Components of the Income Aggregate:
"Encuesta de Niveles de Vida, Nicaragua 2005"[1]

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

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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 Nicaragua *Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida* (National Household Survey for the Measurement of Living Standards; EMNV) was carried out over a period of four months in 2005. Household surveys took place from July to October 2005. This is the third wave of a panel survey, beginning with the 1998 EMNV.

The sample frame was drawn from the 2004 Population Census of Nicaragua. The Primary Sampling Unit (PSU) of the survey is the census segments. The country consists of 8,603 segments.

The Secondary Sampling Units (SSUs) are urban and rural, by which the census segments were divided. On average the segments contain 150 houses in the urban area and 120 in the rural area. From the urban segments twelve households were selected to be surveyed, with ten selected from the rural segments.

The sample size of the survey was 8,239 households, comprised of 587 segments, 265 urban and 322 rural. Of theses, 431 segments correspond to the panel portion of the survey. Of the planned 8,239 households, only 6,868 entirely completed both rounds of surveys, thus 16.6% of the surveys were not administered or were incomplete.

Of the 6,882 households, 3,342 participated in the 2001 EMNV. To identify those households that participated in the 2001 survey, use variable H2001. It is possible to recreate the 2001 household identifier from the 2005 data using the following syntax: (FH2001 *100) + NH2001.

There are 3,412 rural households and 3,470 urban households in the dataset. In the original datasets, I06 is the variable distinguishing urban from rural households. Rural is defined as all areas with fewer than 1,000 inhabitants, who lack access to power, industrial and/or commercial establishments and street grids and that have dispersed populations. In the calculation of the income aggregate, I06 is renamed to URBAN in order to use the same variable name across different surveys.

Since the sample is not self-weighting, population weights for individuals and households were calculated based upon the probability of selection. All money amounts are in the local currency, Córdobas. In 2005, the official exchange rate was 16.733 NIO = 1.0 USD.[3]

The various household-level modules of the EMNV survey can be linked using the unique household identifier variable: I00. This variable was renamed to HH for 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
- The original data codes responses such as "don't know," "ignored," "not sure", and so on, with a "99", "999", "9999" etc. These values are recoded to missing "." in all files.
- Household weights were assigned using the expansion factor "peso2". All income estimates are weighted using this factor.
- 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.
- In the Crop Production section, 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 section, the reference period is the past 15 days.
- For the Livestock, Other Income, Rentagric and Transfers sections, the reference period is the previous 12 months.
- Other Income includes income from nonfarm rental assets, interest earned on savings, financial deposits and loans, dividends, educational transfers, undefined employment income and income classified as other.
- For a second job held in the previous 12 months, income was classified as Other Income and not Employment because the industry and the sill was undefined.

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[3] Exchange rate used comes from the World Bank World Development Indicators database.

- Educational transfers are included in the Other Income category, not as a Public Transfer, in line with the methods of the 2001 RIGA analysis.
- "Ayudas en dinero" (*in-cash assistance*) from the "Other income" module is categorized as a Private Transfer, while in 2001 it is considered as Other Income.
- Rentagric calculates gross income from the rental of agricultural land and net income from sharecropped land.
- For Transfer income only gross income was calculated because there was no information on outgoing transfers.
- In the Wage employment section, the reference period is the duration of employment as specified by the respondent in the questionnaire for the primary and secondary full-time and part-time jobs held in the previous 7 days and, if not in the previous 7 days, all work in the previous 12 months. All individuals 6 years and older were interviewed.
- The classification of wage employment activities into industries and skilled/unskilled categories follow the United Nations International Standard Classification of Occupations (ISCO) 88 codes. 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 job categories are divided into skilled, unskilled and other.
- Earnings from wage employment are net of contributions and taxes and include all in-cash and in-kind benefits in cash received from the employer.
- Social insurance benefits are not included in the income calculation.
- 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.
- When calculating Agricultural Rent payments, if the frequency of the payment was defined as "each harvest", then it is assumed that there is only one harvest per year.
- In calculating Agricultural Rent payments, the status of land that is lent out or occupied depends on the form of payment. Those paid for in cash are listed as rental and those paid for in kind with crops are listed as share cropping.

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 (Stata "do" file)	Input Data Files	Output Data Files	Output Variables
Sample	**01caratula.dta** **agregado_de_consumo.dta**	**Sample.dta**	
Prices	**23seccion8b1.dta** **25seccion8c.dta** **26seccion8d.dta** **precios.dta** **10seccion7a.dta** **Sample.dta**	**Prices.dta**	**price_prod_depto** **price_prod_muni** **price_prod_segm** **price_prod_unit** **price_prices_depto** **price_prices_muni** **price_prices_segm** **price_prices_unit** **price_purch_depto** **price_purch_muni** **price_purch_segm** **price_purch_unit**
Food	**10seccion7a.dta** **Prices.dta** **Sample.dta**	**Food.dta** **Foodown.dta**	**foodpurchimp** **foodownimp** **foodowncropimp** **foodownlivstimp** **foodgiftimp**
Cropincome	**24seccion8b2.dta** **32seccion8f1_gastosagro.dta** **33seccion8f2_equiposagro.dta** **34seccion8f3_instalacionesagro.dta** **Food.dta** **Sample.dta**	**cropexp.dta** **cropinc.dta** **Cropincome.dta**	**cropexpimp** **cropincome1** **cropincome2**
Employment	**05poblacion.dta** **Sample.dta**	**employ1.dta** **employ2.dta** **employ3.dta** **Employment.dta**	**wgeimp1_1** **wgeimp2_1** **wgeimp3_1** **wgeimp4_1** **wgeimp5_1** **wgeimp6_1**

			wgeimp7_1
			wgeimp8_1
			wgeimp9_1
			wgeimp10_1
			wgeimp1_2
			wgeimp2_2
			wgeimp3_2
			wgeimp4_2
			wgeimp5_2
			wgeimp6_2
			wgeimp7_2
			wgeimp8_2
			wgeimp9_2
			wgeimp10_2
			wgeimp1_3
			wgeimp2_3
			wgeimp3_3
			wgeimp4_3
			wgeimp5_3
			wgeimp6_3
			wgeimp7_3
			wgeimp8_3
			wgeimp9_3
			wgeimp10_3
Livestock	25seccion8c.dta	Livestock.dta	livstinc1imp
	26seccion8d.dta		livstinc2imp
	Food.dta		
	Sample.dta		
Otherincome	15seccion7c1.dta	otherinc1.dta	otherincimp
	16seccion7c2.dta	otherinc2.dta	nonfarmrntimp
	Sample.dta	nonfarmrent.dta	
		Otherincome.dta	
Rentagric	21fincaspropias.dta	Rentagric.dta	farmrntimp
	22fincasalquiladas.dta		farmrntexpimp
	Sample.dta		shrcropincimp
			shrcropexpimp

Selfemp	**05poblacion.dta** **Sample.dta**	**Selfemp.dta**	**selfimpimp1** **selfimpimp2** **selfimpimp3** **selfimpimp5** **selfimpimp6** **selfimpimp7** **selfimpimp8** **selfimpimp9** **selfimpimp10**
Transfers	**15seccion7c1.dta** **16seccion7c2.dta** **17seccion7c3.dta** **Sample.dta**	**privtransfer1.dta** **privtransfer2.dta** **privtransfer.dta** **Transfers.dta**	**pubtransferimp** **privtransferimp** **transfersgrossimp** **transfersnetimp** **pensionsimp** **socialtransimp**
Aggregateincome	**Sample.dta** **Food.dta** **Employment.dta** **Selfemp.dta** **Rentragric.dta** **Cropincome.dta** **Livestock.dta** **Otherincome.dta** **Transfers.dta**	**Income.dta**	**agr_wge** **nonagr_wge** **crop1** **crop2** **livestock1** **livestock2** **selfemp** **transfers** **other** **totincome1** **totincome2**

Table 2

Nicaragua 2005	3396 Rural HH Observations			Rural, Weighted, NIO				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	1,458	42.88%	14,915	6,396	21.42%	19.55%	891	382
nonagr_wge	Wage Employment- Nonfarm	863	30.69%	24,321	7,463	16.34%	22.81%	1,454	446
crop1	Crop Production	2,951	84.52%	6,288	5,314	25.33%	16.24%	376	318
livestock	Livestock Production	2,636	74.57%	5,514	4,112	11.79%	12.57%	330	246
selfemp	Self Employment	1,259	38.84%	14,724	5,719	13.71%	17.48%	880	342
transfer	Total Transfers	1,022	32.74%	10,197	3,339	10.36%	10.20%	610	200
other	Other Income Sources	220	7.08%	5,294	375	1.05%	1.14%	316	22
totincome1	Total Household Income-crop1	3,396	99.93%	32,742	32,719	100.00%	100.00%	1,957	1,956

Percent Rural (Weighted)	41.58%
Cordoba/USD 2003	16.73

Notes:
1. Source data: 2005 Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida (EMNV).
2. Exchange rate used comes from the World Bank 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 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

Nicaragua 2005	3396 Rural HH Observations			Rural, Weighted, NIO				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	1,458	42.88%	14,915	6,396	22.07%	17.52%	891	382
nonagr_wge	Wage Employment- Nonfarm	863	30.69%	24,321	7,463	16.47%	20.45%	1,454	446
crop2	Crop Production	2,799	79.84%	9,630	7,688	24.45%	21.07%	576	460
livestock	Livestock Production	2,636	74.57%	5,514	4,112	12.02%	11.27%	330	246
selfemp	Self Employment	1,259	38.84%	14,724	5,719	13.47%	15.67%	880	342
transfer	Total Transfers	1,022	32.74%	10,197	3,339	10.46%	9.15%	610	200
other	Other Income Sources	220	7.08%	5,294	375	1.06%	1.03%	316	22
totincome2	Total Household Income-crop2	3,396	99.93%	36,524	36,497	100.00%	100.00%	2,183	2,182

Percent Rural (Weighted)	41.58%
Cordoba/USD 2003	16.73

Notes:

1. Source data: 2005 Encuesta Nacional de Hogares Sobre Medición de Niveles de Vida (EMNV).

2. Exchange rate used comes from the World Bank 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 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).