Components of the Income Aggregate:

"Pakistan Integrated Household Survey (PIHS) 2001/2002"

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

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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 Pakistan Integrated Household Survey (PIHS) 2001/2002 is the third round of a series of income and expenditure household surveys carried out across rural and urban Pakistan.

The sample for this PIHS was drawn using a two-stage stratified sampling procedure, in which the first stratification created divided urban and rural areas. Primary Sampling Units (PSUs) were then selected from each strata: 500 PSUs in urban areas and 650 in rural areas. The Secndary Sampling Uunit (SSU) was the household. Twelve households were selected from urban PSUs whereas 16 households were chosen from rural PSUs, thus creating a total sample of 16,400 households. 16,182 households were actually interviewed for this PIHS, the 2.3% difference attributable (1) to the need to drop 8 villages for security reasons in the FATA province and (2) the non-response/non-cooperation of 90 households.

There are 10,233 rural households and 5,949 urban households in the dataset. In the original datasets, REGION is the variable distinguishing urban from rural households. In the calculation of the income aggregate, REGION 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. The household weight variable used in all descriptive analysis is WEIGHT. This variable was created for all households *except for* 8 sample villages in the Fata

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[1] The RIGA Project is a collaboration between FAO, the World Bank and American University in Washington, D.C. Original data can be obtained from the World Bank's Living Standards Measurement Study by visiting the LSMS website at: http://www.worldbank.org/lsms.

province due to the security situation in Pakistan during the sampling period.[2] Therefore, although income information was aggregated for households in this province (since their surveys are complete), we were obligated to drop them from the RIGA analysis in order to ensure RIGA results produce nationally representative results, which is only possible with the weighting factor for surveys whose samples are not representative.

The average household size in Pakistan is 6.96 persons.[3] All money amounts are in the local currency, Rupees. In 2001, the official exchange rate was 61.93 Rs = 1.0 USD.[4] **The income aggregates are calculated at the household level and all aggregates are annualized.**

The household-level modules of the PIHS survey can be linked using the unique household identifier HHCODE. This variable is renamed to HH, for consistency across countries within the study. To merge the community and price questionnaire modules with the household questionnaire, the variable PSU 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.
- Agrent calculates gross income from the rental of agricultural land and net income from sharecropping. Sharecropping is aggregated with total crop income whereas the land rent income is aggregated with "other" income.
- In the Crop Production section (pertaining to the do files: agbyprod, aglabor, agrent, agother; cropexp and cropincome) , the reference period is the previous crop season, of which there are two (Rabi and Karif) for seasonal crops, and the previous 12 months for annual crops (orchard; sugarcane). Two total crop income variables are created: c*ropincome1* and c*ropincome2*. *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.
- For the Livestock, Other Income, and Transfers sections, the reference period is the previous 12 months.
- Other Income includes income from nonlabor 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.
- The classification of wage employment activities into industries following the International Standard Industry Codes (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)

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[2] Page 21 of PIHS Round 4 Basic Information Document.
[3] Obtained from PIHS Round 4 Basic Information Document.
[4] Exchange rate used comes from the World Bank World Development Indicators database.

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 in cash received from the employer.
- The Self Employment (Selfemp) section accounts for income from nonfarm enterprises owned by the household. The reference period is the last 12 months. Income from nonfarm 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.
- 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, 77 households are dropped from this survey.
- Only information on present household members is considered in the final income aggregate. Present is defined as a having been absent from the households for 6 or fewer months in the previous 12 months for non-head household members. Household heads are included regardless of their location status since they can still serve as primary income sources. Thus, "keep if member ==1".
- Participation and income share variables for all income components are included in the final income aggregate.

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	PLIST	Sample	
Food	SECT6a_f Sample	Foodown	Cropownimp Livstownimp
Agrent	SECT10B2 SECT9A SECT10A1 Sample Agrent1 Agrent2 Agrent3	Agrent1 Agrent2 Agrent3 Agrent	agrentimp Farmrnt1imp Farmrnt2imp Farmrntimp
Cropincome	SECT10A2	cropinc	Cropproduceimp

	cropinc Foodown Agrent Sample	**Cropincome**	Cropkeepimp Cropexpimp Croprentimp Cropincome1imp Cropincome2imp	
Employment	Income1 Sample Employ1 Employ2	Employ1 Employ2 **Employment**	Wge1imp Wge2imp 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	SECT10B1 Foodown Livst1 Sample	Livst1 **Livestock**	livstinc1imp livstexpimp livstincimp	
Otherinc	SECT9A SECT9B Sample	Other1 Other2 **Otherinc**	nonfarmrntimp otherincimp	
Selfemp	SECT11A SECT11B1 SECT11B2 Sample Self1	Self1 Self2 **Selfemp**	hhexpimp hhrevimp selfimp1	

	Self2		selfimp2 selfimp3 selfimp4 selfimp5 selfimp6 selfimp7 selfimp8 selfimp9 selfimp10
Transfers	SECT8A Income1 Sample Trans1 Trans2	Trans1 Trans2 **Transfers**	privtransimp socialtransimp pensionsimp pubtrans transfersgrossimp
AggregateIncome	Sample Cropincome Employment Livestock Otherincome Selfemp Transfers	Income	agr_wge nonagr_wge crop1 crop2 livestock selfemp transfer other totincome1 totincome2

Table 2

Pakistan 2001	9,895 Rural HH Observations	Rural, Weighted, Rupees						Rural, Weighted, 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**	**All HHs**
agr_wge	Wage Employment- Agriculture	1,838	20.00%	17,947	3,589	8.86%	6.51%	290	58
nonagr_wge	Wage Employment- Nonfarm	4,648	48.47%	31,948	15,485	28.80%	28.09%	516	250
crop1	Crop Production	3,967	40.49%	29,744	12,042	21.16%	21.85%	480	194
livestock	Livestock Production	6,128	64.61%	8,998	5,813	11.41%	10.55%	145	94
selfemp	Non-ag Self Employment	1,522	17.80%	42,052	7,485	10.66%	13.58%	679	121
transfer	Total Transfers	3,026	31.43%	22,112	6,950	14.54%	12.61%	357	112
other	Other Income Sources	1,635	15.72%	23,908	3,757	4.58%	6.82%	386	61
totincome1	Total Household Income	9,768	99.18%	55,576	55,123	100.00%	100.00%	897	890

Percent Rural (Weighted)	71.14%
Rupees/USD 1991	61.93

Notes:

1. Source data: 2001 Integrated Household Survey

2. Exchange rate used comes from the World Bank World Development Indicators database.

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 the amount reported in the crop section of the questionaire. For crop2, owncons is calculated from the "Consumption of Own Produce" 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

Pakistan 2001	9,895 Rural HH Observations	Rural, Weighted, Rupees						Rural, Weighted, 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	All HHs
agr_wge	Wage Employment- Agriculture	1,838	20.00%	17,947	3,589	8.71%	8.07%	290	58
nonagr_wge	Wage Employment- Nonfarm	4,648	48.47%	31,948	15,485	-29.90%	34.83%	516	250
crop2	Crop Production	5,081	52.26%	2,640	1,380	81.74%	3.10%	43	22
livestock	Livestock Production	6,128	64.61%	8,998	5,813	14.23%	13.08%	145	94
selfemp	Non-ag Self Employment	1,522	17.80%	42,052	7,485	10.99%	16.84%	679	121
transfer	Total Transfers	3,026	31.43%	22,112	6,950	14.42%	15.63%	357	112
other	Other Income Sources	1,635	15.72%	23,908	3,757	-0.18%	8.45%	386	61
totincome2	Total Household Income	9,811	99.45%	44,706	44,460	100.00%	100.00%	722	718

Percent Rural (Weighted)	71.14%
Rupees/USD 1991	61.93

Notes:

1. Source data: 2001 Integrated Household Survey

2. Exchange rate used comes from the World Bank World Development Indicators database.

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 the amount reported in the crop section of the questionaire. For crop2, owncons is calculated from the "Consumption of Own Produce" 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).