000	0.000	2.281	5.744	2.768	1.000	0.000	0.629	1.139
Service	9.145	1.000	0.000	2.303	5.843	6.851	1.000	0.000	2.108	3.743
Agri-Hired	8.649	1.000	0.000	2.209	5.440	5.552	1.000	0.000	0.916	3.637
Agri-FLSF	8.687	1.000	0.000	2.221	5.466	4.392	1.000	0.000	0.684	2.708
Agri-FLLF	8.693	1.000	0.000	2.225	5.468	5.382	1.000	0.000	0.877	3.505
Workers-Skilled	8.437	1.000	0.000	2.176	5.261	3.821	1.000	0.000	0.791	2.030
Workers-Semi	9.663	1.000	0.000	2.407	6.257	1.589	1.000	0.000	0.200	0.389
Workers-unskil	8.684	1.000	0.000	2.224	5.459	1.629	1.000	0.000	0.191	0.437
Capital	7.912	1.000	0.000	1.993	4.919	26.789	1.000	0.000	6.118	19.671
PHH	6.522	1.000	0.000	1.555	3.967	9.754	1.000	0.000	2.195	6.559
SHH	7.673	1.000	0.000	1.896	4.777	11.035	1.000	0.000	2.109	7.926
AGRL	8.850	1.000	0.000	2.208	5.642	6.012	1.000	0.000	1.550	3.462
AGRSF	8.493	1.000	0.000	2.071	5.422	7.063	1.000	0.000	1.535	4.528
AGRLF	8.243	1.000	0.000	2.027	5.216	16.977	1.000	0.000	4.570	11.407
PTWSK	6.002	1.000	0.000	1.408	3.593	4.439	1.000	0.000	1.091	2.348
PTWSS	5.750	1.000	0.000	1.331	3.419	2.538	1.000	0.000	0.553	0.984
PTWUS	8.820	1.000	0.000	2.207	5.613	6.035	1.000	0.000	2.290	2.745
Food Grains	8.782	1.000	0.480	1.709	5.594	16.330	1.000	0.181	4.081	11.068
Other Agriculture	8.993	1.000	0.415	1.779	5.799	19.922	1.000	0.867	4.811	13.244
Prossed Food	6.593	1.000	0.882	1.094	3.616	8.192	1.000	0.344	1.834	5.013
Clothing	4.285	1.000	0.673	0.603	2.009	5.166	1.000	0.928	0.838	2.401
Export Industries	7.606	1.000	1.245	1.241	4.119	2.420	1.000	0.140	0.319	0.962
Other Industries	5.990	1.000	0.957	0.942	3.091	14.606	1.000	2.563	2.880	8.163
Machinery	2.740	1.000	0.341	0.324	1.076	4.664	1.000	0.547	0.795	2.322
Construction	7.896	1.000	1.134	1.357	4.405	2.053	1.000	0.140	0.234	0.678
Education	10.004	1.000	0.042	1.972	6.989	1.582	1.000	0.000	0.137	0.445
Health	8.820	1.000	0.505	1.664	5.650	1.726	1.000	0.000	0.188	0.537
Services	8.574	1.000	0.268	1.697	5.609	20.240	1.000	1.232	4.597	13.411

The vector of the sum of column gives the “backward” linkages of the sector and envisages the measure of the opportunities offered to suppliers arising from marginal changes in final demand. On the other hand, the vector of the sum of row gives the “forward” linkages or the impact of changes in supply on output of the using sectors. The ranking of various sectors according to the degree of linkage (backward and forward) with the rest of the economy is provided in Table 3.

Table 3: Ranking of Accounts by Highest Multiplier Effect

Sum of column Elements Matrix M	Sum of Row Elements Matrix M
Education Sector	Capital Factor
Workers-Semi Skilled Factor	Services Sector
Service Factor	Other Agricultural Sector
Administrative Factor	Agri- Family Labour Large Farm Household
Other Agriculture Sector	Food Grains Sector
Agricultural Labour Household	Other Industries Sector
Health Sector	Service Household
Workers Unskilled Household	Professional Household
Food Grains Sector	Processed Food Sector
Agri-Family Labour Large Farm Factor	Agricultural Small Farm Household
Agri-Family Labour Small Farm Factor	Service Factor
Workers-unskilled Factor	Workers-Unskilled Household
Agri-Hired Labour Factor	Agricultural Labour Household
Services Sector	Agri-Hired Labour Factor
Agricultural Small Farm Household	Agri-Family Labour Large Farm Factor
Workers-Skilled Factor	Clothing Sector
Agricultural Large Farm Household	Machinery Sector
Capital Factor	Workers-Skilled Household
Construction Sector	Agri-Family Labour Small Farm Factor
Service Household	Workers-Skilled Factor
Export Industries Sector	Administrative Factor
Processed Food Sector	Workers-Semi Skilled Household
Professional Household	Export Industries Sector
Workers-Skilled Household	Construction Sector
Other Industries sector	Health Sector
Workers-Semi Skilled Household	Workers-unskilled Factor
Clothing Sector	Workers-Semi Skilled Factor
Machinery Sector	Education Sector

Note : Table 3 is derived from Table 2.

Backward linkage is the strongest for the education sector, followed by other agricultural sector. On the other hand, the largest “forward” linkage multipliers, which capture the total effect on each account of a unit change in all endogenous accounts, are found in services sector and other agricultural sector.

4. POVERTY MEASURES AND ASSOCIATION WITH ACCOUNTING MULTIPLIERS

One of the aim of this study is to analyse the poverty alleviation effects of policy interventions applying the information of accounting multipliers and selected poverty measures. Accordingly, in order to establish linkage between a poverty measure and accounting multiplier, we have adopted the FGT measures of poverty proposed by Foster, Greer and Thorbecke (1984). According to the FGT measures, deprivation depends on the distance between a poor household's income and the poverty line, not the number of households that lie between a given income and poverty line. The measures satisfy the monotonicity and weak transfer axioms of Sen (1979) and the transfer-sensitivity axiom of Kakwani (1980). The FGT index has an additional property of decomposability, i.e. overall poverty can be written as a weighted sum of the sub-group poverty indices, the weights being the fraction of population accounted for by each group. This decomposability property has led us to adopt the FGT measures which are suitable for groupwise poverty analysis. The FGT Index is

$$P_{\alpha} = (1/nZ^{\alpha}) \sum (Z-Y_i)^{\alpha} \quad (9)$$

where 'Z' is the poverty line, Y_i is the income of the household below the poverty line and 'n' is the number of households in a particular household group (e.g., occupational class). α may take the value 0, 1 and 2 and above. When $\alpha = 0$, P_0 becomes the head-count ratio and when $\alpha = 1$, P_1 is the income-gap measure and for $\alpha = 2$, P_2 becomes a distributional-sensitivity measure. α can be viewed as a measure of poverty aversion.

The poverty sensitivity is determined by the elasticity of the poverty measure with respect to mean income for the occupational groups, and their growth rates. The change in poverty measure is thus:

$$(\frac{dP_{\alpha ij}}{P_{\alpha ij}}) = \eta_{\alpha j} (\frac{dY_i}{Y_i}) \quad (10)$$

where $\eta_{\alpha j}$ is the elasticity of poverty measure $P_{\alpha ij}$ with respect to mean income of each household group i resulting from an increase in the output j ¹. Now the increase in the mean income has to be linked with the accounting multiplier m_{ij} . We have discussed this multiplier in Section 2. Now our focus is on that part of the multiplier matrix that links production activities (e.g. account 3) to household groups (e.g. account 2). More specifically this would be captured by matrix M_{23} which relates production activities to household groups. The M_{23} can be decomposed into two effects, the distributional effects and the inter dependence effects.

$$M_{ij} = M_{23} = R_{ij} \cdot D_{ij} \quad (11)$$

The distributional effects (D_{ij}) shows the indirect impacts of a change in output of the production sectors on the incomes of the eight household groups. The distributional effect can be explained in the following way. One unit of additional demand for a given output will increase the demand for other intermediate inputs ($I - A_{33}$) as well as factors of production A_{13} . The additional income generated by factors of production will flow into the household groups according to their participation in the production process (A_{21}). Hence, in our case $D_{23} = A_{21} A_{13} (I - A_{33})^{-1}$. The inter-dependence effects capture the initial first round of spending and subsequent rounds of responding by household groups. This is the same as the close-loop effect or indirect effects as mentioned in Section 2. Thus multiplier M_{23} can be specified as :

$$M_{23} = R_{22} D_{23} \quad (12)$$

¹ Kakwani (1993) provides the computation of elasticities for various poverty measures with respect to mean income. $\eta_{\alpha j}$ for P_0 is the percentage of poor who cross the poverty line as a result of 1 percent growth in the mean income. $\eta_{\alpha j}$ for P_1 and P_2 is $-\alpha [P_{\alpha-1} - P_{\alpha}] / P_{\alpha}$ for $\alpha \neq 0$, which will always be negative because P_{α} is monotonically decreasing function of α .

If m_{ij} is an element of M_{23} , it can be decomposed multiplicatively. $M_{ij} = r_{ij} d_{ij}$, where d_{ij} is an element of D_{ij} , or $r_{ij} = m_{ij} / d_{ij}$. The accounting multiplier assures an unitary marginal expenditure proportion i.e. the average propensity is equal to the marginal propensity. Hence equation (5) can be written as:

$$dY_i = m_{ij} dX_{ij} \quad (13)$$

Therefore, equation (10) becomes

$$(dP_{\alpha ij}) = \eta_{\alpha l} m_{ij} (dX_j / Y_i) \quad (14)$$

The group-wise poverty alleviation effects can be aggregated to get overall poverty alleviation effects. According to the FGT's additive decompositivity axiom.

$$\begin{aligned} P_{\alpha j} &= \sum_{l=1}^m P_{\alpha ij} (n_i / n) \\ &= \sum_{l=1}^m (dP_{\alpha ij} / P_{\alpha ij}) [\sum_{k=1}^{q_i} (Z - Y_k) Z]^\alpha / (\sum_{l=1}^q ((Z - Y_l) / Z)^\alpha] \end{aligned} \quad (15)$$

q_i is the number of poor in the i th group and $q = \sum_i^m q_i$ is for the whole economy. The second term of equation (15) implies the poverty share of household group i out of total poverty, i.e. $s_{\alpha i}$.

Then,

$$(dP_{\alpha j} / P_{\alpha j}) = \sum_{l=1}^m (dP_{\alpha ij} / P_{\alpha ij}) s_{\alpha l} \quad (16)$$

Combining equations (10) and (16) we have

$$(dP_{\alpha j} / P_{\alpha j}) = \sum_{i=1}^m s_{\alpha i} \eta_{\alpha j} m_{ij} (dX_j / Y_i) \quad (17)$$

We can use the multiplier decomposition, $m_{ij} = r_{ij} d_{ij}$, to find out the route of poverty alleviation effects through the multipliers. Then equation (17) becomes

$$(dP_{\alpha j} / P_{\alpha j}) = \sum_{i=1}^m s_{\alpha i} d_{ij} r_{ij} \eta_{\alpha j} (dX_j / Y_i) \quad (18)$$

The term $s_{\alpha i} d_{ij} = m_{\alpha ij}$ may be defined as the “*effective distributional effect*” and the term $\eta_{\alpha j} (dX_j / Y_i) = q_{\alpha ij}$ may be denoted as the “*poverty sensitivity effect*”. The “*poverty alleviation effects*” of an increase in the output of sector ‘j’, $-(dP_{\alpha j} / P_{\alpha j})$, is a product of two components: (i) the mean-income change of the poor across all household groups ($m_{\alpha j}$); and (ii) sensitivity of the selected poverty measure.

5. ANALYSIS OF SIMULATION RESULTS

Numerous studies have estimated the extent of overall poverty in Bangladesh without explicit consideration of poverty levels for households classified either by income groups or by occupational categories. In the present study, we have estimated the extent for poverty by eight household groups classified by their main occupations. Unpublished tables obtained from the “Household Expenditure Survey, 1991/92” of the BBS were used to estimate poverty level for each of the eight household groups using the “FGT” measure of poverty. The HES tables provide the profiles of 16 income groups by 31 occupational categories. These 31 categories are then aggregated into eight household groups following a mapping procedure (CIRDAP 1997). Poverty lines for each of the eight household groups are calculated using the information of per day per capita poverty line expenditure (in Taka) on food (Ravallion and Sen 1996), number of days in a month, and size of household of each household group. The estimated poverty line for food for each household group is presented below:

$$PL_i = PDFE \cdot DM \cdot HS_i \quad (19)$$

where, PDFE denotes per day per capita expenditure on food (in Taka),

DM depicts number of days in a month (30, days),

HS_i size of each household group.

The estimated poverty line for food is then augmented for non-food basic items by an adjustment factor which is assumed to be 30 percent of the poverty line expenditure for food. The estimated poverty lines along with the profiles of the household groups are shown in Appendix 3 (Table 8). The incidence of poverty is then estimated using the household specific poverty lines.

Table 4: Measurement of Household Poverty in Bangladesh

Household Groups	Poverty Measure			Group Poverty Share out of Total Poverty			Elasticity of Poverty with Respect to Mean Income Change		
	Head Count	Poverty Gap	Squared Poverty Gap	Head Count	Poverty Gap	Squared Poverty Gap	Head Count	Poverty Gap	Squared Poverty Gap
Professional	0.188	0.038	0.012	0.024	0.016	0.013	-3.47	-2.00	-2.00
Service	0.479	0.157	0.065	0.156	0.209	0.253	-1.21	-1.75	-2.00
Agricultural Labour	0.717	0.251	0.107	0.298	0.291	0.248	-0.60	-0.97	-1.47
Small Farmer	0.565	0.155	0.061	0.137	0.120	0.107	-0.99	-1.21	-1.57
Large Farmer	0.401	0.100	0.038	0.214	0.206	0.216	-1.39	-1.45	-1.67
Workers-Skilled	0.431	0.152	0.071	0.037	0.047	0.058	-1.08	-1.63	-2.09
Semi-Skilled	0.492	0.125	0.049	0.021	0.017	0.015	-0.94	-1.52	-2.18
Unskilled	0.591	0.160	0.072	0.114	0.093	0.091	-0.53	-1.04	-1.78
All Household	0.483	0.142	0.059	1.00	1.00	1.00			

The extent of household poverty under three alternative measures; head-count ratio, poverty gap, and squared poverty gap, are provided in Table 4. It is observed that, under all three measures, the extent of poverty is the highest for agricultural labour households, followed closely by unskilled workers households and small farmer households. The poverty level is the lowest for the professional households. The “Poverty Monitoring Survey 1996” conducted by Bangladesh Bureau of Statistics reports poverty levels by six household groups. The household classification, however, is somewhat different from our classification. What is relevant is, in line with our findings, the lowest poverty level is reported for professional households and the highest for the petty traders or labour household groups (Hossain 1997). Table 4 also reports the elasticity of poverty reduction with respect to changes in mean income. Since such elasticity estimates are not available for Bangladesh these values are obtained from Kakwani (1993) with some adjustment. The elasticity values are reported for the eight household groups under three poverty measures.

A ten percent increase in output of each of the eleven sectors has been taken to analyse the impact of sectoral changes in output on incidence of poverty. More specifically, the simulation is conducted to find out relative strengths of the eleven sectors in terms of five effects; *effective distributional effects*, *interdependence effects*, *fixed priced or accounting multipliers*, *poverty sensitive effects*, and *the poverty alleviation effects*. The simulation results are presented in Table 5. It shows the impact of a ten percent increase in sectoral outputs on five effects under three measures of poverty.

The *effective distributional effects* show the distributional consequences on household income through changes in returns of primary factors and participation of household groups in the production process. The effective distributional effects appear to be largest for the social sectors (e.g. education and health) followed by services sector and the two agricultural sectors.

The *interdependence effects* which capture the first round effects of spending and subsequent rounds of responding are, on the other hand, the largest for the two agricultural sectors and the food processing sector. These sectors are followed by manufacturing, construction and services sector. The interdependence effect is, however, the lowest for the social sectors. The observed interdependence effects and their inclination towards the food and agricultural sector is a reflection of the household expenditure patterns where the largest share of household resources are spent. Since household expenditures on education and health sectors are low, the implied interdependence effects are also small.

The *accounting multipliers* depict the ultimate impact on household income distribution taking into consideration all the first round and subsequent rounds (i.e. general equilibrium impacts) of interaction among economic factors, institutions, and production sectors due to the initial intervention on sectoral output. The accounting multipliers are also observed to be the largest for the social sectors, followed by service sector and the agricultural sectors. This suggests that, out of an initial equivalent intervention on these eleven sectors, relatively more income would accrue to households from the social sectors, service sector and agricultural sectors.

Poverty sensitive effects which take into account changes in income of the households and the corresponding elasticity of poverty reduction with respect to mean-income change, are also found to be the largest for the social sectors, followed by service sector, and the agricultural sectors.

Table 5: Decomposition of Multipliers and Poverty Reduction Effects by Major Sectors: The Bangladesh Case

	Food grain	Other Agriculture	Processed Food	Clothing	Exports Industries	Other Industries	Machinery	Construction	Education	Health	Services
Head Count Measure											
Effective Distributional effects	0.126	0.134	0.086	0.049	0.098	0.076	0.027	0.105	0.205	0.152	0.144
Interdependence effects	3.350	3.290	3.236	3.151	3.225	3.168	3.139	3.215	2.808	2.969	3.069
Accounting Multipliers	0.422	0.441	0.277	0.156	0.316	0.239	0.084	0.339	0.575	0.451	0.441
Poverty sensitive Effects	2.452	2.470	2.485	2.522	2.497	2.518	2.525	2.499	2.702	2.609	2.551
Poverty Alleviation Effects	1.036	1.090	0.689	0.393	0.789	0.602	0.211	0.846	1.554	1.177	1.124
Poverty Gap Measure											
Effective Distributional Effects	0.127	0.136	0.087	0.050	0.099	0.077	0.027	0.108	0.207	0.154	0.147
Interdependence effects	3.364	3.290	3.246	3.159	3.238	3.160	3.141	3.201	2.817	2.967	3.056
Accounting Multipliers	0.428	0.448	0.281	0.158	0.320	0.243	0.085	0.344	0.583	0.458	0.448
Poverty sensitive Effects	2.813	2.810	2.776	2.777	2.784	2.822	2.804	2.807	3.019	2.933	2.856
Poverty Alleviation Effects	1.204	1.259	0.780	0.439	0.892	0.686	0.238	0.967	1.760	1.344	1.280
Squared Poverty Gap Measure											
Effective Distributional effects	0.129	0.140	0.090	0.052	0.103	0.081	0.028	0.112	0.223	0.164	0.155
Interdependence Effects	3.413	3.307	3.245	3.135	3.228	3.136	3.113	3.186	2.749	2.915	3.016
Accounting Multipliers	0.441	0.463	0.291	0.164	0.332	0.253	0.088	0.358	0.612	0.479	0.467
Poverty sensitive Effects	3.598	3.590	3.519	3.506	3.528	3.594	3.555	3.580	3.831	3.740	3.641
Poverty Alleviation Effects	1.586	1.663	1.024	0.576	1.172	0.909	0.314	1.280	2.345	1.792	1.702

Finally *the poverty alleviation effects* of an initial equivalent intervention on the eleven production sectors are also estimated. Like most of the other effects, the poverty alleviation effects are also observed to be the largest for the education sector, followed closely by the health sector. Other sectors which are significant in terms of poverty alleviation effects are service sectors, and the two agricultural sectors. Relatively less poverty alleviation effects of the agricultural sectors tend to indicate that scope of growth of output and factor incomes are limited in these sectors compared to the social sectors. The extent of poverty alleviation are small in the remaining sectors which are predominantly manufacturing industries. The effective distribution effects of the manufacturing sectors are small which may have unfavourable implications on poverty alleviation effects. The ranking of the poverty alleviating sectors along with the intensity of effects are shown in Table 6.

Table 6: Ranking of the Poverty Alleviating Sectors

Sectors	Poverty Measures		
	Head-Count Ratio	Poverty Gap	Squared Poverty Gap
Education	1.554	1.760	2.345
Health	1.177	1.344	1.792
Service	1.124	1.280	1.702
Other Agriculture	1.090	1.259	1.663
Food Grain	1.036	1.204	1.586
Construction	0.846	0.967	1.280
Export Industries	0.789	0.892	1.172
Processed Food	0.689	0.780	1.024
Other Industries	0.602	0.686	0.909
Clothing	0.393	0.439	0.576
Machinery	0.211	0.238	0.314

It is observed from Table 6 that education sector has the highest poverty alleviation effects and the extent of poverty alleviation ranges from 2.345 under poverty sensitive measure to 1.554 under the head-count measure. The domain of poverty alleviating effects under the health sector ranges from 1.792 to 1.117. In the case of service, the range is between 1.702 to 1.124. The poverty alleviation effects ranges from 1.663 to 1.090 and 1.586 to 1.036 under other agriculture and food grain sector respectively. These results tend to suggest that the poverty alleviation effects under different sectors as well as under alternative poverty measures would be significantly varied. For instance, an intervention of equal size is likely to produce very large impact in the case of education sector compared to the services sector. Under the head-count measure, this impact is 55 percent in the case education while in the case services sector it is only 12 percent. On the other hand, the lowest poverty alleviation effects are observed for the machinery sector. The extent of poverty alleviation effects of this sector ranges from 0.314 to 0.211 only.

6. CONCLUSIONS AND POLICY OPTIONS

In this paper, poverty alleviation effects of an initial exogenous increase in sectoral output are analysed within a macro framework. The SAM constructed for 1992/93 served as the data base for such an analysis.

Direct, indirect and cross effects and total multipliers for 30 accounts have been computed. Furthermore, transfer effect multipliers, open-loop multipliers and closed-loop multipliers are also calculated using information of derived direct, indirect and cross effect multipliers. The largest multiplier impact has been observed for the education sector. More specifically, total multipliers effects, and the cross-loop effects are the largest for this sector. This sector is followed by other agricultural sector.

Backwards and forward linkages are also calculated. Backward linkages are the strongest for the education sector, followed by other agricultural sector. On the other hand, the largest “forward” linkage multipliers, which capture the total effect on each account of a unit change in all endogenous accounts, are found in services sector and other agricultural sector.

Simulations are carried out to examine the efficacy of different sectors on distribution of household income, and poverty alleviation effects. The effective distributional effects appear to be the largest for the social sectors (e.g. education and health) followed by services sector and the two agricultural sectors. The interdependence effect is, on the other hand, the largest for the two agricultural sectors and the food processing sector. The interdependence effect is the lowest for the social sectors.

Poverty sensitive effects which take into account changes in income of the households and the corresponding elasticity of poverty reduction with respect to mean-income change, are also found to be the largest for the social sectors, followed by service sector, and the agricultural sectors.

Finally, the poverty alleviation effects of an initial equivalent intervention on the eleven production sectors are also estimated. The poverty alleviation effects are also observed to be largest for the education sector, followed closely by the health sector. The extent of poverty alleviation are small in other sectors which are predominantly manufacturing industries.

This analysis suggests a very clear, and strong option for the policy makers in Bangladesh that the social sectors deserve priority to eradicate poverty. The results of the SAM based general equilibrium analysis aptly reiterates the perceptions and demands for human resources development interventions in poverty alleviation programmes through increased investments in the social sectors to create conditions under which the poor can participate and take advantage of the growth process

In this regard it is relevant to note the quality aspects of social sector development (e.g., education and health programmes) as well as their sustainability. For instance, in the case primary education, a high enrolment rate is not enough. What is needed is to ensure its sustainability and development of linkages of education with productive activities in order to enhance the capabilities of the poor to exploit opportunities to increase their access to employment and income.

REFERENCES

- Adelman, I. and Robinson, S., (1989), Income Distribution and Development, **Handbook of Development Economics**, Volume II, eds, H. Chenery and T. N. Srinivasan, Elsevier Science Publishers, Amsterdam.
- CIRDAP (1997), A Social Accounting Matrix for Bangladesh Economy 1992/93 : A Basis for Fixed Price and Flex Price Model, **MAP Technical Paper Series No.1**, CIRDAP, Dhaka.
- Foster, J. E., J. Greer and E. Thorbecke, (1984), A Class of Decomposable Poverty Measures, **Econometrica**, Volume 52, pp 761-766.
- Hossain, M. Delwar (1997), Analytical Report on Poverty Monitoring Survey in Rural Bangladesh, October 1994 and April 1995, in **Report on CIRDAP-BBS National Seminar on Poverty Monitoring**, CIRDAP, Dhaka.
- Kakwani, N. C., (1980), On A Class of Poverty Measures, **Econometrica**, Volume 48, pp 437-446.
- Kakwani, N. C., (1993), Poverty and Economic Growth With Application to Cote D' Ivorie, **Review of Income and Wealth**, Series 39, No. 2, June.
- Ravallion, M. and B. Sen, (1996), When Method Matters : Monitoring Poverty in Bangladesh, **Economic Development and Cultural Change**.
- Sen, A. K. (1979), Poverty : An Ordinal Approach to Measurement, **Econometrica**, Volume 44 (2), March, pp. 219-231.

DERIVATION OF SAM MULTIPLIERS

Step 1: Schematic Presentation of SAM

	Factor	Household	Activities	Others A/C	Total
Factor	0	0	S ₁₃	0	Y ₁
Household	S ₂₁	0	0	S ₂₄	Y ₂
Activities	0	S ₃₂	S ₃₃	S ₃₄	Y ₃
Others A/C	0	S ₄₂	S ₄₃	S ₄₄	Y ₄
Total	Y ₁	Y ₂	Y ₃	Y ₄	

Step 2: Derivation of SAM Coefficient Matrix

$$A_{ij} = \frac{S_{ij}}{Y_i}$$

$$\begin{vmatrix} Y_1 \\ Y_2 \\ Y_3 \\ Y_4 \end{vmatrix} = \begin{vmatrix} 0 & 0 & A_{13} \\ A_{21} & 0 & 0 \\ 0 & A_{32} & A_{33} \\ 0 & A_{42} & A_{43} \end{vmatrix} * \begin{vmatrix} Y_1 \\ Y_2 \\ Y_3 \\ Y_4 \end{vmatrix} + \begin{vmatrix} X_1 \\ X_2 \\ X_3 \\ X_4 \end{vmatrix}$$

Step 3: Separation of Endogenous for Leakage

$$\begin{vmatrix} Y_1 \\ Y_2 \\ Y_3 \end{vmatrix} = \begin{vmatrix} 0 & 0 & A_{13} \\ A_{21} & 0 & 0 \\ 0 & A_{32} & A_{33} \end{vmatrix} * \begin{vmatrix} Y_1 \\ Y_2 \\ Y_3 \end{vmatrix} + \begin{vmatrix} X_1 \\ X_2 \\ X_3 \end{vmatrix}$$

and $Y_4 = A_{42}Y_2 + A_{43}Y_3 + X_4$

Step 4: Further Breakdown of Endogenous Accounts

$$\begin{vmatrix} Y_1 \\ Y_2 \\ Y_3 \end{vmatrix} = \begin{vmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & A_{33} \end{vmatrix} * \begin{vmatrix} Y_1 \\ Y_2 \\ Y_3 \end{vmatrix} + \begin{vmatrix} 0 & 0 & A_{13} \\ A_{21} & 0 & 0 \\ 0 & A_{32} & 0 \end{vmatrix} * \begin{vmatrix} Y_1 \\ Y_2 \\ Y_3 \end{vmatrix} + \begin{vmatrix} X_1 \\ X_2 \\ X_3 \end{vmatrix}$$

Step 5: Derivation M₁ Matrix

$$\begin{vmatrix} Y_1 \\ Y_2 \\ Y_3 \end{vmatrix} = \begin{vmatrix} I & 0 & 0 \\ 0 & I & 0 \\ 0 & 0 & (I - A_{33})^{-1} \end{vmatrix} * \begin{vmatrix} 0 & 0 & A_{13} \\ A_{21} & 0 & 0 \\ 0 & A_{32} & 0 \end{vmatrix} + \begin{vmatrix} X_1 \\ X_2 \\ X_3 \end{vmatrix}$$

Final Term of the RHS is M₁ Matrix

i.e. $\begin{vmatrix} I & 0 & 0 \\ 0 & I & 0 \\ 0 & 0 & (I - A_{33})^{-1} \end{vmatrix}$

Step 6: Derivation of M_2 Matrix

M_2 is defined as $M_2 = (I + A^0 + A^{02})$

$$A^0 = \begin{vmatrix} 0 & 0 & A_{13}^* \\ A_{21}^* & 0 & 0 \\ 0 & A_{32}^* & 0 \end{vmatrix}$$

Where,

$$A_{13}^* = A_{13}$$

$$A_{21}^* = A_{21}$$

$$A_{32}^* = (I - A_{33})^{-1} \cdot A_{32}$$

$$A^{02} = \begin{vmatrix} 0 & 0 & A_{13}^* \\ A_{21}^* & 0 & 0 \\ 0 & A_{32}^* & 0 \end{vmatrix} * \begin{vmatrix} 0 & 0 & A_{13}^* \\ A_{21}^* & 0 & 0 \\ 0 & A_{32}^* & 0 \end{vmatrix}$$

$$A^{02} = \begin{vmatrix} 0 & A_{13}^* A_{32}^* & 0 \\ 0 & 0 & A_{21}^* A_{13}^* \\ A_{32}^* A_{21}^* & 0 & 0 \end{vmatrix}$$

So that M_2 can be written as

$$M_2 = \begin{vmatrix} I & A_{13}^* A_{32}^* & A_{13}^* \\ A_{21}^* & I & A_{21}^* A_{13}^* \\ A_{32}^* A_{21}^* & A_{32}^* & I \end{vmatrix}$$

Step 7: Derivation of M_3 Matrix

$$M_3 = (I - A^{03})^{-1}$$

Where,

$$A^{03} = A^{02} * A^0$$

$$A^{03} = \begin{vmatrix} A_{13}^* A_{32}^* A_{21}^* & 0 & 0 \\ 0 & A_{21}^* A_{13}^* A_{32}^* & 0 \\ 0 & 0 & A_{32}^* A_{21}^* A_{13}^* \end{vmatrix}$$

$$M_3 = \begin{vmatrix} (I - A_{11}^*)^{-1} & 0 & 0 \\ 0 & (I - A_{22}^*)^{-1} & 0 \\ 0 & 0 & (I - A_{33}^*)^{-1} \end{vmatrix}$$

Where,

$$\mathbf{A}_{11}^* = \mathbf{A}_{13}^* \mathbf{A}_{32}^* \mathbf{A}_{21}^*$$

$$\mathbf{A}_{22}^* = \mathbf{A}_{21}^* \mathbf{A}_{13}^* \mathbf{A}_{32}^*$$

$$\mathbf{A}_{33}^* = \mathbf{A}_{32}^* \mathbf{A}_{21}^* \mathbf{A}_{13}^*$$

Step 8: Aggregate Multiplier

$$\mathbf{M} = \mathbf{M}_3 \cdot \mathbf{M}_2 \cdot \mathbf{M}_1$$

$$= \mathbf{I} + (\mathbf{M}_1 - \mathbf{I}) + (\mathbf{M}_2 - \mathbf{I}) \cdot \mathbf{M}_1 + (\mathbf{M}_3 - \mathbf{I}) \cdot \mathbf{M}_2 \cdot \mathbf{M}_1$$

Where,

$$\mathbf{I} = \text{Initial singular matrix/ identity matrix}$$

$$(\mathbf{M}_1 - \mathbf{I}) = \text{Transfer matrix}$$

$$(\mathbf{M}_2 - \mathbf{I}) \cdot \mathbf{M}_1 = \text{Open loop matrix}$$

$$(\mathbf{M}_3 - \mathbf{I}) \cdot \mathbf{M}_2 \cdot \mathbf{M}_1 = \text{Closed loop matrix}$$

Table 1 : M₁ Matrix Direct Multiplier

Description	Sec.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Administrative	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agri-Hired	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agri-FLSF	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Agri-FLLF	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Workers-Skilled	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Workers-Semi	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Workers-unskilled	8	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Capital	9	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
PHH	10	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
SHH	11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
AGRL	12	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
AGRSF	13	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
AGRLF	14	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
PTWSK	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
PTWSS	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
PTWUS	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Food Grains	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Agricul	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ProssFood	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cloth	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Export Ind	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Ind	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Services	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

(Contd.)

Table 1 : M1 Matrix Direct Multiplier

Description	Sec.No.	20	21	22	23	24	25	26	27	28	29	30
Administrative Service	1	0	0	0	0	0	0	0	0	0	0	0
Agri-Hired	2	0	0	0	0	0	0	0	0	0	0	0
Agri-FLSF	3	0	0	0	0	0	0	0	0	0	0	0
Agri-FLJF	4	0	0	0	0	0	0	0	0	0	0	0
Workers-Skilled	5	0	0	0	0	0	0	0	0	0	0	0
Workers-Semi	6	0	0	0	0	0	0	0	0	0	0	0
Workers-unskilled	7	0	0	0	0	0	0	0	0	0	0	0
Capital	8	0	0	0	0	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0	0	0	0	0
PHH	10	0	0	0	0	0	0	0	0	0	0	0
SHH	11	0	0	0	0	0	0	0	0	0	0	0
AGRL	12	0	0	0	0	0	0	0	0	0	0	0
AGRSF	13	0	0	0	0	0	0	0	0	0	0	0
AGRLF	14	0	0	0	0	0	0	0	0	0	0	0
PTWSK	15	0	0	0	0	0	0	0	0	0	0	0
PTWSS	16	0	0	0	0	0	0	0	0	0	0	0
PTWUS	17	0	0	0	0	0	0	0	0	0	0	0
Food Grains	20	1.061	0.028	0.049	0.001	0.003	0.004	0.001	0.006	0.000	0.027	0.002
Other Agricul	21	0.112	1.072	0.167	0.016	0.088	0.109	0.020	0.226	0.002	0.036	0.019
ProsfFood	22	0.003	0.026	1.285	0.002	0.004	0.006	0.001	0.007	0.001	0.007	0.001
Cloth	23	0.002	0.006	0.004	1.309	0.559	0.008	0.002	0.005	0.002	0.024	0.007
Export Ind	24	0.001	0.005	0.004	0.001	1.120	0.003	0.000	0.003	0.000	0.002	0.001
Other Ind	25	0.182	0.090	0.179	0.186	0.205	1.540	0.138	0.627	0.023	0.289	0.105
Machinery	26	0.045	0.026	0.051	0.024	0.027	0.077	1.058	0.137	0.004	0.066	0.032
Construction	27	0.009	0.008	0.010	0.007	0.016	0.016	0.013	1.009	0.003	0.007	0.044
Education	28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000
Health	29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Services	30	0.064	0.155	0.133	0.128	0.225	0.194	0.108	0.113	0.006	0.048	1.058

Table 2: M₂ Matrix Indirect effect

Description	Sec.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Administrative	1	1	0	0	0	0	0	0	0	0	0.021	0.020	0.017	0.023	0.022	0.015	0.014	0.020
Service	2	0	1	0	0	0	0	0	0	0	0.070	0.066	0.052	0.076	0.075	0.049	0.045	0.063
Agri-Hired	3	0	0	1	0	0	0	0	0	0	0.039	0.062	0.098	0.073	0.069	0.046	0.047	0.082
Agri-FLSF	4	0	0	0	1	0	0	0	0	0	0.033	0.048	0.066	0.051	0.050	0.036	0.035	0.063
Agri-FLLF	5	0	0	0	0	1	0	0	0	0	0.040	0.061	0.090	0.068	0.065	0.046	0.045	0.080
Workers-Skilled	6	0	0	0	0	0	1	0	0	0	0.035	0.035	0.034	0.041	0.039	0.027	0.025	0.038
Workers-Semi	7	0	0	0	0	0	0	1	0	0	0.006	0.007	0.007	0.007	0.007	0.005	0.005	0.008
Workers-unskilled	8	0	0	0	0	0	0	0	1	0	0.007	0.008	0.008	0.008	0.008	0.006	0.005	0.009
Capital	9	0	0	0	0	0	0	0	0	1	0.290	0.342	0.398	0.394	0.376	0.260	0.247	0.404
PHH	10	0.101	0.036	0.306	0.164	0.381	0.028	0.029	0.133	0.126	1	0	0	0	0	0	0	0
SHH	11	0.032	0.097	0.104	0.069	0.125	0.078	0.004	0.065	0.273	0	1	0	0	0	0	0	0
AGRL	12	0.073	0.076	0.084	0.079	0.289	0.147	0.077	0.127	0.039	0	0	1	0	0	0	0	0
AGRSF	13	0.177	0.022	0.261	0.147	0.087	0.016	0.037	0.025	0.101	0	0	0	1	0	0	0	0
AGRLF	14	0.172	0.709	0.100	0.120	0.085	0.343	0.095	0.189	0.274	0	0	0	0	1	0	0	0
PTWSK	15	0.071	0.013	0.057	0.126	0.011	0.204	0.000	0.169	0.044	0	0	0	0	0	1	0	0
PTWSS	16	0.055	0.010	0.016	0.067	0.002	0.148	0.006	0.053	0.010	0	0	0	0	0	0	1	0
PTWUS	17	0.318	0.037	0.073	0.229	0.020	0.036	0.753	0.239	0.025	0	0	0	0	0	0	0	1
Food Grains	20	0.255	0.256	0.225	0.236	0.241	0.239	0.289	0.241	0.203	0.118	0.215	0.398	0.286	0.254	0.158	0.176	0.290
Other Agricul	21	0.302	0.291	0.271	0.286	0.278	0.270	0.356	0.291	0.249	0.221	0.297	0.339	0.276	0.287	0.224	0.197	0.377
ProsfFood	22	0.114	0.102	0.105	0.110	0.109	0.099	0.139	0.112	0.095	0.098	0.125	0.122	0.097	0.094	0.088	0.075	0.150
Cloth	23	0.050	0.056	0.047	0.048	0.049	0.050	0.054	0.050	0.046	0.038	0.054	0.060	0.047	0.058	0.041	0.035	0.054
Export Ind	24	0.019	0.023	0.018	0.018	0.019	0.019	0.019	0.019	0.019	0.017	0.024	0.018	0.016	0.024	0.017	0.011	0.019
Other Ind	25	0.176	0.182	0.169	0.169	0.173	0.164	0.192	0.170	0.155	0.148	0.179	0.197	0.179	0.184	0.124	0.125	0.195
Machinery	26	0.048	0.053	0.048	0.047	0.049	0.045	0.052	0.047	0.045	0.049	0.051	0.047	0.045	0.055	0.034	0.028	0.053
Construction	27	0.014	0.015	0.015	0.014	0.014	0.013	0.014	0.014	0.013	0.014	0.013	0.013	0.017	0.016	0.010	0.010	0.014
Education	28	0.007	0.010	0.009	0.008	0.009	0.007	0.007	0.008	0.009	0.015	0.013	0.002	0.005	0.010	0.006	0.004	0.007
Health	29	0.011	0.012	0.011	0.011	0.011	0.011	0.012	0.011	0.010	0.009	0.013	0.012	0.011	0.012	0.008	0.011	0.012
Services	30	0.283	0.302	0.293	0.274	0.275	0.258	0.274	0.263	0.257	0.289	0.258	0.230	0.352	0.320	0.207	0.193	0.269

Table 2: M2 Matrix Indirect Effect

(cont'd)

Description	Sec.No.	20	21	22	23	24	25	26	27	28	29	30
Administrative	1	0.000	0.000	0.009	0.012	0.019	0.012	0.008	0.000	0.176	0.086	0.047
Service	2	0.000	0.000	0.008	0.012	0.009	0.013	0.005	0.003	0.761	0.346	0.182
Agri-Hired	3	0.183	0.072	0.004	0.001	0.037	0.000	0.000	0.000	0.000	0.000	0.000
Agri-FLSF	4	0.071	0.109	0.006	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000
Agri-FLLF	5	0.135	0.103	0.012	0.001	0.010	0.000	0.000	0.000	0.000	0.000	0.000
Workers-Skilled	6	0.000	0.004	0.045	0.047	0.032	0.018	0.012	0.051	0.001	0.000	0.080
Workers-Semi	7	0.000	0.001	0.024	0.016	0.025	0.007	0.005	0.010	0.000	0.000	0.004
Workers-unskilled	8	0.000	0.001	0.025	0.010	0.024	0.003	0.004	0.007	0.000	0.000	0.011
Capital	9	0.282	0.412	0.076	0.026	0.096	0.106	0.004	0.271	0.039	0.283	0.460
PHH	10	0.154	0.132	0.023	0.009	0.035	0.016	0.003	0.037	0.051	0.057	0.073
SHH	11	0.118	0.141	0.030	0.013	0.037	0.032	0.003	0.079	0.090	0.114	0.152
AGRL	12	0.071	0.061	0.020	0.013	0.022	0.010	0.004	0.020	0.073	0.044	0.048
AGRSF	13	0.098	0.085	0.015	0.007	0.026	0.014	0.002	0.029	0.052	0.051	0.060
AGRLF	14	0.116	0.144	0.053	0.037	0.059	0.048	0.011	0.096	0.581	0.338	0.292
PTWSK	15	0.033	0.038	0.019	0.013	0.019	0.010	0.004	0.024	0.024	0.023	0.044
PTWSS	16	0.011	0.013	0.010	0.009	0.009	0.005	0.003	0.011	0.017	0.011	0.021
PTWUS	17	0.039	0.043	0.033	0.021	0.039	0.013	0.008	0.018	0.085	0.047	0.042
Food Grains	20	1	0	0	0	0	0	0	0	0	0	0
Other Agricul	21	0	1	0	0	0	0	0	0	0	0	0
ProsFood	22	0	0	1	0	0	0	0	0	0	0	0
Cloth	23	0	0	0	1	0	0	0	0	0	0	0
Export Ind	24	0	0	0	0	1	0	0	0	0	0	0
Other Ind	25	0	0	0	0	0	1	0	0	0	0	0
Machinery	26	0	0	0	0	0	0	1	0	0	0	0
Construction	27	0	0	0	0	0	0	0	1	0	0	0
Education	28	0	0	0	0	0	0	0	0	1	0	0
Health	29	0	0	0	0	0	0	0	0	0	1	0
Services	30	0	0	0	0	0	0	0	0	0	0	1

Table 3: M3 Matrix Cross Effect

Description	Sec.No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Administrative	1	1.056	0.058	0.054	0.053	0.054	0.051	0.059	0.053	0.049	0	0	0	0	0	0	0	0
Service	2	0.183	1.190	0.179	0.175	0.176	0.168	0.192	0.173	0.161	0	0	0	0	0	0	0	0
Agri-Hired	3	0.182	0.184	1.168	0.172	0.172	0.167	0.202	0.173	0.153	0	0	0	0	0	0	0	0
Agri-FLSF	4	0.135	0.136	0.125	1.128	0.128	0.124	0.151	0.129	0.114	0	0	0	0	0	0	0	0
Agri-FLLF	5	0.175	0.176	0.162	0.166	1.166	0.161	0.195	0.167	0.147	0	0	0	0	0	0	0	0
Workers-Skilled	6	0.100	0.103	0.096	0.096	0.096	1.091	0.107	0.095	0.087	0	0	0	0	0	0	0	0
Workers-Semi	7	0.019	0.019	0.018	0.018	0.018	0.018	1.021	0.018	0.017	0	0	0	0	0	0	0	0
Workers-unskilled	8	0.022	0.022	0.021	0.021	0.021	0.020	0.023	1.021	0.019	0	0	0	0	0	0	0	0
Capital	9	0.976	0.992	0.925	0.928	0.928	0.892	1.062	0.927	1.835	0	0	0	0	0	0	0	0
PHH	10	0	0	0	0	0	0	0	0	0	1.216	0.269	0.331	0.305	0.293	0.202	0.194	0.322
SHH	11	0	0	0	0	0	0	0	0	0	0.271	1.326	0.385	0.371	0.356	0.246	0.234	0.384
AGRL	12	0	0	0	0	0	0	0	0	0	0.116	0.142	1.172	0.161	0.155	0.107	0.102	0.169
AGRSF	13	0	0	0	0	0	0	0	0	0	0.151	0.186	0.226	1.211	0.203	0.140	0.134	0.221
AGRLF	14	0	0	0	0	0	0	0	0	0	0.403	0.471	0.537	0.536	1.516	0.354	0.336	0.544
PTWSK	15	0	0	0	0	0	0	0	0	0	0.081	0.097	0.114	0.110	0.105	1.073	0.069	0.114
PTWSS	16	0	0	0	0	0	0	0	0	0	0.034	0.041	0.047	0.046	0.044	0.031	1.029	0.047
PTWUS	17	0	0	0	0	0	0	0	0	0	0.094	0.114	0.133	0.127	0.123	0.085	0.081	1.133
Food Grains	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Agricul	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ProsFood	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cloth	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Export Ind	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Ind	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Services	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3: M3 Matrix Cross Effect (Cont'd)

Sec.No.	20	21	22	23	24	25	26	27	28	29	30
Administrative	0	0	0	0	0	0	0	0	0	0	0
Service	0	0	0	0	0	0	0	0	0	0	0
Agri-Hired	0	0	0	0	0	0	0	0	0	0	0
Agri-FLSF	0	0	0	0	0	0	0	0	0	0	0
Agri-FLLF	0	0	0	0	0	0	0	0	0	0	0
Workers-Skilled	0	0	0	0	0	0	0	0	0	0	0
Workers-Semi	0	0	0	0	0	0	0	0	0	0	0
Workers-unskilled	0	0	0	0	0	0	0	0	0	0	0
Capital	0	0	0	0	0	0	0	0	0	0	0
PHH	0	0	0	0	0	0	0	0	0	0	0
SHH	0	0	0	0	0	0	0	0	0	0	0
AGRL	0	0	0	0	0	0	0	0	0	0	0
AGRSF	0	0	0	0	0	0	0	0	0	0	0
AGRLF	0	0	0	0	0	0	0	0	0	0	0
PTWSK	0	0	0	0	0	0	0	0	0	0	0
PTWSS	0	0	0	0	0	0	0	0	0	0	0
PTWUS	0	0	0	0	0	0	0	0	0	0	0
Food Grains	1.397	0.409	0.130	0.078	0.157	0.093	0.024	0.195	0.651	0.447	0.467
Other Agricul	0.477	1.492	0.155	0.093	0.188	0.112	0.029	0.235	0.767	0.531	0.557
ProsFood	0.182	0.188	1.059	0.035	0.071	0.042	0.011	0.089	0.284	0.198	0.210
Cloth	0.086	0.089	0.028	1.017	0.034	0.020	0.005	0.043	0.141	0.097	0.102
Export Ind	0.034	0.036	0.011	0.007	1.013	0.008	0.002	0.017	0.056	0.039	0.041
Other Ind	0.294	0.304	0.095	0.057	0.115	1.069	0.018	0.145	0.473	0.328	0.344
Machinery	0.084	0.086	0.027	0.016	0.033	0.020	1.005	0.041	0.135	0.094	0.098
Construction	0.025	0.025	0.008	0.005	0.010	0.006	0.001	1.012	0.039	0.027	0.029
Education	0.016	0.017	0.005	0.003	0.006	0.004	0.001	0.008	1.025	0.018	0.019
Health	0.019	0.020	0.006	0.004	0.008	0.005	0.001	0.010	0.031	1.022	0.023
Services	0.486	0.499	0.154	0.092	0.188	0.113	0.029	0.237	0.779	0.540	1.565

Table 4: M Matrix Aggregate Multiplier Matrix

Description	Sec. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Administrative	1	1.056	0.058	0.054	0.053	0.054	0.051	0.059	0.053	0.049	0.049	0.054	0.057	0.061	0.059	0.040	0.038	0.060
Service	2	0.183	1.190	0.179	0.175	0.176	0.168	0.192	0.173	0.161	0.162	0.177	0.183	0.201	0.195	0.132	0.124	0.193
Agrn Hired	3	0.182	0.184	1.168	0.172	0.172	0.167	0.202	0.173	0.153	0.127	0.168	0.224	0.194	0.185	0.126	0.123	0.206
Agrn FLSF	4	0.135	0.136	0.125	1.128	0.128	0.124	0.151	0.129	0.114	0.099	0.128	0.159	0.141	0.136	0.096	0.091	0.156
Agrn FLLF	5	0.175	0.176	0.162	0.166	1.166	0.161	0.195	0.167	0.147	0.125	0.164	0.211	0.185	0.177	0.123	0.118	0.200
Workers Skilled	6	0.100	0.103	0.096	0.096	0.096	1.091	0.107	0.095	0.087	0.084	0.095	0.104	0.109	0.105	0.072	0.068	0.108
Workers Semi	7	0.019	0.019	0.018	0.018	0.018	0.018	1.021	0.018	0.017	0.016	0.019	0.021	0.020	0.020	0.014	0.013	0.022
Workers unskilled	8	0.022	0.022	0.021	0.021	0.021	0.020	0.023	1.021	0.019	0.018	0.021	0.023	0.023	0.022	0.016	0.015	0.024
Capital	9	0.976	0.992	0.925	0.928	0.928	0.892	1.062	0.927	1.835	0.770	0.920	1.080	1.049	1.007	0.695	0.660	1.083
PHH	10	0.388	0.326	0.574	0.435	0.653	0.291	0.343	0.405	0.370	1.216	0.269	0.331	0.305	0.293	0.202	0.194	0.322
SHH	11	0.378	0.448	0.431	0.398	0.454	0.394	0.380	0.393	0.369	0.271	1.326	0.385	0.371	0.356	0.246	0.234	0.384
AGRL	12	0.224	0.230	0.226	0.222	0.432	0.285	0.242	0.270	0.167	0.116	0.142	1.172	0.161	0.155	0.107	0.102	0.169
AGRSF	13	0.375	0.223	0.447	0.334	0.274	0.197	0.254	0.213	0.269	0.151	0.186	0.226	1.211	0.203	0.140	0.134	0.221
AGRLF	14	0.668	1.216	0.574	0.593	0.559	0.797	0.630	0.660	0.702	0.403	0.471	0.537	0.536	1.516	0.354	0.336	0.544
PTWSK	15	0.174	0.117	0.154	0.224	0.108	0.297	0.111	0.266	0.131	0.081	0.097	0.114	0.110	0.105	1.073	0.069	0.114
PTWSS	16	0.098	0.053	0.057	0.108	0.043	0.187	0.052	0.094	0.047	0.034	0.041	0.047	0.046	0.044	0.031	1.029	0.047
PTWUS	17	0.437	0.158	0.186	0.342	0.134	0.145	0.883	0.353	0.127	0.094	0.114	0.133	0.127	0.123	0.085	0.081	1.133
Food Grains	20	0.665	0.673	0.612	0.625	0.630	0.614	0.734	0.629	0.554	0.439	0.602	0.854	0.724	0.676	0.449	0.453	0.744
Other Agricul	21	0.792	0.789	0.735	0.752	0.744	0.719	0.890	0.757	0.669	0.606	0.760	0.886	0.802	0.793	0.572	0.529	0.921
ProfFood	22	0.300	0.291	0.281	0.287	0.286	0.269	0.341	0.288	0.254	0.243	0.301	0.330	0.297	0.286	0.220	0.201	0.357
Clubs	23	0.139	0.147	0.131	0.133	0.133	0.131	0.151	0.134	0.122	0.108	0.138	0.158	0.142	0.150	0.104	0.095	0.153
Export Ind	24	0.054	0.059	0.052	0.052	0.053	0.052	0.058	0.053	0.049	0.045	0.058	0.058	0.054	0.061	0.042	0.035	0.058
Other Ind	25	0.478	0.490	0.455	0.457	0.460	0.441	0.521	0.457	0.414	0.385	0.465	0.534	0.503	0.496	0.338	0.329	0.530
Machinery	26	0.134	0.140	0.129	0.129	0.131	0.123	0.146	0.129	0.118	0.117	0.133	0.143	0.137	0.144	0.095	0.086	0.149
Construction	27	0.040	0.041	0.038	0.038	0.038	0.036	0.042	0.037	0.034	0.034	0.037	0.041	0.044	0.042	0.028	0.027	0.042
Education	28	0.024	0.026	0.025	0.024	0.025	0.023	0.025	0.024	0.023	0.028	0.028	0.021	0.023	0.027	0.018	0.015	0.025
Health	29	0.031	0.032	0.029	0.030	0.030	0.029	0.034	0.030	0.027	0.025	0.032	0.034	0.032	0.033	0.022	0.024	0.035
Services	30	0.779	0.808	0.763	0.746	0.748	0.713	0.815	0.735	0.682	0.679	0.728	0.784	0.885	0.833	0.560	0.529	0.821
Total		9.025	9.145	8.649	8.687	8.693	8.437	9.663	8.684	7.912	6.522	7.673	8.850	8.493	8.243	6.002	5.750	8.820

Table 4: M Matrix Aggregate Multiplier Matrix

(Cont'd)

Description	Sec.No.	20	21	22	23	24	25	26	27	28	29	30	Total
Administrative	1	0.051	0.056	0.050	0.040	0.074	0.053	0.023	0.050	0.233	0.139	0.096	2.768
Service	2	0.164	0.185	0.133	0.094	0.169	0.138	0.055	0.149	0.948	0.509	0.343	6.851
Agri-Hired	3	0.345	0.231	0.119	0.054	0.154	0.088	0.029	0.130	0.180	0.152	0.145	5.552
Agri-FLSF	4	0.194	0.229	0.099	0.041	0.095	0.071	0.023	0.109	0.133	0.113	0.109	4.392
Agri-FLLF	5	0.292	0.257	0.129	0.053	0.123	0.088	0.029	0.133	0.173	0.147	0.140	5.382
Workers-Skilled	6	0.091	0.105	0.126	0.105	0.145	0.091	0.040	0.139	0.102	0.093	0.170	3.821
Workers-Semi	7	0.017	0.019	0.044	0.028	0.051	0.021	0.010	0.028	0.019	0.019	0.022	1.589
Workers-unskilled	8	0.019	0.022	0.046	0.021	0.048	0.018	0.010	0.025	0.022	0.020	0.030	1.629
Capital	9	1.174	1.339	0.766	0.400	0.860	0.734	0.230	1.100	1.017	1.146	1.296	26.789
PHH	10	0.413	0.394	0.219	0.108	0.244	0.181	0.060	0.266	0.336	0.304	0.311	9.7544
SHH	11	0.432	0.467	0.272	0.144	0.306	0.249	0.081	0.367	0.436	0.417	0.446	11.035
AGRL	12	0.207	0.201	0.126	0.069	0.139	0.098	0.035	0.141	0.223	0.175	0.175	6.012
AGRSF	13	0.277	0.268	0.151	0.077	0.174	0.130	0.043	0.188	0.249	0.223	0.225	7.0633
AGRLF	14	0.565	0.621	0.404	0.240	0.469	0.369	0.131	0.508	1.080	0.777	0.720	16.977
PTWSK	15	0.126	0.135	0.093	0.055	0.105	0.074	0.027	0.109	0.127	0.113	0.131	4.439
PTWSS	16	0.050	0.054	0.042	0.028	0.047	0.032	0.013	0.047	0.060	0.049	0.058	2.538
PTWUS	17	0.147	0.155	0.122	0.071	0.142	0.088	0.034	0.118	0.205	0.153	0.143	6.035
Food Grains	20	1.580	0.565	0.387	0.189	0.387	0.291	0.101	0.415	0.658	0.555	0.524	16.330
Other Agricul	21	0.734	1.717	0.571	0.241	0.548	0.453	0.140	0.717	0.778	0.663	0.643	19.922
ProFood	22	0.240	0.272	1.438	0.087	0.178	0.137	0.046	0.193	0.289	0.242	0.236	8.192
Cloth	23	0.114	0.123	0.077	1.350	0.642	0.071	0.024	0.094	0.145	0.139	0.121	5.166
Export Ind	24	0.046	0.052	0.033	0.017	1.153	0.028	0.009	0.038	0.057	0.048	0.046	2.420
Other Ind	25	0.565	0.488	0.427	0.324	0.487	1.752	0.212	0.930	0.501	0.677	0.489	14.606
Machinery	26	0.154	0.139	0.122	0.063	0.107	0.137	1.079	0.223	0.141	0.176	0.142	4.664
Construction	27	0.041	0.041	0.031	0.018	0.040	0.034	0.019	1.034	0.042	0.039	0.075	2.053
Education	28	0.021	0.022	0.013	0.007	0.015	0.012	0.004	0.017	1.026	0.021	0.021	1.582
Health	29	0.025	0.026	0.016	0.009	0.019	0.014	0.005	0.020	0.031	1.026	0.026	1.726
Services	30	0.697	0.809	0.538	0.352	0.686	0.542	0.229	0.609	0.794	0.685	1.690	20.240
Total		8.782	8.993	6.593	4.285	7.606	5.990	2.740	7.896	10.004	8.820	8.574	219.530

Table 5: T Matrix Transfer Multiplier Effects T = M1-I

Description	Sec.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Administrative	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agri-Hired	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agri-FLSF	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agri-FLIF	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Workers-Skilled	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Workers-Semi	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Workers-unskilled	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHH	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHH	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AGRL	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AGRSF	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AGRLF	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PTWSK	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PTWSS	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PTWUS	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Food Grains	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Agricul	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ProsFood	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cloth	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Export Ind	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Ind	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Services	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 5: T Matrix Transfer Multiplier Effects T= M1-I (Cont'd)

Description	Sec.No.	20	21	22	23	24	25	26	27	28	29	30	Total
Administrative	1	0	0	0	0	0	0	0	0	0	0	0	0
Service	2	0	0	0	0	0	0	0	0	0	0	0	0
Agri-Hired	3	0	0	0	0	0	0	0	0	0	0	0	0
Agri-FLLSF	4	0	0	0	0	0	0	0	0	0	0	0	0
Agri-FLLLF	5	0	0	0	0	0	0	0	0	0	0	0	0
Workers-Skilled	6	0	0	0	0	0	0	0	0	0	0	0	0
Workers-Semi	7	0	0	0	0	0	0	0	0	0	0	0	0
Workers-unskilled	8	0	0	0	0	0	0	0	0	0	0	0	0
Capital	9	0	0	0	0	0	0	0	0	0	0	0	0
PHH	10	0	0	0	0	0	0	0	0	0	0	0	0
SHH	11	0	0	0	0	0	0	0	0	0	0	0	0
AGRL	12	0	0	0	0	0	0	0	0	0	0	0	0
AGRSF	13	0	0	0	0	0	0	0	0	0	0	0	0
AGRLF	14	0	0	0	0	0	0	0	0	0	0	0	0
PTWSK	15	0	0	0	0	0	0	0	0	0	0	0	0
PTWSS	16	0	0	0	0	0	0	0	0	0	0	0	0
PTWUS	17	0	0	0	0	0	0	0	0	0	0	0	0
Food Grains	20	0.061	0.028	0.049	0.001	0.003	0.004	0.001	0.006	0.000	0.027	0.002	0.1812
Other Agricul	21	0.112	0.072	0.167	0.016	0.088	0.109	0.020	0.226	0.002	0.036	0.019	0.867
ProesFood	22	0.003	0.026	0.285	0.002	0.004	0.006	0.001	0.007	0.001	0.007	0.001	0.3442
Cloth	23	0.002	0.006	0.004	0.309	0.559	0.008	0.002	0.005	0.002	0.024	0.007	0.9278
Export Ind	24	0.001	0.005	0.004	0.001	0.120	0.003	0.000	0.003	0.000	0.002	0.001	0.1396
Other Ind	25	0.182	0.090	0.179	0.186	0.205	0.540	0.138	0.627	0.023	0.289	0.105	2.5635
Machinery	26	0.045	0.026	0.051	0.024	0.027	0.077	0.058	0.137	0.004	0.066	0.032	0.5471
Construction	27	0.009	0.008	0.010	0.007	0.016	0.016	0.013	0.009	0.003	0.007	0.044	0.1405
Education	28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0005
Health	29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Services	30	0.064	0.155	0.133	0.128	0.225	0.194	0.108	0.113	0.006	0.048	1.058	2.2317
Total		0.480	0.415	0.882	0.673	1.245	0.957	0.341	1.134	0.042	0.505	1.268	7.943

Table 6: Open Loop Multiplier Effects $O = (M_2 - I)^{-1} M_1$

Description	Sec.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Administrative	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.020	0.017	0.023	0.022	0.015	0.014	0.020
Service	2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.070	0.066	0.052	0.076	0.075	0.049	0.045	0.063
Agri-Hired	3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.039	0.062	0.098	0.073	0.069	0.046	0.047	0.082
Agri-FLSP	4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.033	0.048	0.066	0.051	0.050	0.036	0.035	0.063
Agri-FLLP	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040	0.061	0.090	0.068	0.065	0.046	0.045	0.080
Workers-Skilled	6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.035	0.035	0.034	0.041	0.039	0.027	0.025	0.038
Workers-Semi	7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.007	0.007	0.007	0.007	0.005	0.005	0.008
Workers-unskilled	8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.008	0.008	0.008	0.008	0.006	0.005	0.009
Capital	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.290	0.342	0.398	0.394	0.376	0.260	0.247	0.404
PHH	10	0.101	0.036	0.306	0.164	0.381	0.028	0.029	0.133	0.126	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SHH	11	0.032	0.097	0.104	0.069	0.125	0.078	0.004	0.065	0.273	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AGRL	12	0.073	0.076	0.084	0.079	0.289	0.147	0.077	0.127	0.039	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AGRSF	13	0.177	0.022	0.261	0.147	0.087	0.016	0.037	0.025	0.101	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AGRLF	14	0.172	0.709	0.100	0.120	0.085	0.343	0.095	0.189	0.274	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PTWSK	15	0.071	0.013	0.057	0.126	0.011	0.204	0.000	0.169	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PTWSS	16	0.055	0.010	0.016	0.067	0.002	0.148	0.006	0.053	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PTWUS	17	0.318	0.037	0.073	0.229	0.020	0.036	0.753	0.239	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Food Grains	20	0.255	0.256	0.225	0.236	0.241	0.239	0.289	0.241	0.203	0.118	0.215	0.398	0.286	0.254	0.158	0.176	0.290
Other Agricul	21	0.302	0.291	0.271	0.286	0.278	0.270	0.356	0.291	0.249	0.221	0.297	0.339	0.276	0.287	0.224	0.197	0.377
ProxFood	22	0.114	0.102	0.105	0.110	0.109	0.099	0.139	0.112	0.095	0.098	0.125	0.122	0.097	0.094	0.088	0.075	0.150
Cloth	23	0.050	0.056	0.047	0.048	0.049	0.050	0.054	0.050	0.046	0.038	0.054	0.060	0.047	0.058	0.041	0.035	0.054
Export Ind	24	0.019	0.023	0.018	0.018	0.019	0.019	0.019	0.019	0.019	0.017	0.024	0.018	0.016	0.024	0.017	0.011	0.019
Other Ind	25	0.176	0.182	0.169	0.169	0.173	0.164	0.192	0.170	0.155	0.148	0.179	0.197	0.179	0.184	0.124	0.125	0.195
Machinery	26	0.048	0.053	0.048	0.047	0.049	0.045	0.052	0.047	0.045	0.049	0.051	0.047	0.045	0.055	0.034	0.028	0.053
Construction	27	0.014	0.015	0.015	0.014	0.014	0.013	0.014	0.014	0.013	0.014	0.013	0.013	0.017	0.016	0.010	0.010	0.014
Education	28	0.007	0.010	0.009	0.008	0.009	0.007	0.007	0.008	0.009	0.015	0.013	0.002	0.005	0.010	0.006	0.004	0.007
Health	29	0.011	0.012	0.011	0.011	0.011	0.011	0.012	0.011	0.010	0.009	0.013	0.012	0.011	0.012	0.008	0.011	0.012
Services	30	0.283	0.302	0.293	0.274	0.275	0.258	0.274	0.263	0.257	0.289	0.258	0.230	0.352	0.320	0.207	0.193	0.269
Total		2.281	2.303	2.209	2.221	2.225	2.176	2.407	2.224	1.993	1.555	1.896	2.208	2.071	2.027	1.408	1.331	2.207

Table 6: Open Loop Multiplier Effects O = (M2-I)*M1 (Cont'd)

Description	Sec.No.	20	21	22	23	24	25	26	27	28	29	30	Total
Administrative	1	0.006	0.009	0.021	0.024	0.041	0.028	0.015	0.014	0.176	0.093	0.051	0.629
Service	2	0.014	0.030	0.038	0.041	0.060	0.055	0.026	0.032	0.762	0.359	0.194	2.108
Agri-Hired	3	0.202	0.083	0.026	0.002	0.048	0.009	0.002	0.018	0.000	0.008	0.002	0.916
Agri-FLSF	4	0.087	0.119	0.030	0.002	0.016	0.012	0.002	0.025	0.000	0.006	0.002	0.684
Agri-FLJ.F	5	0.154	0.115	0.040	0.003	0.021	0.012	0.002	0.024	0.000	0.007	0.002	0.877
Workers-Skilled	6	0.010	0.021	0.074	0.076	0.086	0.046	0.025	0.075	0.002	0.012	0.089	0.791
Workers-Semi	7	0.002	0.003	0.034	0.023	0.040	0.012	0.007	0.016	0.000	0.003	0.006	0.200
Workers-unskilled	8	0.002	0.004	0.035	0.015	0.035	0.008	0.006	0.011	0.000	0.002	0.012	0.191
Capital	9	0.398	0.535	0.264	0.121	0.288	0.305	0.081	0.489	0.047	0.361	0.518	6.118
PHH	10	0.187	0.159	0.073	0.026	0.077	0.055	0.016	0.087	0.052	0.075	0.084	2.195
SHH	11	0.158	0.182	0.094	0.046	0.104	0.097	0.028	0.151	0.092	0.140	0.170	2.109
AGRL	12	0.087	0.077	0.049	0.026	0.050	0.032	0.012	0.047	0.073	0.054	0.055	1.550
AGRSF	13	0.121	0.106	0.049	0.021	0.058	0.043	0.013	0.065	0.053	0.065	0.068	1.535
AGRLF	14	0.168	0.210	0.148	0.098	0.177	0.149	0.054	0.196	0.584	0.376	0.322	4.570
PTWSK	15	0.045	0.050	0.040	0.026	0.045	0.029	0.011	0.045	0.025	0.031	0.049	1.091
PTWSS	16	0.015	0.019	0.020	0.015	0.022	0.013	0.006	0.020	0.018	0.015	0.024	0.553
PTWUS	17	0.052	0.057	0.060	0.036	0.072	0.035	0.016	0.043	0.086	0.057	0.048	2.290
Food Grains	20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.081
Other Agricul	21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.811
ProstFood	22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.834
Cloth	23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.838
Export Ind	24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.319
Other Ind	25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.880
Machinery	26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.795
Construction	27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.234
Education	28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.137
Health	29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.188
Services	30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	4.597
Total		1.709	1.779	1.094	0.603	1.241	0.942	0.324	1.357	1.972	1.664	1.697	49.124

Table 7: Closed Loop Multiplier Effects C = (M3-I)*M2*MI

Description	Sec.No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Administrative	1	0.056	0.058	0.054	0.053	0.054	0.051	0.059	0.053	0.049	0.028	0.034	0.040	0.038	0.037	0.025	0.024	0.040
Service	2	0.183	0.190	0.179	0.175	0.176	0.168	0.192	0.173	0.161	0.092	0.111	0.131	0.126	0.121	0.083	0.079	0.130
Agri-Hired	3	0.182	0.184	0.168	0.172	0.172	0.167	0.202	0.173	0.153	0.088	0.106	0.125	0.121	0.116	0.080	0.076	0.125
Agri-FLNF	4	0.135	0.136	0.125	0.128	0.128	0.124	0.151	0.129	0.114	0.066	0.079	0.093	0.090	0.086	0.060	0.057	0.093
Agri-FLIF	5	0.175	0.176	0.162	0.166	0.166	0.161	0.195	0.167	0.147	0.085	0.102	0.121	0.116	0.112	0.077	0.073	0.120
Workers-Skilled	6	0.100	0.103	0.096	0.096	0.096	0.091	0.107	0.095	0.087	0.050	0.060	0.071	0.068	0.065	0.045	0.043	0.070
Workers-Semi	7	0.019	0.019	0.018	0.018	0.018	0.018	0.021	0.018	0.017	0.010	0.011	0.014	0.013	0.013	0.009	0.008	0.013
Workers-unskilled	8	0.022	0.022	0.021	0.021	0.021	0.020	0.023	0.021	0.019	0.011	0.013	0.015	0.015	0.014	0.010	0.009	0.015
Capital	9	0.976	0.992	0.925	0.928	0.928	0.892	1.062	0.927	0.835	0.480	0.578	0.682	0.656	0.631	0.434	0.413	0.679
PHH	10	0.287	0.290	0.269	0.272	0.272	0.263	0.315	0.272	0.243	0.216	0.269	0.331	0.305	0.293	0.202	0.194	0.322
SHH	11	0.345	0.351	0.327	0.329	0.329	0.316	0.376	0.328	0.296	0.271	0.326	0.385	0.371	0.356	0.246	0.234	0.384
AGRL	12	0.151	0.153	0.142	0.144	0.144	0.138	0.165	0.144	0.129	0.116	0.142	0.172	0.161	0.155	0.107	0.102	0.169
AGRSF	13	0.198	0.200	0.186	0.188	0.188	0.181	0.217	0.188	0.168	0.151	0.186	0.226	0.211	0.203	0.140	0.134	0.221
AGRLF	14	0.496	0.507	0.474	0.473	0.473	0.454	0.535	0.471	0.428	0.403	0.471	0.537	0.536	0.516	0.354	0.336	0.544
PTWSK	15	0.102	0.104	0.097	0.097	0.097	0.094	0.111	0.097	0.088	0.081	0.097	0.114	0.110	0.105	0.073	0.069	0.114
PTWSS	16	0.043	0.044	0.041	0.041	0.041	0.039	0.046	0.041	0.037	0.034	0.041	0.047	0.046	0.044	0.031	0.029	0.047
PTWLN	17	0.120	0.121	0.113	0.114	0.114	0.109	0.131	0.114	0.102	0.094	0.114	0.133	0.127	0.123	0.085	0.081	0.133
Food Grains	20	0.409	0.416	0.388	0.389	0.389	0.375	0.445	0.389	0.350	0.321	0.387	0.456	0.439	0.422	0.291	0.277	0.454
Other Agricul	21	0.490	0.499	0.464	0.466	0.467	0.449	0.534	0.466	0.420	0.385	0.463	0.547	0.526	0.506	0.348	0.332	0.544
ProxFood	22	0.186	0.189	0.176	0.177	0.177	0.170	0.203	0.177	0.159	0.146	0.176	0.208	0.199	0.192	0.132	0.126	0.207
Cloth	23	0.089	0.090	0.084	0.084	0.084	0.081	0.097	0.084	0.076	0.070	0.084	0.099	0.095	0.092	0.063	0.060	0.098
Export Ind	24	0.036	0.036	0.034	0.034	0.034	0.033	0.039	0.034	0.030	0.028	0.034	0.040	0.038	0.037	0.025	0.024	0.039
Other Ind	25	0.302	0.307	0.286	0.288	0.288	0.277	0.329	0.287	0.259	0.237	0.286	0.337	0.324	0.312	0.215	0.204	0.336
Machinery	26	0.086	0.087	0.081	0.082	0.082	0.079	0.094	0.082	0.074	0.068	0.081	0.096	0.092	0.089	0.061	0.058	0.095
Construction	27	0.025	0.026	0.024	0.024	0.024	0.023	0.027	0.024	0.021	0.020	0.024	0.028	0.027	0.026	0.018	0.017	0.028
Education	28	0.017	0.017	0.016	0.016	0.016	0.015	0.018	0.016	0.014	0.013	0.016	0.018	0.018	0.017	0.012	0.011	0.018
Health	29	0.020	0.020	0.019	0.019	0.019	0.018	0.022	0.019	0.017	0.016	0.019	0.022	0.021	0.021	0.014	0.013	0.022
Services	30	0.497	0.505	0.470	0.473	0.473	0.455	0.541	0.472	0.425	0.390	0.469	0.555	0.533	0.513	0.353	0.336	0.552
Total		5.744	5.843	5.440	5.466	5.468	5.261	6.257	5.459	4.919	3.967	4.78	5.642	5.422	5.216	3.593	3.419	5.613

Table 7: Closed Loop Multiplier Effects C = (M3-I)*M2*M1

Description	Sec.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Administrative	1	0.056	0.058	0.054	0.053	0.054	0.051	0.059	0.053	0.049	0.028	0.034	0.040	0.038	0.037	0.025	0.024	0.040
Service	2	0.183	0.190	0.179	0.175	0.176	0.168	0.192	0.173	0.161	0.092	0.111	0.131	0.126	0.121	0.083	0.079	0.130
Agri-Hired	3	0.182	0.184	0.168	0.172	0.172	0.167	0.202	0.173	0.153	0.088	0.106	0.125	0.121	0.116	0.080	0.076	0.125
Agri-FLSF	4	0.135	0.136	0.125	0.128	0.128	0.124	0.151	0.129	0.114	0.066	0.079	0.093	0.090	0.086	0.060	0.057	0.093
Agri-FLLF	5	0.175	0.176	0.162	0.166	0.166	0.161	0.195	0.167	0.147	0.085	0.102	0.121	0.116	0.112	0.077	0.073	0.120
Workers-Skilled	6	0.100	0.103	0.096	0.096	0.096	0.091	0.107	0.095	0.087	0.050	0.060	0.071	0.068	0.065	0.045	0.043	0.070
Workers-Semi	7	0.019	0.019	0.018	0.018	0.018	0.018	0.021	0.018	0.017	0.010	0.011	0.014	0.013	0.013	0.009	0.008	0.013
Workers-unskilled	8	0.022	0.022	0.021	0.021	0.021	0.020	0.023	0.021	0.019	0.011	0.013	0.015	0.015	0.014	0.010	0.009	0.015
Capital	9	0.976	0.992	0.925	0.928	0.928	0.892	1.062	0.927	0.835	0.480	0.578	0.682	0.656	0.631	0.434	0.413	0.679
PHH	10	0.287	0.290	0.269	0.272	0.272	0.263	0.315	0.272	0.243	0.216	0.269	0.331	0.305	0.293	0.202	0.194	0.322
SHH	11	0.345	0.351	0.327	0.329	0.329	0.316	0.376	0.328	0.296	0.271	0.326	0.385	0.371	0.356	0.246	0.234	0.384
AGRL	12	0.151	0.153	0.142	0.144	0.144	0.138	0.165	0.144	0.129	0.116	0.142	0.172	0.161	0.155	0.107	0.102	0.169
AGRSF	13	0.198	0.200	0.186	0.188	0.188	0.181	0.217	0.188	0.168	0.151	0.186	0.226	0.211	0.203	0.140	0.134	0.221
AGRLF	14	0.496	0.507	0.474	0.473	0.473	0.454	0.535	0.471	0.428	0.403	0.471	0.537	0.536	0.516	0.354	0.336	0.544
PTWSK	15	0.102	0.104	0.097	0.097	0.097	0.094	0.111	0.097	0.088	0.081	0.097	0.114	0.110	0.105	0.073	0.069	0.114
PTWSS	16	0.043	0.044	0.041	0.041	0.041	0.039	0.046	0.041	0.037	0.034	0.041	0.047	0.046	0.044	0.031	0.029	0.047
PTWUS	17	0.120	0.121	0.113	0.114	0.114	0.109	0.131	0.114	0.102	0.094	0.114	0.133	0.127	0.123	0.085	0.081	0.133
Food Grains	20	0.409	0.416	0.388	0.389	0.389	0.375	0.445	0.389	0.350	0.321	0.387	0.456	0.439	0.422	0.291	0.277	0.454
Other Agricul	21	0.490	0.499	0.464	0.466	0.467	0.449	0.534	0.466	0.420	0.385	0.463	0.547	0.526	0.506	0.348	0.332	0.544
ProsfFood	22	0.186	0.189	0.176	0.177	0.177	0.170	0.203	0.177	0.159	0.146	0.176	0.208	0.199	0.192	0.132	0.126	0.207
Cloth	23	0.089	0.090	0.084	0.084	0.084	0.081	0.097	0.084	0.076	0.070	0.084	0.099	0.095	0.092	0.063	0.060	0.098
Export Ind	24	0.036	0.036	0.034	0.034	0.034	0.033	0.039	0.034	0.030	0.028	0.034	0.040	0.038	0.037	0.025	0.024	0.039
Other Ind	25	0.302	0.307	0.286	0.288	0.288	0.277	0.329	0.287	0.259	0.237	0.286	0.337	0.324	0.312	0.215	0.204	0.336
Machinery	26	0.086	0.087	0.081	0.082	0.082	0.079	0.094	0.082	0.074	0.068	0.081	0.096	0.092	0.089	0.061	0.058	0.095
Construction	27	0.025	0.026	0.024	0.024	0.024	0.023	0.027	0.024	0.021	0.020	0.024	0.028	0.027	0.026	0.018	0.017	0.028
Education	28	0.017	0.017	0.016	0.016	0.016	0.015	0.018	0.016	0.014	0.013	0.016	0.018	0.018	0.017	0.012	0.011	0.018
Health	29	0.020	0.020	0.019	0.019	0.019	0.018	0.022	0.019	0.017	0.016	0.019	0.022	0.021	0.021	0.014	0.013	0.022
Services	30	0.497	0.505	0.470	0.473	0.473	0.455	0.541	0.472	0.425	0.390	0.469	0.555	0.533	0.513	0.353	0.336	0.552
Total		5.744	5.843	5.440	5.466	5.468	5.261	6.257	5.459	4.919	3.967	4.78	5.642	5.422	5.216	3.593	3.419	5.613

Table 8: Profiles of the Household Groups

	Size of Household	Mean Income	No. of Households	% of Household	Estimated Poverty Line
Professional	5.61	4543	1161926	6.37	2744
Service	5.74	3632	3030949	16.60	2810
Agricultural Labour	4.51	1667	3858512	21.14	1921
Small Farmer	5.15	2337	2255505	12.36	2193
Large Farmer	6.22	3544	4974600	27.25	2649
Skilled	5.16	2935	786929	4.31	2522
Semi-Skilled	5.11	2561	398146	2.18	2177
Unskilled	4.88	2271	1788247	9.80	2080
All Household	5.41	2902	18254814	100	2387

C I R D A P

The Centre on Integrated Rural Development for Asia and the Pacific (CIRDAP) is a regional, inter-governmental, autonomous institution, established in July 1979 at the initiative of the countries of the Asia-Pacific Region and the Food and Agriculture Organization (FAO) of the United Nations with support from several other UN bodies and donors. Its member countries include Afghanistan, Bangladesh (Host State), India, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand and Vietnam.

The main objectives of CIRDAP are to (i) assist national action; (ii) promote regional cooperation, and (iii) act as a servicing institution for its member countries for promotion of integrated rural development through research, action research, pilot project, training and information dissemination. Amelioration of rural poverty in the Asia-Pacific region has been the prime concern of CIRDAP. The Centre is committed to the WCARRD Follow-up Programmes. The programme priorities of CIRDAP are set under four areas of concern: (1) agrarian development; (2) institutional/infrastructural development; (3) resource development including human resources; and (4) employment.

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