Components of the Income Aggregate:
"Encuesta de Niveles de Vida, Panama 2002/2003"[1]

Prepared for the Rural Income Generating Activities (RIGA) Project[2]

of the Agricultural Development Economics Division,

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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 Panama *Encuesta de Niveles de Vida* (Living Standards Survey; ENV) was carried out from 2002 through 2003. The sample frame for the sample selection is made up of listings obtained from the 2000 Census of Population and Housing (*Censos Nacionales de Población y Vivienda del año 2000*).

A two-stage design was used for the sample selection. The sample is not representative of the whole population because it over-samples to include traditionally excluded are (i.e. indigenous population and population living in remote areas). The primary sampling units are the *Unidades Primarias de Muestra* (UPM's). The ultimate sampling units are the housing units in all the UPM's. The number of housing units selected from every UPM for interview was 10 households per UPM. The expansion factor is represented by variable FACTOR which is included in each file.

Eight thousand households were selected for the final sample however 6,363 households actually have complete surveys in the raw data. There are 2,945 rural households and 3,418 urban households in the dataset. In the original datasets, AREA is the variable distinguishing urban from rural households. Urban is defined as localities with more than 1,500 inhabitants that meet certain requirements: electricity access, public water access etc. Urban areas also have access to primary and secondary educational institutions and commercial and social centers. Rural areas

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are areas under 1,500 inhabitants that do not meet above stated criteria. [3] In the calculation of the income aggregate area is renamed to URBAN in order to use the same variable name across different surveys.

The average household size in Ecuador was 4.15 persons.[4] All money amounts are in the local currency, Balboas. In 2003, the official exchange rate was 1 Balboas = 1.0 USD.[5] **The income aggregates are calculated at the household level and all aggregates are annualized.**

The various household-level modules of the ENV survey can be linked using the unique household identifier: FORM. This variable is renamed to HH in the final aggregate income file in order to ensure consistency across countries within the study.

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 (Income.dta) are in **bold**. **Unless otherwise noted, all variables included in the aggregate income variable are net of costs.**

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.
- All missing values coded as numbers are recoded back to missing based on the data codebook.
- In the Crop Production section, the reference period is the previous 1 month or 12 months. 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 section of the questionnaire in which household consumption was recorded and updated periodically over a given time frame.
- The reference period for the consumption of own produce (from the food expenditure section of the questionnaire, corresponding to *Cropincome2*) is based on a period of 16 days for rural clusters (which were visited eight times at two-day intervals) and of 33 days for urban clusters (which were visited eleven times at three-day intervals).
- For the Other Income and Transfers sections, the reference period is the previous 1 month or 12 months.
- For the Agricultural Rent section the reference period is crop season, month, 3 months, 6 months and 12 months.
- For the Livestock section, the reference period is the last 12 months.
- Other Income includes income from non-labor, non-farm sources and includes farm and non-farm rent.
- For Transfers and Rent income, both gross and net income are estimated; however, in the calculation of the income aggregate, only the gross estimates are considered.

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[3] Definitions of rural and urban come from the Panama Basic Information documentations.
[4] Source: ENV E03Base.dta – *miembros* variable measures average household size
[5] Exchange rate used comes from the World Bank World Development Indicators database.

- In the Wage employment section, the reference period is the duration of employment as specified by the respondent in the questionnaire for the first, second full-time and part-time jobs held in the last 12 months. All household members 10 years and older were interviewed.
- The classification of wage employment activities into industries and skilled/unskilled categories follow the government's classification system and correspond with United Nations International Standard Industrial Classification (ISIC). Given these standards, the employment sectors include: (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.
- The classification of labor to skilled and unskilled is derived from the basic information document included with the data. In the income aggregate, all activities are classified as skilled, unskilled or other.
- Earnings from wage employment include all in-cash and in-kind benefits in cash received from the employer. The wage also includes salaries as well as hourly wage earnings.
- The Self Employment (Selfemp) section accounted for income from non-farm enterprises owned by the household. The reference period is the number of months during which the enterprise was in operation.
- The classification of non-farm enterprise activities into industries categories follows the same classification system as the employment section. Given these standards, the non-farm enterprise sectors include: (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.
- 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, 14 households are dropped from this survey.
- 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 Table 3 summarize the results from the created income aggregate.

Table 1

do file	input dta files	output dta files	output variables
Sample.do	E97BASE2.DTA	Sample.dta	
Prices.do	E03GA10B.dta E03AG12B1.dta E03AG12.dta E03PR01.dta	Prices.dta	pricedata1 pricedata2 pricedata3 pricedata4

	Sample.dta		pricedata5 pricedata6 pricedata7 pricedata8 pricedata9 pricedata10 pricedata11 pricedata12 pricedata13 pricedata14 pricedata15
Food.do	E03GA10B.dta Prices.dta Sample.dta	Food.dta	foodowncropimp foodownlivstimp foodgiftimp foodwageimp foodenterpriseimp
Rentagric.do	E03AG12.dta E03AG12A1.dta E03AG12A2.dta Sample.dta	Rentagric.dta aggrentexp.dta **Rentagricnet.dta**	**Aggrentincimp** Aggrentexpimp farmrntimp
Cropincome1	E03AG12B2.dta E03AG12B3.dta E03AG12.dta Sample.dta	cropexp1.dta cropexp2.dta templaborexp.dta partlaborexp.dta fulllaborexp.dta techexp.dta *cropexp.dta*	cropexp1imp cropexp2imp templaborexpimp partlaborexpimp fulllaborexpimp techexpimp cropexp(imp)
Cropincome2	E03AG12B1.dta E03AG12.dta	*cropinc.dta*	cropsold1imp cropinputimp cropownimp sharcropnetimp
Cropincome3	E03AG12B6.dta	cropbypr1.dta	cropbyprsold1imp exchanged1imp cropbyprown1imp
	E03AG12.dta E03AG12C1.dta	cropbypr2.dta	cropbyprsold2imp cropbyprown2imp
	cropexp.dta cropinc.dta cropbypr1.dta cropbypr2.dta Food.dta	**Cropincome.dta**	**cropincome1imp** **cropincome2imp**

Employment1 Employment2	E03PE07.dta Sample.dta	employ1.dta employ2.dta employ3.dta **Employment.dta**	wge (by industry, skilled) wgem **wgeimp**
Livestock1.do	E03AG12D1.dta	livstinc.dta	livstsold1imp livstsold2imp ownconsimp laborimp purchaseimp barterimp productionimp
Livestock2.do	E03AG12D2.dta	livstbypr1.dta	livstbyprown1imp livstbyprsold1imp exchanged1imp
	E03AG12D3.dta Sample.dta livstinc.dta livstbypr1.dta livstexp1.dta	livstexp1.dta **Livestock.dta**	livstexp1imp **livstincimp**
Otherinc.do	E03GA10E.dta Sample.dta	nonfarmrnt.dta otherinc.dta **Otherinc.dta**	**nonfarmrntimp** otherincimp **otherincnetimp**
Selfemp1.do Selfemp2.do	E03PE07.dta E03NE11A.dta Sample.dta	selfemp1.dta selfemp2.dta selfemp3.dta **Selfemp.dta**	**selfempincimp** (by industry)
Transfers1.do	E03PE07.dta E03GA10E.dta E03GA10C.dta Sample.dta	transprivincash.dta transprivinkindandcash.dta transprivexp.dta *transprivinc.dta* *pensions.dta*	transprivincashimp transprivinkindandcashimp transprivexpimp *transprivincimp* *pensionimp*
Transfers2.do	E03PE07.dta Sample.dta	socbenef1.dta socbenef2.dta socbenef3.dta socexp1.dta socialtransfers.dta	socbenef1imp socbenef2imp socbenef3imp socexp1imp socialtransfersincimp socialtransfersexpimp
	transprivinc.dta *pensions.dta* socialtransfers.dta	**Transfers.dta**	privtransferimp pubtransferimp privtransfergrossimp pubtransfergrossimp **transfersgrossimp**

			transferstotimp
AggregateIncome.do	Cropincome.dta	Income.dta	agr_wge
	Prices.dta		nonagr_wge
	Food.dta		crop1
	Livestock.dta		crop2
	Rentagric.dta		livestock
	Employment.dta		other
	Selfemp.dta		selfemp
	Otherinc.dta		transfer
	Transfers.dta		totincome1
	Sample.dta		totincome2

Table 2

Panama 2003	2,933 Rural HH Observations	Rural, Weighted, Balboas						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	923	30.31%	1,577	478	18.79%	15.17%	1,577	478
nonagr_wge	Wage Employment- Nonfarm	1,129	41.99%	3,434	1,442	28.47%	45.76%	3,434	1,442
crop1	Crop Production	1,451	48.63%	165	80	5.47%	2.55%	165	80
livestock	Livestock Production	1,925	65.21%	63	41	2.30%	1.31%	63	41
selfemp	Non-ag Self Employment	1,682	56.17%	1,306	733	26.68%	23.28%	1,306	733
transfer	Total Transfers	1,962	64.47%	521	336	16.86%	10.65%	521	336
other	Other Income Sources	359	11.51%	352	41	1.42%	1.29%	352	41
totincome1	Total Household Income-crop1	2,915	99.36%	3,171	3,151	100.00%	100.00%	3,171	3,151

Percent Rural (Weighted)	35.56%
Balboas/USD 2003	1.00

Notes:

1. Source data: 2003 Encuesta de Niveles de Vida (ENV).

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

Panama 2003	2,933 Rural HH Observations	Rural, Weighted, Balboas						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	923	30.31%	1,577	478	16.73%	14.29%	1,577	478
nonagr_wge	Wage Employment- Nonfarm	1,129	41.99%	3,434	1,442	27.13%	43.09%	3,434	1,442
crop2	Crop Production	2,330	78.40%	336	263	15.83%	7.86%	336	263
livestock	Livestock Production	1,925	65.21%	63	41	2.00%	1.23%	63	41
selfemp	Non-ag Self Employment	1,682	56.17%	1,306	733	22.57%	21.92%	1,306	733
transfer	Total Transfers	1,962	64.47%	521	336	14.57%	10.03%	521	336
other	Other Income Sources	359	11.51%	352	41	1.16%	1.21%	352	41
totincome2	Total Household Income-crop2	2,924	99.64%	3,171	3,346	100.00%	99.64%	3,171	3,346

Percent Rural (Weighted)	35.56%
Balboas/USD 2003	1.00

Notes:

1. Source data: 2003 Encuesta de Niveles de Vida (ENV).

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.

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