

Components of the Income Aggregate: “Enquete Permanente Aupres Des Menages, Madagascar 1993-1994”

Prepared for the Rural Income Generating Activities (RIGA) Project¹

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 Madagascar Enquete Permanente Aupres Des Menages (EPM) was carried out over a period of 12 months in 1993 and 1994. The household survey was administered from April 1993 until April 1994.

The sample for the EPM was drawn using a multi-stage stratified sampling procedure based on the 1986/7 Administrative Census. The primary sampling unit was the “Fokontony”, from which 320 clusters were selected (154 urban; 166 rural). From the clusters, 12 urban households and 16 rural households were selected, creating a total sample of 4,506 households.

There are 2,652 rural households and 1,854 urban households in the dataset. In the original datasets, MILIEU is the variable distinguishing urban from rural households. In the calculation of the income aggregate, MILIEU is renamed to URBAN in order to use the same variable name across different surveys.

Since the sample is not self-weighting, household weights (expansion factors) were calculated based upon the probability of selection. The average household size in Madagascar is 4.9 persons.² All money amounts are in the local currency, Malagasy Francs. In 2000, the official

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/lsm>.

² Sherburn-Benz, Lynne, et al. 1996. “Madagascar Poverty Assessment, Volume 1.” Report No. 14044-MAG. Population and Human Resources Division, Central Africa and Indian Ocean Department, Africa Region. June 28.

exchange rate was 1,914 FMG = 1.0 USD.³ **The income aggregates are calculated at the household level and all aggregates are annualized.**

The household-level modules of the EPM survey can be linked using the unique household identifier, ID_MEN. This variable is renamed HH for consistency across countries within the study. To merge the community and price questionnaire modules with the household questionnaire, the variables FAR, FIV, FIR, FOK 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

- Household weights were created using the expansion factor “POIDS”. All households were assigned household weights in estimating income.
- In all sections, the raw data undergoes a transformation (it is annualized, aggregated, taken from person to household level, etc) before a check for outliers takes place.
- In the Crop Production section, the reference period is the previous 12 months, which contains the previous crop season. 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 household survey.
- For the Livestock, Other Income, Agrent and Transfers sections, the reference period is the previous 12 months.
- Other Income includes income from nonfarm rental assets and other miscellaneous nonlabor income.
- For Transfer income, two estimates are calculated: gross and net. The household income aggregate, however, considers the gross value rather than net.
- Agrent calculates gross income from the rental of agricultural land.
- In the Wage employment section, the reference period is the previous 12 months
- The classification of wage employment activities into industries follows the United Nations International Standard Industrial Classification (ISIC) Rev. 3 codes. Given the survey classification of each employed household member by industry, 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.
- 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 accounted for income from nonfarm enterprises owned by the household. The reference period was the last 12 months. Income from

³ Ibid.

nonfarm enterprises is disaggregated by industry (following the ISIC Rev.3 Codes) 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, 44 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, drop if S1AQ11 > 6 & S1AQ2 != 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. This table can also be viewed, with the individual components disaggregated, in Microsoft Excel from the file Income.xls.

Table 1

Program Name (.do)	Input Data Files	Output Data Files	Output Variables
Sample	EXPEND93	Sample	
Prices	S7F S7E S7B1 S7B2 Sample	Prices	pricedata1 pricedata2 pricedata3 pricedata4 pricedata5 pricedata6 pricedata7 pricedata8 pricedata9 pricedata10 pricedata11 pricedata12 pricedata13 pricedata14
Foodown	S7F S13a1 Prices Sample	Foodown	croconsyrimp livstconsyrimp
Agbyprod	S7C S7E	livstbyprod crobyprod	livstbyprimp crobyprimp

	Sample			
Agrent	S7A1 S7C Sample agrent1 agrent2	agrent1 agrent2 Agrent	agrent1imp agrent2imp farmrntimp	
Cropincome	S7B1 S7B2 S7D3 Foodown Cropbyprod Crop1 Crop2 Sample	Crop1 Crop2 Cropincome	Cropincimp Cropexp1imp cropownimp Cropexp2imp Cropincome1imp Cropincome2imp	
Employment	S4A S4B S4C S4D S4E Sample	employ1 employ2 employ3 employ4 Employment	wgeimp wgeimp wgeimp wgeimp wgeimp1_3 wgeimp2_3 wgeimp3_3 wgeimp4_3 wgeimp5_3	wgeimp6_3 wgeimp7_3 wgeimp8_3 wgeimp9_3 wgeimp10_3
Livestock	S7A31 S7D2 Sample Livst1 Livst2 Foodown Livstbyprod	Livst1 Livst2 Livestock	livstrevimp livstexp1imp livstconsyrimp livstexp2imp livstincimp	
Otherincome	S10C Sample	Otherincome	nonfarmrntimp otherincimp	
Selfemp	S9A S9C S9D S9G S9I S9J S9M S9O S9P Sample	Hhexp Hhrev Selfemp	hhexpimp hhrevimp selfimp1 selfimp2 selfimp3 selfimp4 selfimp5 selfimp6 selfimp7 selfimp8	

			selfimp9 selfimp10
Transfers	S10C S10B S6 S10C Sample transinc socialtrans pensions	transinc socialtrans pensions Transfers	transincimp socialtransimp pensionsimp transferstotimp transfersgrossimp
AggregateIncome	Sample Agrent Cropincome Employment Livestock Otherincome Selfemp Transfers	Income	agr_wge nonagr_wge crop1 crop2 livestock selfemp transfer other totincome1 totincome2

Table 2

Madagascar 1993		2,632 Rural HH Observations		Rural, Weighted, Malagasy Franc (FMG)				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>Returns to Participation- All HHs</i>
agr_wge	Wage Employment- Agriculture	656	26.02%	142,479	37,074	6.75%	5.30%	74	19
nonagr_wge	Wage Employment- Nonfarm	478	18.20%	155,711	28,342	6.28%	4.05%	81	15
crop1	Crop Production	2,461	92.85%	470,788	437,118	36.98%	62.46%	246	228
livestock	Livestock Production	2,056	78.02%	114,564	89,381	28.34%	12.77%	60	47
selfemp	Non-ag Self Employment	525	21.31%	340,226	72,504	10.94%	10.36%	178	38
transfer	Total Transfers	1,132	43.46%	53,569	23,279	8.82%	3.33%	28	12
other	Other Income Sources	314	11.42%	106,589	12,175	1.89%	1.74%	56	6
totincome1	Total Household Income	2,630	99.94%	700,316	699,873	100.00%	100.00%	366	366

Percent Rural (Weighted)	58.92%
Francs/USD (1993)	1,914.00

Notes:

1. Source data: 1993 Enquete Permanente Aupres Des Menages (EPM)
2. Exchange rate used is cited on p.ii of Sherburne-Benz, Lynne, et al, 1996. "Madagascar Poverty Assessment, Volume 1." Report No. 14044-MAG. Population and Human Resources Division, Central Africa and Indian Ocean Department, Africa Region. June 28.
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

Madagascar 1993		2,632 Rural HH Observations		Rural, Weighted, Malagasy Franc (FMG)			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>Returns to Participation- All HHs</i>
agr_wge	Wage Employment- Agriculture	656	26.02%	142,479	37,074	6.49%	6.05%	74	19
nonagr_wge	Wage Employment- Nonfarm	478	18.20%	155,711	28,342	6.10%	4.63%	81	15
crop2	Crop Production	2,473	93.44%	374,496	349,919	57.31%	57.11%	196	183
livestock	Livestock Production	2,056	78.02%	114,564	89,381	13.23%	14.59%	60	47
selfemp	Non-ag Self Employment	525	21.31%	340,226	72,504	8.50%	11.83%	178	38
transfer	Total Transfers	1,132	43.46%	53,569	23,279	6.17%	3.80%	28	12
other	Other Income Sources	314	11.42%	106,589	12,175	2.21%	1.99%	56	6
totincome2	Total Household Income	2,630	99.94%	613,062	612,674	100.00%	100.00%	320	320

Percent Rural (Weighted)	58.92%
Francs/USD (1993)	1,914.00

Notes:

1. Source data: 1993 Enquete Permanente Aupres Des Menages (EPM)
2. Exchange rate used is cited on p.ii of Sherburne-Benz, Lynne, et al, 1996. "Madagascar Poverty Assessment, Volume 1." Report No. 14044-MAG. Population and Human Resources Division, Central Africa and Indian Ocean Department, Africa Region. June 28.
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