Components of the Income Aggregate:

Bangladesh "Household Income Expenditure Survey (HIES) 2000"

Prepared for the Rural Income Generating Activities (RIGA) Project[1]

of the Agricultural Development Economics Division,

Food and Agriculture Organization

December, 2008

This document provides the survey-specific details associated with the income aggregate construction. For more information about the RIGA project, please refer to http://www.fao.org/es/esa/riga. For additional detail regarding the overall RIGA income aggregate construction approach, please refer to Carletto, et al (2007), "Rural Income Generating Activities Study: Methodological note on the construction of income aggregates," found on the RIGA website.

The Bangladesh Household Income Expenditure Survey (HIES) 2000 is an income and expenditure household survey carried out across the country. It is an expansion of Household Income Surveys (HIS) from previous years, which did not include consumption sections.

The sample of households for HIES 2000 was selected using a two stage procedure, in which the first phase created 442 Primary Sampling Unites (PSUs) throughout the country. In the second stage, varying numbers of households (from a low of 160 to a high of 1360) were selected for interviews in each PSU.

The overall sample for Bangladesh HIES 2000 is divided into 1) rural areas, 2) urban municipalities, and 3) Statistical Metropolitan Areas (SMAs). SMAs in each of the 5 divisions are considered as a separate group; however, there are no SMAs in the Barishal Division. Within each PSU, 20 households are interviewed, except in all Statistical Metropolitan Areas (SMAs), where only 10 households are interviewed.

Overall, a total of 7,440 households were interviewed for the HIES 2000. Rural households numbered 5,040, leaving 1,000 urban households in the data set. In the original datasets, URBRURAL is the variable distinguishing urban from rural households.[2] In the calculation of

---

[2] The definition of rural is not defined in the Bangladesh HIES 2000 Field Manual.

the income aggregate, URBRURAL is renamed to URBAN in order to use the same variable name across different surveys.

Since the sample is not self-weighting, household weights were calculated based upon the probability of selection. All money amounts are in the local currency, Taka. In 2002, the official exchange rate was 57.51 Tk = 1.0 USD.[3] **The income aggregates are calculated at the household level and all aggregates are annualized.**

The unique household identifier HHCODE (eventually renamed HH) can be used across household-level modules in the HIES survey and creates consistency across countries within the study.   To merge the community and price questionnaire modules with the household questionnaire, the variables *PSU* and *HHCODE* should be used.

Regarding income from different sources, revenues and costs were disaggregated when such information was available. The disaggregated sources for each income component are summarized in output variables column of Table 1. The net variables and the data files included in the final total income aggregate are in **bold**. **All variables included in the aggregate income variable are net of costs, unless otherwise noted.**

Comments
- In all sections, the raw data undergoes a transformation (it is annualized, aggregated, taken from person – household level, etc) before a check for outliers takes place.
- Gross income from the rental of agricultural land (Rentagric.do) is aggregated with "other" income (Otherinc.do); no sharecropping information is available.
- Agother.do calculates gross income for fishing and forestry activities. Fishing income is then input in the livestock category (Livestock.do) and forestry submitted to the crop section (Cropincome.do).
- In the Crop Production section (Cropincome.do, Rentagric.do, and Agother.do); the reference period is the previous 12 months. Two total crop income variables are created: CROPINCOME1 and CROPINCOME2. CROPINCOME1 includes estimates of own crop consumption based on the agricultural production module of the household questionnaire. CROPINCOME2 includes estimates of own crop consumption based on the food expenditure module of the survey.
- When calculating expenses on agricultural inputs, in order to identify net agricultural incomes, the cost of fish production expenses is omitted (Livestock.do). Its value is over 300% larger than the mean of other expenses indicating that said costs more likely reflect irregular investments in expensive durable equipment, such as boats or engines, as opposed to expenses on regular fishing inputs, such as bait or nets.
- For the Livestock, Other Income, and Transfers sections, the reference period is also the previous 12 months.
- Other Income (Otherinc.do) includes income from non-labor sources, miscellaneous sources, and from the rental of household land.
- For Transfer income, gross rather than net income is estimated.
- In the Wage employment section, the reference period is the previous 12 months and is sub-divided into seasonal/casual wage labor and permanent wage labor.

---

[3] Exchange rate used is the period average official exchange rate from the World Development Indicators.

- The classification of wage employment activities into industries following the International Standard Industrial Classification (ISIC), Rev. 3.1 by which the sectors of employment can be divided into ten categories: (1) Agriculture, Livestock, Hunting and Fishing, (2) Mining, (3) Manufacturing, (4) Electricity and Utilities, (5) Construction, (6) Commerce, (7) Transportation, Storage and Communications, (8) Finance, Insurance and Real Estate, (9) Services and (10) Other Industries. These industries are disaggregated into skilled/unskilled/unknown skill level employment following the United Nations International Standard Classification of Occupations (ISCO) 88 codes.
- Earnings from wage employment are net and include all in-cash and in-kind benefits received from the employer.
- The Self Employment (Selfemp.do) section accounts for income from non-farm enterprises owned by the household. The reference period is the previous 12 months. Income from non-farm enterprises is disaggregated by industry (following the ISIC coding described above) in order to convey information regarding the diversity of household activities.
- For all sections, whenever information was available regarding the share of a business, enterprise, or any other income activity owned by the household, the income earned from that activity was weighted by the share owned by the household.
- Although we would normally compute the income aggregate using information based on present household members (defined as having lived in the dwelling a minimum 6 of the previous 12 months), this information is not available in this survey, therefore the full sample is kept for the income aggregate construction.
- Participation and income share variables are also included in the final income aggregate.
- A final outlier check is imposed at the end of the Aggregateincome.do file in which households with income shares from any given activity greater than or less than 3 (300%) are dropped from the final income aggregate. Using this criteria, 14 households are dropped for this survey.

The programs that calculate each household's income aggregate component are summarized in Table 1. Tables 2 and 3 summarize the results from the created income aggregate.

Table 1

Program Name (.do)	Input Data Files	Output Data Files	Output Variables
Sample	hhlist	Sample	
Prices	food02 agri02 agri03 agri04 agri05 agri06 Sample	Prices2	Pricedata1 Pricedata2 Pricedata3 Pricedata4 Pricedata5 Pricedata6
Foodown	food02	Foodown	Cropownimp

	prices2 Sample		Livstownimp	
Agother	agri05 agri06 Sample	Fishagother Forestagother	Fishfarmimp Fishconsimp Forestfarmimp	
Cropincome	agri02 agri07 Forestagother Foodown Sample	cropinc cropexp **Cropincome**	Cropsoldimp Cropinputimp Cropowncons1imp Cropexpimp Cropincome1imp Cropincome2imp	
Employment	agri02 food02 Activity Sample	**inkp_price** **Employment**	pricedata* wgeimp1_1 wgeimp1_2 wgeimp1_3 wgeimp2_1 wgeimp2_2 wgeimp2_3 wgeimp3_1 wgeimp3_2 wgeimp3_3 wgeimp4_1 wgeimp4_2 wgeimp4_3 wgeimp5_1 wgeimp5_2 wgeimp5_3	wgeimp6_1 wgeimp6_2 wgeimp6_3 wgeimp7_1 wgeimp7_2 wgeimp7_3 wgeimp8_1 wgeimp8_2 wgeimp8_3 wgeimp9_1 wgeimp9_2 wgeimp9_3 wgeimp10_1 wgeimp10_2 wgeimp10_3
Livestock	agri03 agri04 agri07 Fishagother Foodown Sample	livstinc livstbyprdinc livstexp **Livestock**	livstincimp livstbyprimp livstinptimp Livstincimp_n	
Otherinc	Hhlist Sample	**Otherinc**	Nonfarmrntinc Otherincimp	

Rentagric	agri08 Sample	**Rentagric**	Farmrntincimp
Selfemp	Business Sample	**Selfemp**	selfimp1 selfimp2 selfimp3 selfimp4 selfimp5 selfimp6 selfimp7 selfimp8 selfimp9 selfimp10
Transfers	agri02 food02 hhlist plist Sample	inkp_price transfers transfstipend **Transfers**	pricedata* socialassistimp privtransincimp inkd_socialtransimp Pensionsimp femstipendimp Privtrans Pubtrans Socialtrans Transfersgrossimp
AggregateIncome	Sample Cropincome Employment Livestock Otherincome Selfemp Transfers	Income	agr_wge nonagr_wge crop1 crop2 livestock selfemp transfer other totincome1 totincome2

Table 2

Bangladesh 2000	5,031 Rural HH Observations	Rural, Weighted, Taka					Rural, Wieghted, USD	
Variable		**# Participants**	**Participation Rate**	**Returns to Participation- Participant HHs**	**Returns to Participation- All HHs**	**Share of Total Income- All HHs (Mean of Shares)**	**Share of Total Income- All HHs (Share of Means)**	**Returns to Participation- Participant HHs**	**Returns to Participation- All HHs**
agr_wge	Wage Employment- Agriculture	1,766	35.41%	16,091	5,699	20.05%	13.09%	280	99
nonagr_wge	Wage Employment- Nonfarm	1,608	31.95%	29,227	9,337	19.96%	21.44%	508	162
crop1	Crop Production	3,093	61.52%	9,054	5,570	15.82%	12.79%	157	97
livestock	Livestock Production	2,035	39.10%	1,269	496	1.18%	1.14%	22	9
selfemp	Non-ag Self Employment	1,291	25.67%	38,038	9,763	16.40%	22.42%	661	170
transfer	Total Transfers	2,461	48.52%	15,193	7,372	13.22%	16.93%	264	128
other	Other Income Sources	2,759	54.96%	9,659	5,309	13.37%	12.19%	168	92
totincome1	Total Household Income	5,021	99.94%	43,572	43,546	100.00%	100.00%	758	757

Percent Rural (Weighted)	**79.74%**
Taka/USD (June, 2002)	**57.51**

Notes:

1. Source data: 2000 Household Income-Expenditure Survey (HIES)

2. Exchange rate used is the period average official exchange rate from the World Development Indicators.

3. The variable "crop1" is distinguished from "crop2" in the way home consumption of own production of crops (owncons) is calculated. In crop1, owncons is calculated from the question in the agricultural production section of the household questionnaire that asks about household consumption of agricultural production. For crop2, owncons is calculated from the Food Expenditure section of the household questionnaire. Total household income "totincome1" and "totincome2" are therefore calculated with the corresponding crop income variable.

4. All values reported are annual and net of costs (with the exception of income from transfers and land rent, which are gross receipts).

Table 3

Bangladesh 2000	5,031 Rural HH Observations		Rural, Weighted, Taka					Rural, Wieghted, USD	
Variable		*# Participants*	*Participation Rate*	*Returns to Participation- Participant HHs*	*Returns to Participation- All HHs*	*Share of Total Income- All HHs (Mean of Shares)*	*Share of Total Income- All HHs (Share of Means)*	*Returns to Participation- Participant HHs*	*Returns to Participation- All HHs*
agr_wge	Wage Employment- Agriculture	1,766	35.41%	16,091	5,699	20.23%	13.13%	280	99
nonagr_wge	Wage Employment- Nonfarm	1,608	31.95%	29,227	9,337	19.91%	21.52%	508	162
crop2	Crop Production	4,111	81.59%	6,630	5,409	15.47%	12.47%	115	94
livestock	Livestock Production	2,035	39.10%	1,269	496	1.17%	1.14%	22	9
selfemp	Non-ag Self Employment	1,291	25.67%	38,038	9,763	16.45%	22.50%	661	170
transfer	Total Transfers	2,461	48.52%	15,193	7,372	13.35%	16.99%	264	128
other	Other Income Sources	2,759	54.96%	9,659	5,309	13.42%	12.24%	168	92
totincome2	Total Household Income	5,024	100.00%	43,385	43,385	100.00%	100.00%	754	754

Percent Rural (Weighted)	**79.74%**
Taka/USD (June, 2002)	**57.51**

Notes:

1. Source data: 2000 Household Income-Expenditure Survey (HIES)

2. Exchange rate used is the period average official exchange rate from the World Development Indicators.

3. The variable "crop1" is distinguished from "crop2" in the way home consumption of own production of crops (owncons) is calculated. In crop1, owncons is calculated from the question in the agricultural production section of the household questionnaire that asks about household consumption of agricultural production. For crop2, owncons is calculated from the Food Expenditure section of the household questionnaire. Total household income "totincome1" and "totincome2" are therefore calculated with the corresponding crop income variable.

4. All values reported are annual and net of costs (with the exception of income from transfers and land rent, which are gross receipts).