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MINISTERE DE L'AGRICULTURE, DE L'ELEVAGE, ET DES FORETS

DOCUMENT DE TRAVAIL

DOCUMENT POUR SEMINAIRE ET DISCUSSION:

"QUELQUES OBSERVATIONS SUR LES PROGRAMMES DE FIXATION DU PRIX PLANCHER ET DE RECHERCHE SUR LE HARICOT AU RWANDA"

par

l'équipe de recherche SESA/MSU

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SERVICE DES ENQUETES ET DES STATISTIQUES AGRICOLES

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La serie de publication des documents de travail du SESA (Service des Enquêtes et des Statistiques Agricoles) est destinée a fournir aux utilisateurs des résultats de recherches ponctuels, pendant que des precisions et des synthèses a plus long terme se terminent et que des rapports finaux soient produits. La préparation des documents de travail et leur discussion avec ceux qui concoivent et influencent les programmes et les pratiques au Rwanda, constitue un pas important dans l'enquête globale du SESA et sa mission d'analyse. Les commentaires et les discussions relatifs aux documents de travail permettent de soulever des questions complémentaires à considérer pour des recherches plus approfondies et des précisions concernant les principaux rapports ecrits par les chercheurs du SESA. Les utilisateurs de ces documents de travail sont encouragés à soumettre leurs commentaires et à nous informer du suivi des informations et des complements d'informations que nécessite l'analyse.

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OBSERVATIONS ON PRICE SUPPORT AND RESEARCH PROGRAMS

FOR BEANS IN RWANDA

1. Most agricultural households produce beans. (98.7% according to SESA's 1986 survey.)

2. A bean and sorghum transactions survey was added to the SESA 1986 sample frame for estimating production. Survey results in Figure 1 show monthly quantities of beans bought and sold. Figure 2 shows monthly prices recieved by farmers selling beans.

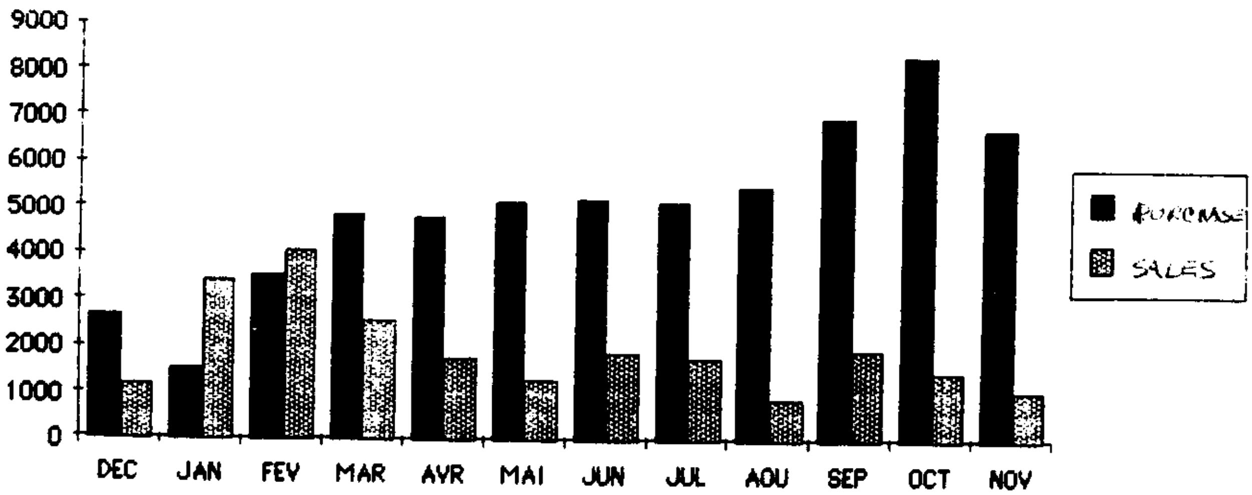
3. On a yearly basis, agricultural household are net purchasers of beans.

Table 1

Category of Transaction	1986 Total (mt)
Production	224,007
Sales	23,340
Gifts Given	9,158
Purchases	60,599
Gifts Recieved	8,016

Chart I

DRY BEAN SALES AND PURCHASES
DEC. '85 - NOV. '86
(TONNES)



4. A few agricultural households sell most of the beans. Many households are net buyers of beans. (See Table 2.)

5. Net seller households have larger farms (total surface area) than net buyer households. (See Table 2.)

Table 2

NET SALES OF BEANS ACCORDING TO FARM TYPE
DEC. '85 - NOV. '86
(NEGATIVE NUMBERS INDICATE NET PURCHASES)

NET OF TRANSACTIONS MADE BY THE FARM FAMILY	NUMBER OF FARMS	% OF FARMS.	NET TONS SOLD BY CLASS	% OF SALES	AVE SURFACE AREA PER FARM (HA)
>60 KG SOLD	75664	7%	13708	81%	2.0
30-59 KG SOLD	45470	4%	1906	11%	1.6
<30 KG SOLD	117635	11%	1370	8%	1.5
NO TRANSACTIONS	63825	6%			1.5
<30 KG BOUGHT	234528	21%	-3858	-7%	0.9
30-59 KG BOUGHT	219878	20%	-9537	-17%	0.9
>60 KG BOUGHT	340931	31%	-43297	-76%	1.1
TOTAL	1097949	100%			

6. Net seller households produce many more beans per person than net buyer households. (See Table 3.)

7. Net seller households have available for consumption many more beans per <u>person</u> than net buyer households. (See Table 3.) Note that estimates in Table 3 include gifts recieved and given, which affects the analysis very little.

8. Net seller households produce more total food crop output than net buyer households as measured by kilocalories produced. (See Table 3.)

Table 3

PER CAPITA AVAILABILITY OF DRY BEANS
BY FARM TYPE
DEC. '85 - NOV. '86

NET OF TRANSACTIONS MADE BY FAMILY	% OF FARMS	KG OF BEANS PRODUCED PER CAPITA	KG OF BEANS TRANSFERED PER CAPITA	KG OF BEANS AVAILABLE ( ) PER CAPITA	KCAL/CAP PRODUCED (MAJOR CROPS)
>60 KG SOLD	7%	136	46	90	1394
30-59 KG SOLD	4%	84	12	72	948
<30 KG SOLD	11%	70	5	66	892
NO TRANSACTIONS	6%	44	0	44	769
<30 KG BOUGHT	21%	35	-6	41	630
30-59 KG BOUGHT	20%	28	-11	38	536
>60 KG BOUGHT	31%	24	-25	49	566
TOTAL	100%				

*N.B.: : TRANSFERS INCLUDE SALES, GIFTS GIVEN, PURCHASES, AND GIFTS RECEIVED

**N.B.: SEED IS CONSIDERED AS A PART OF BEAN AVAILABILITY

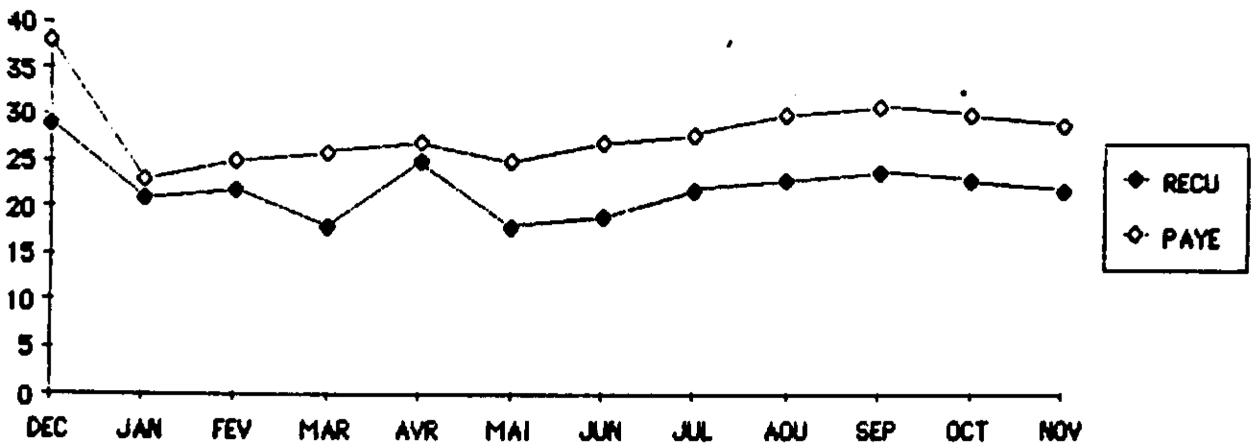
9. Farm level prices were measured in the SESA/MSU transactions survey and show that beans sold by agricultural households during 1986 were constantly priced below 35 FRW/kg. With the exception of April, prices recieved were lowest during the harvest periods, and increased towards the end of the year. (See Figure 2.) Prices at which farmers sold increased from 18 FRW/kg in March to 25 FRW/kg in April, and decreased again to 18 FRW/kg in May. This general price increase is associated with the OPROVIA buying campaign of April-May 1986.

10. It is not known who recieved the benefits of the OPROVIA purchases at 35 FRW/kg during April and May of 1986. Who stood in line to sell? Approximately 2500 tons were purchased.

GRAPH: 2

DRY BEAN ~~PRICE~~ PRICE (FRW/KG) PAID AND RECEIVED BY RWANDAN PRODUCERS

DEC. '85 - NOV. '86



11. According to the SESA/MSU Producer IV survey, which was also applied to SESA's 1986 sample frame, making and selling beer is a more important source of cash revenue for agricultural households than selling either crops or animals. (Table 4.)

-More of the sellers of beans said that beer sales were the most important source of cash revenue than was true for net buyers of beans (Table 4.)

-A larger part of the net buyers of beans listed coffee sales as the most important source of revenue than was true for most sellers.

-What are the consequences of taxing coffee production and having the government use part of that revenue to support the price of beans? From whom is the coffee tax obtained, and who recieves the benefits of the bean support price?

-Rwandan producers might ask how much does the trip to Kigali cost for the Rwandan Francs which are collected as coffee tax and returned (to some) as a bean support price.

Table 4

MOST IMPORTANT
SOURCE OF REVENUE
BY BEAN, TRANSACTION CLASS

	>60 KG SOLD	30-59 KG SOLD	<30 KG SOLD	NO TRANSACTIONS	<30 KG BOUGHT	30-59 KG BOUGHT	>60 KG BOUGHT	TOTAL
BANANA/SORGHUM BEER	42.9%	42.9%	51.6%	41.0%	34.9%	37.6%	32.4%	37.8%
SALE OF FOODCROPS	35.1%	33.3%	18.5%	14.8%	17.9%	13.6%	11.7%	16.9%
INDUSTRIAL CROPS	6.5%	16.7%	13.7%	18.0%	17.4%	16.4%	18.2%	16.3%
LABOR ON ANOTHER FARM	1.3%	4.8%	5.6%	6.6%	11.9%	14.1%	17.0%	11.8%
ARTISANRY	3.9%		1.6%	4.9%	3.4%	3.3%	4.6%	3.5%
COMMERCE	2.6%		2.4%		4.3%	3.8%	3.4%	3.2%
SALARY	6.5%		1.6%	1.6%	1.3%	2.8%	3.7%	2.7%
WORK A. PROJECT					3.4%	2.3%	2.8%	2.0%
ANIMALS	1.3%	2.4%	2.4%	3.3%	.4%	1.9%	2.2%	1.8%
AIDE FROM RELATIVES			.8%	3.3%	1.7%	.5%		.7%
RENT					.4%	.9%	.6%	.5%
OTHER				3.3%	2.6%	1.9%	3.1%	2.0%
NO RESPONSE			1.6%	3.3%	.4%	.9%	.3%	.7%

12. More than half of agricultural households listed food as the most important household expenditure. (Table 5.)

-Food purchases were very important for those households buying beans and much less important for those selling beans. This indicates that sellers of beans were not generally selling beans to buy other foods.

Table 5

MOST IMPORTANT EXPENSE ITEM
ACCORDING TO SALES CATEGORY

	>60 VENDU KG	30-59 KG VENDU	<30 KG VENDU	PAS DE TRANSACTIONS	<30 KG ACHETE	30-59 KG ACHETE	>60 KG ACHETE	TOTAL
FOOD	15.6%	35.7%	29.0%	31.1%	56.6%	63.4%	74.1%	54.8%
CLOTHES	16.9%	16.7%	21.8%	16.4%	11.5%	13.1%	7.1%	12.5%
LABOR	35.1%	19.0%	11.3%	4.9%	3.4%	1.9%	3.1%	6.9%
MEDICINE	7.8%	7.1%	4.8%	11.5%	7.7%	3.8%	4.0%	5.7%
COOKING INGREDIENTS	5.2%	2.4%	5.6%	9.8%	1.7%	.9%	2.2%	2.9%
TAXES			1.6%	1.6%	1.7%	5.6%	3.1%	2.7%
KEROSENE	6.5%	7.1%	1.6%	8.2%	3.0%	1.4%	.9%	2.6%
SCHOOL FEES	2.6%	2.4%	4.8%	3.3%	1.7%	2.3%	.9%	2.1%
BEER		7.1%	2.4%	1.6%	3.4%	.9%	1.2%	2.0%
RENT ON FIELDS	1.3%		4.0%	1.6%	2.6%	1.4%	.9%	1.8%
TOOLS	3.9%		4.0%	1.6%	1.7%	1.4%		1.5%
SOAP	1.3%	2.4%	4.0%		.9%	1.4%	.9%	1.4%
SEED			.8%	3.3%	2.6%	1.4%	.3%	1.2%
OTHER	3.9%		3.2%	3.3%	1.3%	.9%	1.2%	1.7%
NO RESPONSE			.8%	1.6%	.4%			.3%

13. The problem facing Rwandan agricultural households is to continue to increase the available food per capita.

-Cultivated land per person on farms is very small. From the 1984 SESA survey the average person on a farm is on a farm that has an average of 1200 square meters of cultivated land per person.

-21% of the farm population live of farms with a cultivated surface area of less than 1000 m2 per person, per season (See Table 6.)

Table 6

SURFACE AREA PER PERSON

NUMBER AND % OF PEOPLE

CLASS OF SURFACE AREA PER PERSON (m^2)	NUMBER OF PEOPLE	% OF POPULATION
≤1000	1157694	20.9
1000-1570	1183621	21.4
1570-2400	1195415	21.5
2400-3750	1075783	19.4
≥3750	937796	16.9
RWANDA	5552309	100.0

14. In the SESA/MSU Producer IV survey, agricultural households listed lack of surface area and soil fertility as the major constraints to increased production. (See Table 7.)

Table 7

MOST IMPORTANT PRODUCTION CONSTRAINT

ACCORDING TO SALES CATEGORY

	>60 KG	30-59 KG	<30 KG	TRANSACTIONS	<30 KG	30-59 KG	>60 KG	TOTAL
SURFACE AREA	16.9%	16.7%	22.6%	18.0%	37.4%	34.7%	28.4%	29.1%
LABOR	28.6%	9.5%	24.2%	29.5%	14.5%	13.1%	9.9%	15.6%
SEED				1.6%		.5%	1.5%	.7%
FERTILIZER/SOIL FERT.	15.6%	26.2%	27.4%	16.4%	26.4%	36.2%	36.7%	30.2%
LACK OF PESTICIDES					.4%			.1%
TOO MUCH RAIN	6.5%	7.1%	8.1%	3.3%	3.0%	2.8%	6.5%	5.0%
TOO LITTLE RAIN	27.3%	38.1%	14.5%	23.0%	15.7%	10.3%	15.1%	16.4%
LOW CROP PRICES	3.9%	2.4%				.5%	.3%	.6%
OTHER	1.3%		3.2%	6.6%	2.6%	1.9%	1.5%	2.2%
NO RESPONSE				1.6%				.1%

15. Implications: Food security has both a production and an income dimension. There is a need to evaluate policies and strategies to increase productivity in rural areas both on and off the farm.

Preliminary Discussion Points Related to Selected Study Findings

1. Food security policy analysis in Rwanda must begin by considering whether rural households are net buyers or sellers of a commodity.

2. Both official and unofficial international trade are important to food security in Rwanda. Likely production in neighboring countries needs to be included in all food security planning and food policies, especially for beans and sorghum.

3. Food security policy has to be very pragmatic. Government cannot afford to spend economic and political resources on programs not likely to work.

4. OPROVIA can be most effective if not asked to do much. Income transfer via price supports is not practical. OPROVIA can perhaps facilitate operation of the private market by obtaining good information on likely market supply and demand, and making strategic purchases as agent for the government. OPROVIA might consider the role of bean importer to meet serious transitory shortfalls. To consider the viability and need for this function, much more needs to be known about how producers adjust consumption habits when bean prices increase significantly.

5. Strategies to promote more rural off-farm income opportunities are urgently needed. A major challenge is to develop rural off-farm enterprises that help increase farm output and tradeable goods. In general, effective strategies are needed to promote orderly transformation from a subsistance mentality to a more commercial orientation in the rural sector.

6. Land saving technological research is urgent. Both the biological and economic viability of crop improvement and soil fertility enhancements need to be examined.

Class of Total Surface Area (ha)	% of Farms	Cultivated Surface Area		Total Farm Surface Area		Number of People		Surface Area per Person (m2)	Cult. Area per Person (m2)
		Ha	%	Ha	%	Nos.	%		
<0.25	7.4	13,599	2.0	13,599	1.0	280,983	5.1	484	484
0.25-0.5	19.0	66,103	9.6	79,645	5.9	853,309	15.4	933	755
0.50-0.75	16.5	82,335	11.9	113,394	8.4	812,351	14.6	1396	1014
0.75-1.00	13.8	87,490	12.7	134,992	10.0	781,545	14.1	1727	1119
1.00-1.50	15.6	119,215	17.3	211,938	15.7	930,384	16.7	2278	1281
1.50-2.00	11.1	107,379	15.5	217,338	16.1	735,875	13.3	2953	1459
>2.00	16.4	214,734	31.0	579,017	42.9	1,157,882	20.8	5000	1855
Total	100.0	690,854	100.0	1,349,923	100.0	5,552,309	100.0	2431	1244