

**Components of the Income Aggregate:
“Encuesta de Niveles de Vida, Panama 1996/1997”¹**

Prepared for the Rural Income Generating Activities (RIGA) Project²

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 Conditions Survey; ENV) was carried out from June 8, 1996 until October 8, 1997. The sample frame for the sample selection is made up of listings obtained from the 1990 Census of Population and Housing.

For the 1995 SLC 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 Muestreo (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 12 in the urban areas and 11 in the rural areas and the indigenous areas and 6 in the remote areas. The expansion factor is represented by variable FACTOR2 which is included in each file.

For the final sample, 5,126 households were selected; however 4,938 households actually have complete surveys in the raw data. There are 2,496 rural households and 2,442 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

¹ The information provided in this document relies substantially upon the Panama 1997 Basic Information documentation (Encuesta de Condiciones de Vida), provided with the 1996/1997 Panama ENV data..

² 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>.

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 Panama was 4.16 persons.⁴ All money amounts are in the local currency, Balboas. In 1997, 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 seven variables that create the unique household identifier: REGION PROVINCIA DISTRITO CORREGIM AREA UPM VIV HOGAR. These variables are combined to create the unique identifier HH for consistency across countries within the study in the final aggregate file.

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**. **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.
- 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: *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 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 Transfer income, two estimates are calculated: gross and net. However, in the calculation of the household income aggregate, it is gross transfer income that is considered.

³ Definitions of rural and urban come from the Panama Basic Information documentations.

⁴ Source: Panama Poverty Assessment, 1999, Annex 4

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 accounts 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, 12 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	FINCA2.DTA GAST-A.DTA PRECIOS.DTA	prices.dta	pricedata1 pricedata2 pricedata3 pricedata4 pricedata5 pricedata6 pricedata7 pricedata8 pricedata9 pricedata10 pricedata11 pricedata12 pricedata13 pricedata14 pricedata15
Foodown.do	FINCA2.DTA GAST-A.DTA	Food.dta	foodowncropimp foodownlivstimp foodgiftimp foodwageimp foodenterpriseimp
Rentagric1.do	FINCA1.DTA Sample.dta	agrrentinc1.dta agrrentinc2.dta agrrentinc3.dta Rentagric.dta	aggrentinc1imp aggrentinc2imp aggrentinc3imp farmrntimp
Rentagric2.do	FINCA1.DTA Sample.dta	agrrentexp1.dta agrrentexp2.dta agrrentexp3.dta <i>agrrentexp.dta</i> Rentagricnet.dta	rentexp1imp rentexp2imp rentexp3imp <i>rentexpimp</i> farmrntimp

Cropincome1	FINCA2.DTA	seedexp.dta orgfertexp.dta chemfertexp.dta pestexp.dta packexp.dta	seedexpimp orgfertexpimp chemfertexpimp pestexpimp packexpimp
Cropincome2	FINCA2.DTA	templaborexp.dta partlaborexp.dta fulllaborexp.dta techexp.dta otherexp.dta <i>cropexp.dta</i> <i>cropinc.dta</i>	templaborexpimp partlaborexpimp fulllaborexpimp techexpimp otherexpimp cropexpimp cropsold1imp cropinputimp sharcropnetimp cropown1imp laborimp
Cropincome3	FINCA2.DTA		cropsold1imp cropinputimp sharcropnetimp cropown1imp laborimp
Cropincome4	FINCA2.DTA	<i>cropbypr1.dta</i>	cropbyprsold1imp exchanged1imp cropbyprown1imp cropbyprsold2imp cropbyprown2imp
	FINCA3.DTA	<i>cropbypr2.dta</i>	cropbyprsold2imp cropbyprown2imp
	<i>cropbypr1.dta</i> <i>cropbypr2.dta</i> <i>cropexp.dta</i> <i>cropinc.dta</i> <i>food.dta</i> Sample.dta	Cropincome.dta	cropincome1imp cropincome2imp
Employment1 Employment2	PERSONA.DTA Sample.dta	employ1.dta employ2.dta employ3.dta Employment.dta	wge (by industry, skilled) wgem wgeimp
Livestock1.do	FINCA3.DTA Sample.dta	livstinc1.dta	livstsold1imp livstsold2imp ownconsimp laborimp purchaseimp bornimp giftsimp lostimp livstprocessimp
Livestock2.do	FINCA3.DTA Sample.dta	livstbypr1.dta	livstbyprown1imp livstbyprsold1imp exchanged1imp livstexplimp
	livstinc1.dta livstbypr1.dta livstexp1.dta	livstexp1.dta Livestock.dta	livstincimp

food.dta			
Otherinc.do	GAST-B.DTA GAST-C.DTA Sample.dta	otherinc1.dta otherinc2.dta otherinc3.dta otherinc4.dta nonfarmrnt.dta Otherinc.dta	otherinc1imp otherinc2imp otherinc3imp otherinc4imp nonfarmrntimp otherincnetimp
Selfemp1.do	NEGOCI.DTA PERSONA.DTA	selfemp.dta selfemp2.dta	selfempincimp selfempincimp
Selfemp2.do	NEGOCI.DTA PERSONA.DTA	selfemp3.dta Selfemp.dta	selfempincimp selfemp1 selfemp2 selfemp3 selfemp4 selfemp5 selfemp6 selfemp7 selfemp8 selfemp9 selfemp10

Transfers1.do	PERSONA.DTA GAST-C.DTA GAST-B.DTA GAST-B.DTA Sample.dta PERSONA.DTA	transprivincash.dta transprivinkind.dta transprivexpcash.dta transprivexpkind.dta transprivinc.dta pensions.dta	transprivincashimp transprivinkindimp transprivexpcashimp transprivexpkindimp transprivincimp transprivexpimp pensionsimp
Transfers2.do	PERSONA.DTA PERSONA.DTA PERSONA.DTA GAST-C.DTA GAST-C.DTA GAST-B.DTA GAST-B.DTA GAST-B.DTA GAST-C.DTA	socbenef1.dta socbenef2.dta socexp1.dta socexp2.dta socexp3.dta socbenef3.dta socbenef4.dta socbenef5.dta	socbenef1imp socbenef2imp socexp1imp socexp2imp socexp3impr socbenef3imp socbenef4imp socbenef5imp
Transfers3.do	PERSONA.DTA transprivinc.dta pensions.dta socialtransfers.dta	socbenef7.dta socialtransfers.dta Transfers.dta	socbenef7imp socialtransfersincimp privtransferimp pubtransferimp transfersgrossimp transferstotimp
AggregateIncome.do	Cropincome.dta Livestock.dta Rentagric.dta Employment.dta Selfemp.dta Otherinc.dta Transfers.dta Sample.dta	Income.dta	agr_wge nonagr_wge crop1 crop2 livestock selfemp transfer other

Table 2

<i>Panama 1997</i>		2,482 Rural HH Observations		Rural, Weighted, Balboas				Rural, Weighted, USD	
<i>Variable</i>		<i># Participants</i>	<i>Participation Rate</i>	<i>Returns to Participation- Participant HHs</i>	<i>Returns to Participation- All HHs</i>	<i>Share of Total Income- All HHs (Mean of Shares)</i>	<i>Share of Total Income- All HHs (Share of Means)</i>	<i>Returns to Participation- Participant HHs</i>	<i>All HHs</i>
agr_wge	Wage Employment- Agriculture	656	26.84%	1,343	361	13.35%	11.66%	1,343	361
nonagr_wge	Wage Employment- Nonfarm	1,053	43.62%	3,107	1,355	29.24%	43.80%	3,107	1,355
crop1	Crop Production	1,203	45.76%	878	402	16.41%	12.98%	878	402
livestock	Livestock Production	2,440	97.90%	156	153	6.94%	4.94%	156	153
selfemp	Non-ag Self Employment	1,369	53.09%	949	504	16.62%	16.29%	949	504
transfer	Total Transfers	1,712	68.55%	405	278	15.99%	8.98%	405	278
other	Other Income Sources	199	8.46%	494	42	1.46%	1.35%	494	42
totincome1	Total Household Income-crop1	2,489	99.84%	3,098	3,093	100.00%	100.00%	3,098	3,093

<i>Percent Rural (Weighted)</i>	41.73%
<i>Balboas/USD 1997</i>	1.00

Notes:

1. Source data: 1997 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 questionnaire. 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

<i>Panama 1997</i>		2,482 Rural HH Observations		Rural, Weighted, Balboas				Rural, Weighted, USD	
<i>Variable</i>		<i># Participants</i>	<i>Participation Rate</i>	<i>Returns to Participation- Participant HHs</i>	<i>Returns to Participation- All HHs</i>	<i>Share of Total Income- All HHs (Mean of Shares)</i>	<i>Share of Total Income- All HHs (Share of Means)</i>	<i>Returns to Participation- Participant HHs</i>	<i>All HHs</i>
agr_wge	Wage Employment- Agriculture	656	26.84%	1,343	361	13.89%	12.33%	1,343	361
nonagr_wge	Wage Employment- Nonfarm	1,053	43.62%	3,107	1,355	29.21%	46.34%	3,107	1,355
crop2	Crop Production	2,191	87.46%	266	232	15.48%	7.95%	266	232
livestock	Livestock Production	2,440	97.90%	156	153	7.19%	5.23%	156	153
selfemp	Non-ag Self Employment	1,369	53.09%	949	504	16.66%	17.23%	949	504
transfer	Total Transfers	1,712	68.55%	405	278	16.10%	9.50%	405	278
other	Other Income Sources	199	8.46%	494	42	1.47%	1.43%	494	42
totincome2	Total Household Income-crop1	2,489	99.84%	2,929	2,924	100.00%	100.00%	2,929	2,924

<i>Percent Rural (Weighted)</i>	41.73%
<i>Balboas/USD 1997</i>	1.00

Notes:

1. Source data: 1997 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 questionnaire. 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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