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DRAFT:

PRELIMINARY FOOD NEEDS ASSESSMENT

ZAIRE: 1990

January 15, 1990

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Ministere de l'Agriculture/SEP

ZAIRE

PRELIMINARY FOOD NEEDS ASSESSMENT

I. SUMMARY:

An assessment of the 1990 food supply and utilization situation was conducted in Zaire, December 1 - 14, 1989. The commodities covered in the national level assessment included maize, rice, wheat, manioc, plantain, and peanuts. The outlook for 1990 is one of deficits for all commodities except manioc which shows a small surplus. Of the cereals, wheat registers the largest shortfall with a deficit of 118,735 MT (unmilled) before food aid; maize and rice show deficits in 1990 of 39,497 MT (unmilled) and 28,780 MT (milled) respectively. A surplus of 13,106 MT (milled) was evident for manioc indicating that domestic production is adequate to support average consumption levels over the past 5 years. Tables 1 and 2 present the food balance situation by commodity for 1990.

A 'commodity gap' analysis was conducted to ascertain the deficit/surplus situation for cotton in 1990. Given a production level of 13,222 MT and per capita utilization of .9 kilos/year, a deficit emerges for seed cotton of 20,050 MT. Converting seed cotton to cotton fibre at 35% yields a deficit for cotton fibre of 7,018 MT. Aid commitments of cotton fibre reduce the projected deficit for 1990 to 3,318 MT. The 1990 balance for cotton is shown in Table 3.

Per capita availability for maize, manioc, plantain, and peanuts in 1990 was estimated using an average of per capita availability over the past 5 years. Linear trend estimates of 1990 per capita availability were used for both rice and wheat. For the current year, per capita availability was multiplied by the population to arrive at a total consumption requirement. It should be noted that per capita availability reflects 'apparent consumption' rather than actual food intake per person.

A breakdown of 1990 food aid commitments by commodity and donor is presented in Table 4.

ZAIRE: FOOD NEEDS ASSESSMENT, (1990)

TABLE 1:

	MAIZE	RICE	WHEAT	MANIOC	PLANTAIN	PEANUTS
FOOD DEFICIT *	39497	47966	118735	-43685	136730	18611
- FOOD AID COMMITMENTS:	0	38833	38000	0	0	0
UNCOVERED FOOD DEFICIT:	39497	9133	80735	-43685	136730	18611
X MILLING EXTRACTION RATE	0.85	0.60	0.75	0.30	0.90	0.70
UNCOVERED FOOD DEFICIT: MILLED	33572	5480	60551	-13106	123057	13028

*: A NEGATIVE (-) FOOD DEFICIT IS A SURPLUS

NOTES:

A) ALL QUANTITIES IN METRIC TONS

B) ALL QUANTITIES IN UNMILLED TERMS UNLESS NOTED

C) BASE PERIOD: 1985 - 1989

YEAR: JAN/DEC

D) PER CAPITA CONSUMPTION: AVERAGE PER CAPITA AVAILABILITY OVER THE BASE PERIOD

E) NON-FOOD USES:

	MAIZE	RICE	WHEAT	MANIOC	PLANTAIN	PEANUTS
SEED	0.05	0.05	0.02	0.00	0.00	0.13
FEED	0.03	0.00	0.00	0.02	0.01	0.00
WASTE/LOSSES	0.10	0.07	0.05	0.08	0.10	0.05
MILLING EXTRACTION RATE	0.85	0.60	0.75	0.30	0.90	0.70

F) POPULATION BASED ON 1984 CENSUS WITH 3% GROWTH RATE

ZAIRE:

TABLE 2:

FOOD NEEDS ASSESSMENT: 1990

	MAIZE	RICE	WHEAT	MANIOC	PLANTAIN	PEANUTS
PER CAPITA CONSUMPTION (UNMILLED KG/YEAR)	20.3	11.9	7.7	455.6	49.5	9.9
X POPULATION (THOUSANDS)	35429	35429	35429	35429	35429	35429
= TOTAL CONSUMPTION REQUIREMENT	718645	422557	272966	16140115	1753239	352517
GROSS DOMESTIC FOOD PRODUCTION	773961	318210	6700	17982000	1816302	407202
- TOTAL NON-FOOD USE	139313	38185	469	1798200	199793	73296
= NET DOMESTIC FOOD PRODUCTION	634648	280025	6231	16183800	1616509	333906
NET DOMESTIC FOOD PRODUCTION (FROM ABOVE)	634648	280025	6231	16183800	1616509	333906
- NET CHANGE IN STOCKS	0	0	0	0	0	0
- TOTAL FOOD EXPORTS	0	0	0	0	0	0
= DOMESTIC FOOD SUPPLY	634648	280025	6231	16183800	1616509	333906
TOTAL CONSUMPTION REQUIREMENT (FROM ABOVE)	718645	422557	272966	16140115	1753239	352517
- DOMESTIC FOOD SUPPLY (FROM ABOVE)	634648	280025	6231	16183800	1616509	333906
= IMPORT REQUIREMENT	83997	142533	266735	-43685	136730	18611
- TOTAL COMMERCIAL FOOD IMPORTS	44500	94567	148000	0	0	0
= FOOD DEFICIT (UNMILLED)	39497	47966	118735	-43685	136730	18611
X MILLING EXTRACTION RATE	0.85	0.60	0.75	0.30	0.90	0.70
= FOOD DEFICIT MILLED	33572	28780	89051	-13106	123057	13028

NOTES:

ALL QUANTITIES IN METRIC TONS UNLESS NOTED

A NEGATIVE (-) FOOD DEFICIT IS A SURPLUS

II. METHODOLOGY

1) Commodities Included in the Assessment:

Six commodities covering a substantial part of the Zairean diet were included in the 1990 food needs assessment: maize, rice, wheat, manioc, plantain, and peanuts. These commodities combined contribute approximately 80% to total caloric intake. Manioc emerges as the principal dietary staple with a share of 56% of total caloric intake followed by maize at 9%. Figure 1 presents the contribution to per capita calorie consumption by commodity. These share of the diet figures, however, are national averages and do not reflect regional or rural-urban differences. Significant differences in consumption across regions exist in Zaire. For example, in terms of the aliment de base, maize rather than manioc predominates in the regions of Shaba, Kasai-Oriental, and Kasai-Occidental. Furthermore, some commodities are consumed almost exclusively in urban areas. Wheat in Zaire emerges as the primary example of a food consumed in cities rather than in rural areas.

2) Base Period of Analysis:

The period of analysis for the 1990 assessment includes calendar years 1985 - 1989. Data on production, imports/exports, non-food uses, and per capita availability were collected for 5 historical years. The data used in the assessment are stored on computers at both SEP (Service d'Etudes and Planification) and USAID/Kinshasa, and should be updated/refined as more reliable estimates become available.

Summary commodity tables for the base period are included in the Statistical Annex.

3) Adjustments for Non-Food Uses: Seed, Feed, and Losses.

Gross production of all commodities was adjusted downwards to account for seed requirements, feed use, and post-harvest losses. Net domestic production thus reflects what is available for human consumption after the harvest. In addition, milling extraction rates were applied to commodities included in the assessment as follows: maize (.85), rice (.60), wheat (.75), manioc (.30), plantain (.90), and peanuts (.70). Table 5 presents a breakdown of technical conversion factors by commodity.

4) Data Sources and Limitations:

The weakness of statistical data is evident across all sectors in Zaire, with agriculture being no exception. Data on production, area planted and yields by crop are scarce, and if available are often inconsistent. Thus, data on agricultural production should be interpreted with caution. The sole source of agricultural production data used in this assessment is the Departement de l'Agriculture/Service d'Etudes et Planification, (SEP). Official statistics on the 1988 agricultural campaign are not yet officially released; linear trend estimates based on historical data are thus used to calculate domestic crop production for 1988 and subsequent years. Data on imports and food aid are those of the Office des Douanes et Accises (OFIDA), USAID/Kinshasa, and World Food Program (WFP). No reliable data were available for stocks in Zaire; therefore, no adjustment was made to the domestic food supply to account for a drawdown or build-up of stocks by year. Annex 1 presents a list of individuals/organizations contacted and data sources.

5) Training in the FNA Methodology/Software:

One of the primary objectives of the TDY was to train staff at the Service d'Etudes et Planification in both the food needs assessment methodology and software/template. Five training sessions were conducted at the Ministere de l'Agriculture using data collected in-country by SEP and the consultant. These sessions included an overview of the methodology and hands-on training using the FNA software package. A basic understanding of the equations underlying the food balance sheet combined with a working knowledge of the FNA template/software will provide SEP personnel with the tools necessary to conduct assessments in the future. It should be remembered that the results of any assessment are dependent on the quality of the data used; given data limitations in Zaire, the deficit/surplus situation by commodity should be viewed as indicative.

For a complete list of training sessions and participants please see Annex 2.

III. CEREALS:

1) Maize:

Production: Maize is cultivated throughout Zaire, with the regions of Shaba, Kasai-Oriental, Kasai-Occidental emerging as the principal production zones. For the most part, production is characterized by traditional cultivation techniques with observed yields of .8 - 1.0 MT per hectare in 1986/87.(1) Average

yields per hectare in Zaire are low; improved seed varieties and fertilizer are not commonly used in maize cultivation. Although maize production projects in Shaba and Kasai-Oriental have recorded increases in output, data from the Departement de l'Agriculture show that per capita maize production has stagnated since 1985, with production just keeping pace with population growth.

Per Capita Availability: Maize represents the principal cereal in Zaire, both in terms of production and consumption. Although manioc is the primary staple on a national level, maize figures prominently in the diet in certain regions. In addition, in some areas substantial quantities of maize are used to produce local beer. National per capita availability of maize has remained fairly stable over the base period, averaging 20.3 kilos (unmilled)/year. Since 1985, official maize imports -- commercial and concessional -- have likewise remained stable averaging 55,000 MT/year. Although unofficial imports of maize flour from Zambia are widely acknowledged, actual quantities crossing the border into the Shaba region are unknown.

Food Balance: With an 1990 estimate of gross production of 773,961 MT and imports equal to last year's level, a deficit emerges for maize of 39,497 MT (unmilled).

2) Rice:

Production: Trends in rice production show some increase over the past 5 years, rising from 297,167 MT in 1985 to 314,370 MT (unmilled) in 1989. Similar to the case of maize, however, per capita rice production has stagnated since the mid-1980's. Imports of rice have increased rapidly contributing to a stabilization of national per capita availability at approximately 7 kilos (milled)/year. In urban areas there is evidence of a shift in consumption away from traditional staples towards both rice and wheat. Joseph Houyoux examines the shift in urban consumption in a 1986 study of household expenditure/consumption patterns: (Budgets des Menages: Kinshasa). In this study, Houyoux compares the 1986 results with those from similar household expenditure surveys conducted in 1969 and 1975. Data from the Kinshasa surveys show that per capita consumption of rice has increased from .61 kilos/month in 1969 to 1.07 kilos/month in 1986; for the same period per capita manioc consumption declined by 25%. A breakdown of per capita monthly consumption of principal food commodities in Kinshasa is presented in Table 6.

Food Balance: With an estimate of paddy production of 318,210 MT the import requirement for 1990 is 85,520 MT (milled).

Netting out projected commercial imports in 1990 of 56,740 MT (milled) yields a deficit before food aid of 28,780 MT (milled).

The above commercial import figure is an estimate based on data provided by OFIDA, (i.e. assuming imports equal to last year's level). This figure should be revised in early 1990 as additional data becomes available.

3) Wheat:

Production/Imports: Very little wheat is produced in Zaire with production reaching only 6,000 MT in 1989. Total wheat imports, however, are substantial averaging 245,710 MT (unmilled) per year over the base period. Commercial wheat imports have increased in recent years rising from 113,352 MT in 1985 to 147,995 MT (unmilled) in 1989. On an annual basis food aid represents approximately 37% of total wheat imports.

Food Balance: In the past 5 years per capita availability of wheat has averaged 7.7 kilos (unmilled)/year. This figure, however, represents national availability and obscures differences in rural-urban consumption patterns. Wheat is consumed primarily in urban areas in the form of wheat flour/bread. For example, data from the 1986 household expenditure survey conducted by BEAU/Houyoux (Bureau d'Etudes d'Amenagement et d'Urbanisme) show that consumption of bread in Kinshasa averaged 19 kilos/person/year. Assuming commercial imports in 1990 of 148,000 MT (unmilled) -- maintaining last year's level of imports -- wheat shows a substantial shortfall before food aid of 118,735 MT (unmilled). Food aid commitments to date reduce the projected wheat deficit to 80,735 MT in 1990.

IV. NON-CEREALS:

1) Manioc:

Production: Data on manioc production show a steady increase in output over the base period. Manioc is by far the dominant food crop across regions; in 1985 manioc represented approximately 50% of total area cultivated in staple crops. Although manioc is cultivated throughout the country, Kivu, Bandundu, Shaba, and Kasai-Occidental stand out as major producing regions in terms of hectares planted. Table 7 shows area cultivated by staple crop and region.

Per Capita Availability: As the primary dietary staple, manioc is consumed in both rural and urban areas. Annual per capita availability on a national basis has averaged 136.7 kilos

(milled) over the past 5 years. Although only manioc roots were considered in this analysis, both roots and leaves are consumed in Zaire. The roots are dried, ground into flour, and then prepared as a thick dough (chickwangue or fufu) served as the staple of the principal meal; manioc leaves are prepared as a vegetable dish mixed with palm oil and spices.(2) With manioc production estimated at 17,982,000 MT (unmilled) in 1990, the food balance situation is one of surplus. The surplus, albeit small, indicates that domestic production is adequate to support status quo consumption levels, (i.e. average per capita availability over the past 5 years).

2) Plantain and Peanuts:

Domestic production of both plantain and peanuts has shown a slight increase over the past 5 years, with annual per capita availability averaging 49.5 and 9.9 kilos (unmilled) respectively. In contrast to manioc, however, deficits emerge when calculating the food balance for plantain and peanuts. The results of this assessment indicate that domestic production of these two food crops is inadequate to support status quo consumption levels in 1990.

3) Cotton:

A 'commodity gap' analysis was conducted to ascertain the deficit/surplus situation for cotton in 1990. Domestic production of seed cotton has been declining over the base period averaging 17,600 MT per year. Imports of cotton fibre, for the most part concessional, have contributed substantially to per capita utilization/availability over the past 5 years. Given an estimated production level of 13,222 MT in 1990 and per capita utilization of .9 kilos/year, a deficit emerges for seed cotton of 20,050 MT. Converting seed cotton to cotton fibre at 35% yields a deficit for cotton fibre of 7,018 MT. Aid commitments of cotton fibre reduce the projected deficit for 1990 to 3,318 MT. Table 3 shows the 1990 commodity balance for cotton before food aid.

The commodity gap for cotton was estimated based on average per capita utilization over the past 5 years. In Zaire an installed capacity for fabric production exists of approximately 14,000 MT of cotton fibre. The calculation of the deficit using a demand oriented approach (i.e. installed capacity) would result in a larger deficit for cotton than shown in this assessment.

V. ISSUES RAISED:

1) Data Reliability:

The weakness of statistical data on the agricultural sector is evident in Zaire. In this assessment the absence of official agricultural production statistics required the use of estimates for 1988 and subsequent years. In addition, although available for recent years food import data is likewise weak. Given the problem of data reliability, the results of any quantitative analysis should be interpreted with caution.

2) The Need for a Regional Breakdown of Analysis:

The preliminary 1990 food needs assessment was conducted using aggregate data to generate a picture of the national food supply and utilization situation. In a country as vast as Zaire the analysis should likewise be done at a regional level to reflect variations in production, consumption, and trade across regions. The calculation of the food balance situation by region would require detailed information on production and inter-regional trade. Unfortunately, the dearth of reliable agricultural statistics at present would limit this type of analysis to the regions of Shaba and Bandundu.

3) Nutrition:

As noted at the outset, the per capita availability estimates used in this assessment reflect what is available for consumption rather than actual food intake levels. Although average per capita calorie availability appears adequate in Zaire, malnutrition is a serious problem. A recent report by the World Bank highlights the nature and extent of malnutrition in Zaire, (Zaire: Population, Health and Nutrition, 1989). On a national basis approximately 25% of young children are undernourished in Zaire, with Kivu emerging as the region where malnutrition is the most severe.(3) In sum, the standard food balance sheet approach to estimating food needs provides information on import requirements, yet does not address the question of distribution or access to food.

Further studies of the food consumption and nutrition situation in Zaire will be conducted in 1990 with the assistance of the donor community. These studies include: (i) Etude de consommation et pratiques alimentaires des menages (Programme d'ajustement des secteurs sociaux/composante dimensions sociales), and (ii) Etude de l'impact socio-economique des politiques economiques et financieres (USAID/Cornell University).

NOTES

(1) Departement de l'Agriculture. Autosuffisance et Securite Alimentaire au Zaire: Problemes et Options. Draft, Octobre 1989, p. 15.

(2) Tshikala Tshibaka and Kamanda Lumpungu, Trends and Prospects for Cassava in Zaire. International Food Policy Research Institute, IFPRI. Washington, DC, February 1989, p. 20.

(3) World Bank. Zaire: Population, Health and Nutrition. Washington, DC, May 15, 1989, pp. 11 - 12.

DOCUMENTS CONSULTED:

Departement de l'Agriculture. Autosuffisance et Securite Alimentaire au Zaire: Problemes et Options. Draft, Octobre 1989.

Departement de l'Agriculture. Les Prix au Producteur du Manioc, du Mais et des Arachides dans la Reigon du Bandundu et les Marges de Commercialisation pour le Marche de Kinshasa. Projet Commercialisation des Produits Agricoles, DMPCC. Septembre 1989.

Departement de l'Agriculture. Production et Commercialisation du Mais au Zaire. Direction d'Etudes et Planification, Bureau Analyse Economique. Juillet 1986.

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Departement de l'Economie Nationale et de l'Industrie. Conjoncture Economique: Annees 1987 - 1988 (6 mois). Departement de l'Economie Nationale et de l'Industrie, Republique du Zaire, Decembre 1988.

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FAO. Zaire: Food Balance Sheet: 1979 - 81 Average. Food and Agriculture Organization of the United Nations. Rome, Italy, 1983.

FAO/GIEWS. Food Supply Situation and Crop Prospects in Sub-Saharan Africa. Special Report. Global Information and Early Warning System on Food and Agriculture. Rome, Italy, October 1989.

Houyoux, Joseph, Niwembo Kinavwuidi, and Okito Onya. Budgets des Menages: Kinshasa, 1986. Bureau d'Etudes d'Amenagement et d'Urbanisme (BEAU). Kinshasa, 1986.

Institut National de la Statistique. Proposition et Methodologie pour Evaluation de la Valeur Ajoutee du Zaire. Kinshasa, 1989.

Tshikala Tshibaka and Kamanda Lumpungu. Trends and Prospects for Cassava in Zaire. International Food Policy Research Institute, IFPRI. Washington, DC, February 1989.

World Bank. Zaire: Economic Memorandum: Economic Change and External Assistance. The World Bank, Washington, DC. March 29, 1985.

World Bank. Zaire: Population, Health and Nutrition. Sector Review. The World Bank, Washington, DC. May 15, 1989.

World Bank. Zaire: Toward Sustained Agricultural Development, Agriculture Sector Memorandum. The World Bank, Washington, DC. September 26, 1988.

TABLES

ZAIRE:

TABLE: 3

COMMODITY GAP ANALYSIS: COTTON

	COTTON
PER CAPITA UTILIZATION (UNMILLED KG/YEAR)	0.9
X POPULATION (THOUSANDS)	35429
= TOTAL UTILIZATION	33272
DOMESTIC PRODUCTION	13222
- NET CHANGE IN STOCKS	0
- TOTAL EXPORTS	0
= TOTAL DOMESTIC AVAILABILITY	13222
TOTAL UTILIZATION (FROM ABOVE)	33272
- TOTAL DOMESTIC AVAILABILITY (FROM ABOVE)	13222
= IMPORT REQUIREMENT	20050
- TOTAL COMMERCIAL IMPORTS	0
= DEFICIT, (UNMILLED)	20050
X MILLING EXTRACTION RATE	0.35
= DEFICIT, (MILLED)	7018

NOTES:

(A) ALL QUANTITIES IN METRIC TONS UNLESS NOTED

(B) MILLING EXTRACTION RATE: SEED COTTON CONVERTED TO COTTON FIBRE AT .35

ZAIRE:

TABLE: 4

FOOD NEEDS ASSESSMENT: 1990

ZAIRE: FOOD AND COMMODITY AID IMPORTS/COMMITMENTS, (Calendar Year 1990)

COMMODITY	METRIC TONS	PROJECTED ARRIVAL DATE IN-COUNTRY	DONOR		
WHEAT	38000	March - May 1990	USAID	WHEAT TOTAL:	38000 Metric Tons
RICE, (MILLED)	23300	April - June 1990	USAID	RICE TOTAL:	23300 Metric Tons
MAIZE				MAIZE TOTAL:	0 Metric Tons
COTTON, (FIBRE)	3700	Jan. - Feb. 1990	USAID	COTTON TOTAL:	3700 Metric Tons

DATA SOURCE:

USAID/KINSHASA AND WORLD FOOD PROGRAM, (December 1989)

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ZAIRE:

FOOD NEEDS ASSESSMENT: 1990

TABLE: 5

TECHNICAL COEFFICIENTS:

COMMODITY	CALORIES/ UNMILLED KILO	MILLING EXTRACTION RATE, (MER)	SEED USE	FEED USE	POST HARVEST LOSSES	SHARE IN TOTAL CALORIE INTAKE
MAIZE	3570	0.85	0.05	0.03	0.10	0.09
RICE, (PADDY)	3530	0.60	0.05	--	0.07	0.03
WHEAT	3320	0.75	0.02	--	0.05	0.02
MANIOC	1490	0.30	--	0.02	0.08	0.56
PLANTAIN	1350	0.90	--	0.01	0.10	0.05
PEANUTS	5490	0.70	0.13	--	0.05	0.04

DATA SOURCES:

COEFFICIENTS:

Manioc: IFPRI. Trends and Prospects for Cassava in Zaire, February 1989.

MER:

All Other Commodities: FAO. Technical Conversion Factors. Agricultural Commodity Projections for 1975 and 1985. Vol. 1. Methodological Notes/Statistical Annex, (Rome, Italy: 1967), and SEP, (Service d'etudes et Planificantion: Ministere d'Agriculture), December, 1989.

NON-FOOD USES:

All Other Commodities: FAO. Zaire: Food Balance Sheet. 1979-81 Average, (Rome, Italy: 1983).

SHARE IN TOTAL CALORIE INTAKE:

FAO. Zaire: Food Balance Sheet. 1979-81 Average, (Rome, Italy: 1983).

FOOD CONSUMPTION PATTERNS: KINSHASA

TABLE: 6

PER CAPITA MONTHLY CONSUMPTION (KILOS)

	1969	1975	1986
MANIOC	6.12	5.38	4.60
BREAD	1.77	1.17	1.58
MANIOC LEAVES	1.59	1.33	1.30
BANANAS	0.92	0.42	0.57
RICE	0.61	0.74	1.07
FISH	0.95	0.77	0.92
BEANS	0.39	0.37	0.33
BEEF (WITHOUT BONE)	0.36	0.20	0.28
TOMATOES	0.36	0.22	0.19
SUGAR	0.35	0.47	0.43
TOTAL	13.42	11.07	11.26
N =	1471	1367	205

NOTE: N = Number of Households

SOURCE:

Joseph Houyoux, Niwembo Kinavwuidi, et Onya Okito. Budgets des Menages: Kinshasa, 1986. Bureau d'Etudes d'Amenagement et d'Urbanisme (BEAU), Kinshasa, 1986.

ZAIRE:

TABLE: 7

FOOD NEEDS ASSESSMENT:

AREA CULTIVATED (HECTARES) BY CROP AND REGION: 1985

	MAIZE	RICE (PADDY)	MANIOC	PLANTAIN	PEANUTS
KINSHASA	20400	3200	85800	12800	26000
BAS-ZAIRE	31300	5100	128700	18900	33700
BANDUNDU	119600	21500	343400	30700	107200
EQUATEUR	127300	56700	218900	21000	59800
HAUT-ZAIRE	133200	102600	239500	64600	85900
KIVU	95000	78500	358400	113400	52600
SHABA	127300	6600	287600	9200	72000
KASAI - OCCIDENTAL	101900	30100	266800	7800	63100
KASAI - ORIENTAL	93400	29300	216500	7100	47600
TOTAL	849400	333600	2145600	285500	547900

DATA SOURCE:

DEPARTEMENT DE L'AGRICULTURE. ANNUAIRE DES STATISTIQUES AGRICOLES, 1979 - 1985.
SERVICE D'ETUDES ET DE PLANIFICATION AGRICOLE/DIVISION DE LA STATISTIQUE AGRICOLE.

ANNEX 1:

ZAIRE FOOD NEEDS ASSESSMENT: 1990

Melanee Lowdermilk

CONTACTS:

1) DEPARTEMENT DE L'AGRICULTURE:
DIRECTION DU SERVICE D'ETUDES ET PLANIFICATION, (SEP).

Mansinsa Mvuala, (Director: SEP)
Edward Rawson, (Agricultural Policy Advisor)
Mohamed Ben Senia, (Agricultural Planning Advisor)
Brook Greene, (Economic Analysis Advisor)
Adel Labib, (Data Processing Specialist)
Suha Satana, (Data Collection Advisor)

2) USAID/ZAIRE:

Myron Smith, (Program Office)
John MacMahon, (ARD/Deputy)
Kifle Negash, (ARD/Agricultural Policy/Data Analysis)
David Kingsbury, (ARD/Program Specialist)
Glenn Rogers, (Program Office: Research)

3) CENTRE NATIONAL DE PLANIFICATION DE NUTRITION HUMAINE AU ZAIRE, (CEPLANUT).

Bikangi Nikiabungu, (Chef de Division des Etudes)

4) INSTITUT NATIONAL DE LA STATISTIQUE, (INS): DEPARTEMENT DU PLAN.

Citoyen Niwembo Kinavwuidi, (Statistique)

5) OFFICE DES DOUANES ET ACCISES, (OFIDA).

Citoyen Mwamba, (Bureau Informatique)

6) WORLD BANK

Christopher Trapman, (Economist)

ANNEX 2:

TRAINING IN FNA METHODOLOGY AND TEMPLATE/SOFTWARE:

DEPARTEMENT DE L'AGRICULTURE:
DIRECTION DU SERVICE D'ETUDES ET PLANIFICATION, (SEP).

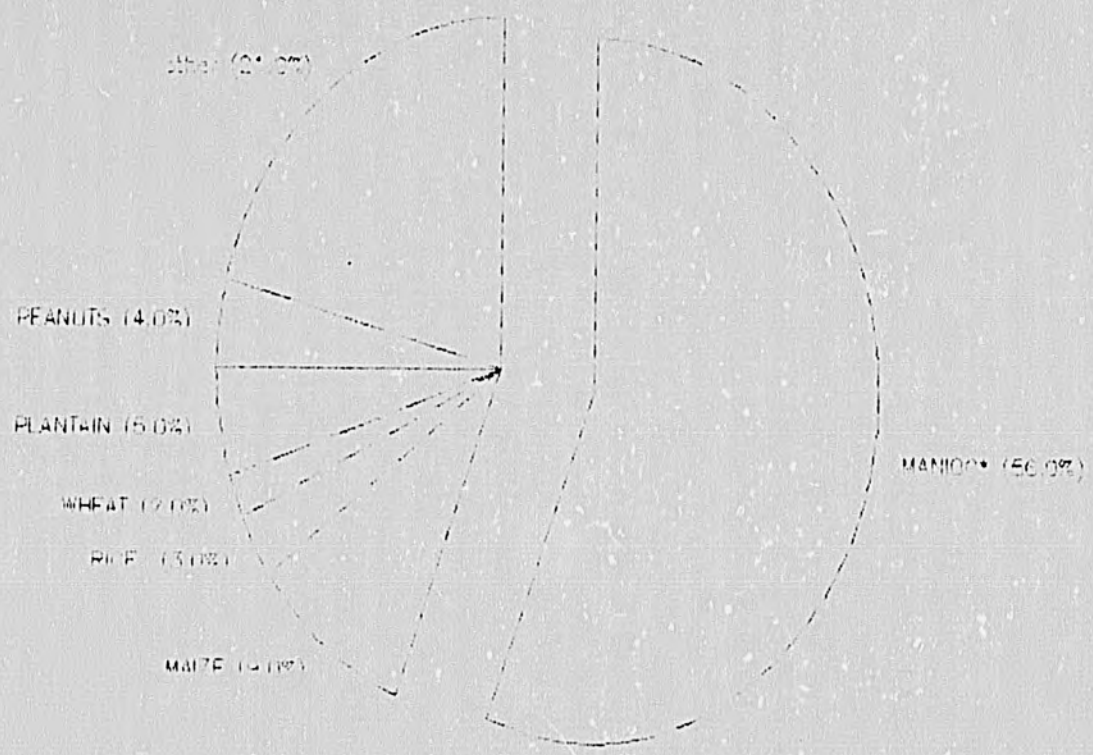
DATE:	December 7, 1989
PARTICIPANTS:	Brook Greene, SEP Kiesolo Ntemo, SEP Kassenga Ali Zibuka, SEP David Kingsbury, USAID
DATE:	December 8, 1989
PARTICIPANTS:	Mansinsa Mvuala, SEP Quan Dinh, SEP Adel Labib, SEP Negash Kifle, USAID
DATE:	December 11, 1989
PARTICIPANTS:	Doug Barnett, SEP Suha Satana, SEP
DATE:	December 12, 1989
PARTICIPANTS:	Mohamed Ben-Senia, SEP Kiesolo Ntemo, SEP Kassenga Ali Zibuka, SEP
DATE:	December 13, 1989
PARTICIPANTS:	Adel Labib, SEP

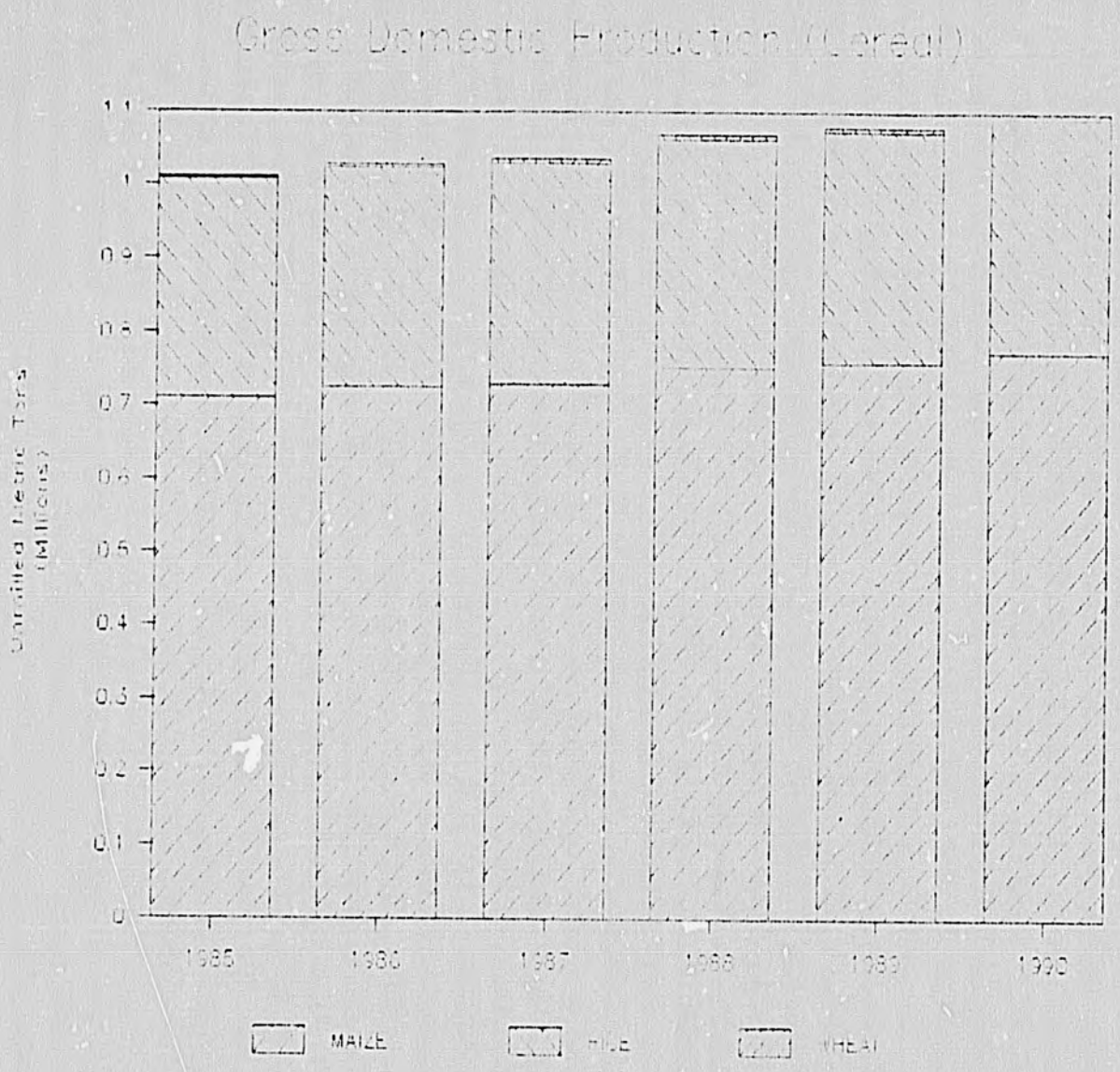
FIGURES

FIGURE: 1

COMMODITY COVERAGE

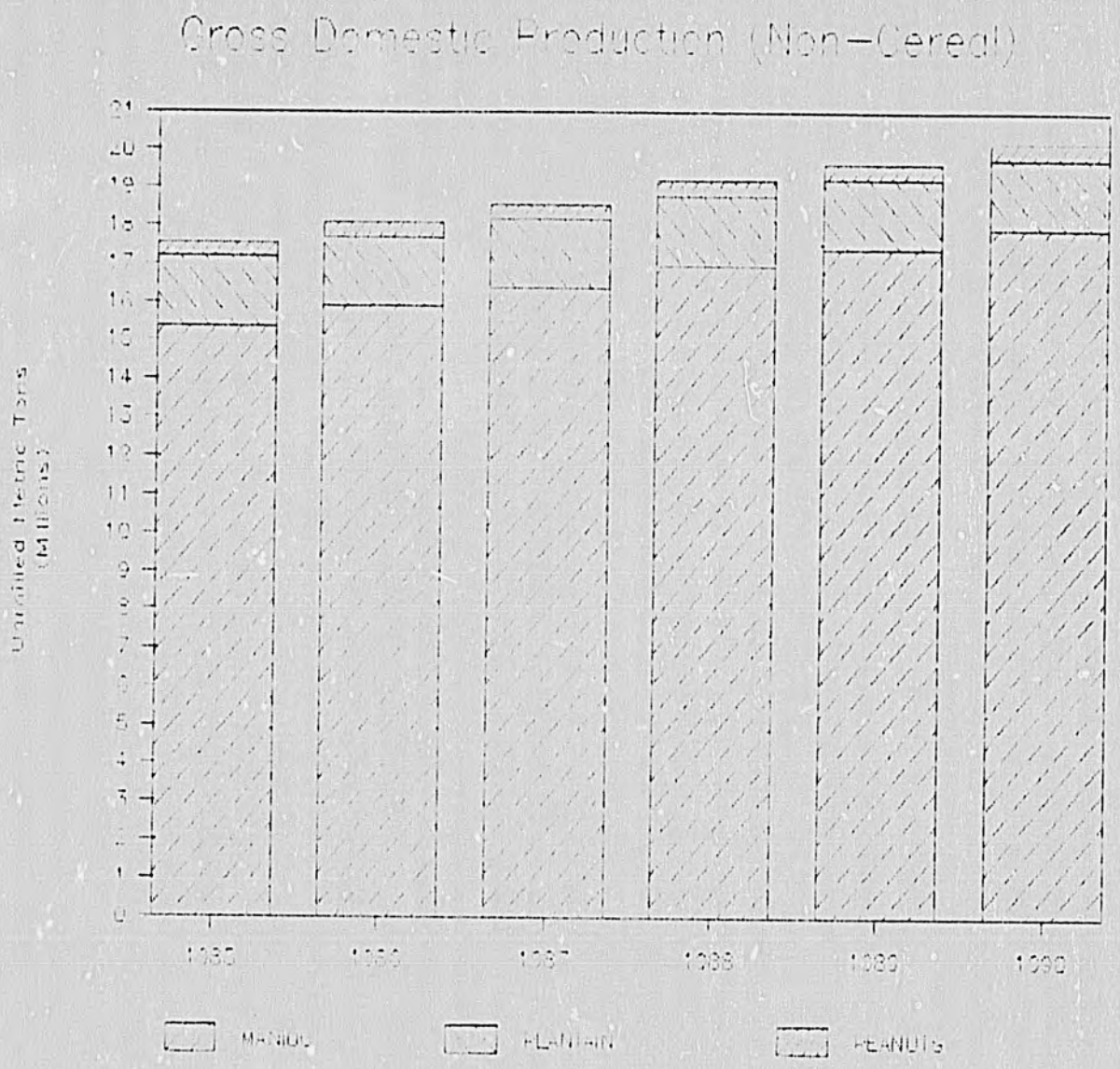
Share of Total Diet

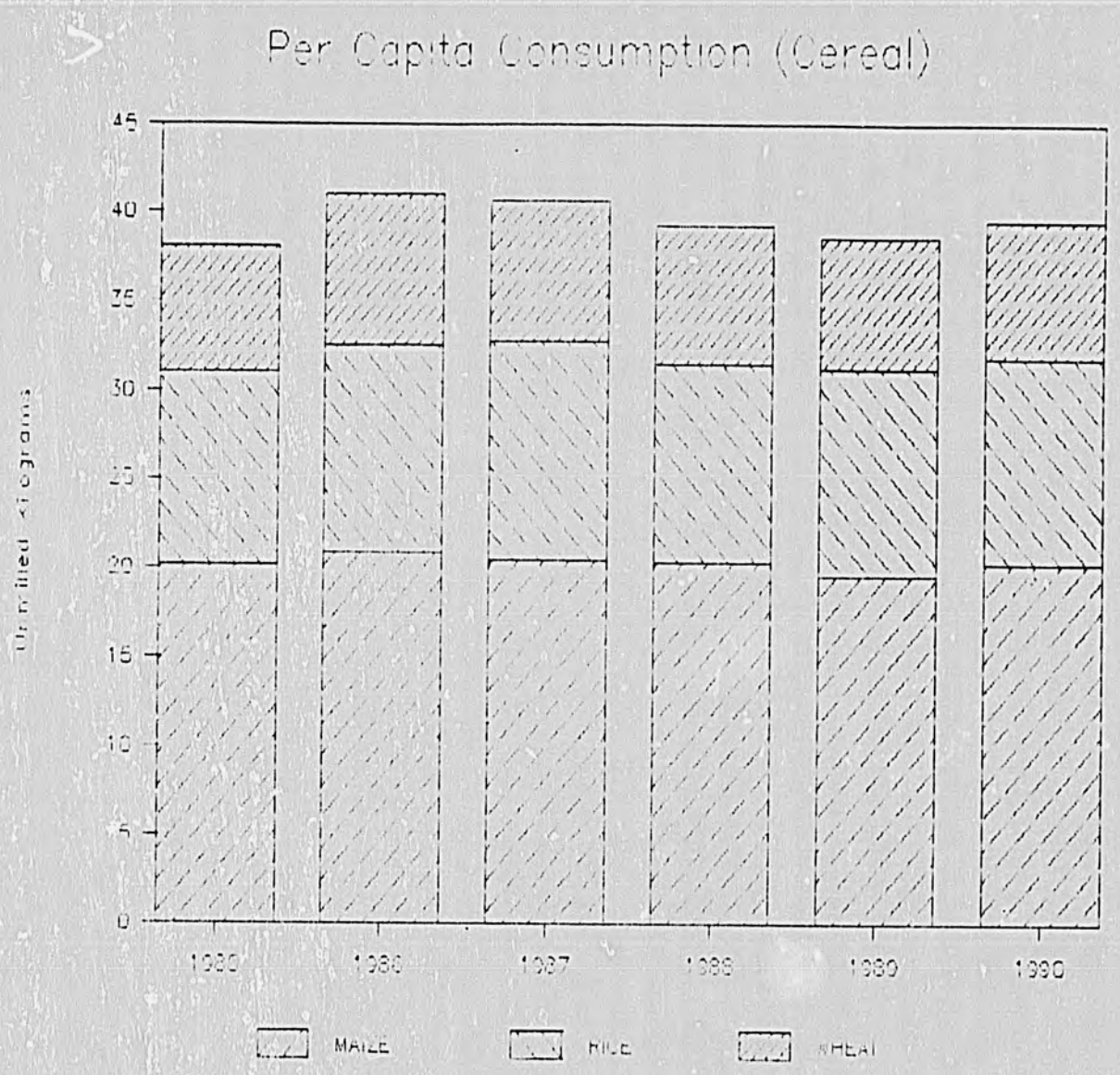


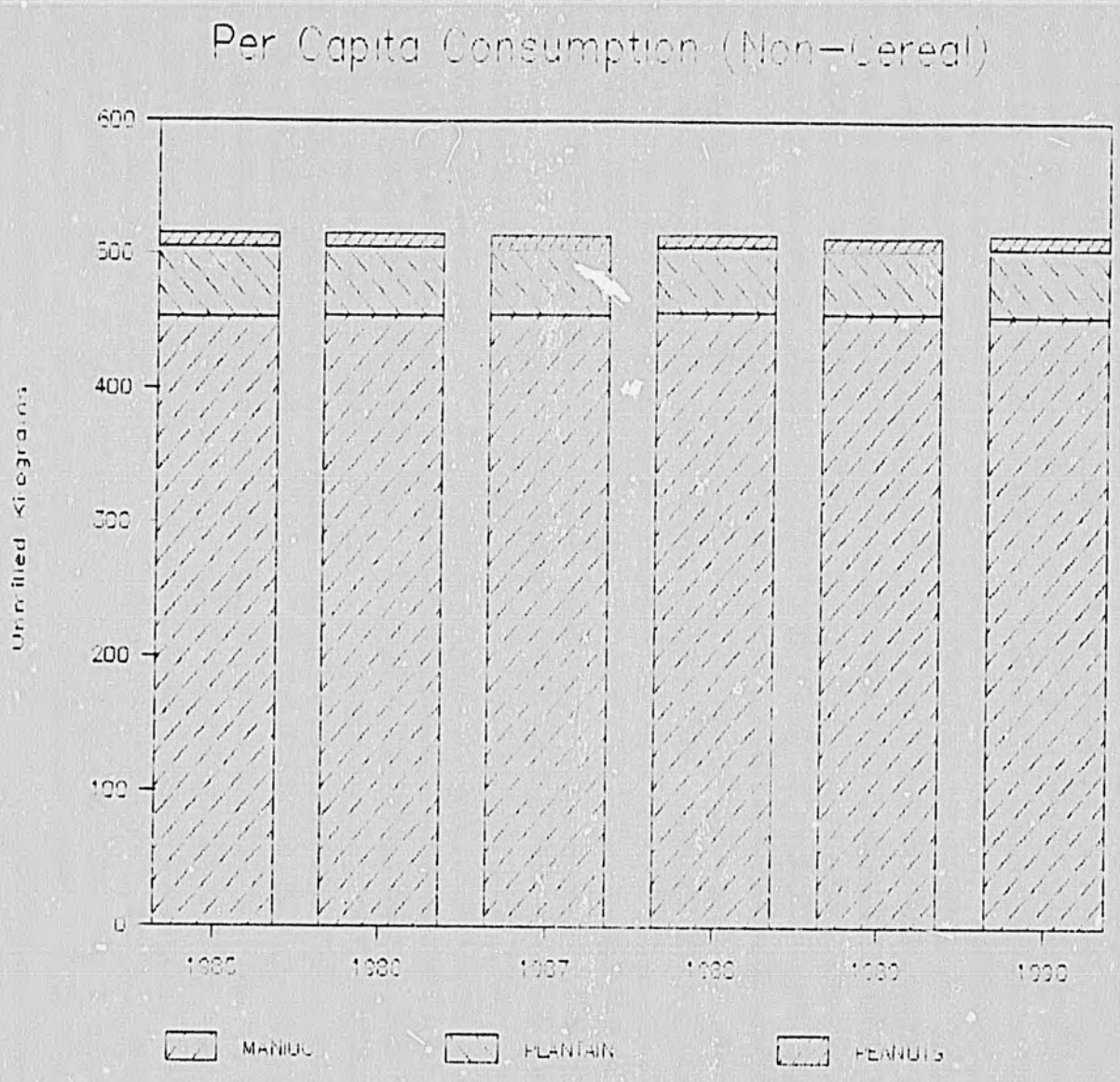

Gross Domestic Production (Cereal)
Unmilled Metric Tons (Millions)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1985
1986
1987
1988
1989
1990
MAIZE
RICE
WHEAT

21

Gross Domestic Production (Non-Cereal)




Per Capita Consumption (Cereal)
45
40
35
30
25
20
15
10
5
0
1980
1986
1987
1988
1989
1990
MAIZE
RICE
WHEAT


Per Capita Consumption (Non-Cereal)
600
500
400
300
200
100
0
Unmilled Kilograms
1985
1986
1987
1988
1989
1990
MANIOC
PLANTAIN
PEANUTS

STATISTICAL APPENDIX

GENERAL DATA REPORT

Food Needs Assessment: ZAIRE

Consumption Year: JAN/DEC

Current Year (year of analysis):	1990	Current Year Population:	35,429
Historical Years T-1:	1989	Historical Year T-1 Population (000)	34,397
T-2:	1988	T-2 Population (000)	33,395
T-3:	1987	T-3 Population (000)	32,423
T-4:	1986	T-4 Population (000)	31,478
T-5:	1985	T-5 Population (000)	30,562

Commodities Included in Assessment:	Base ==>	MAIZE	RICE	WHEAT			MANIOC	PLANTAIN	PEANUTS		
Caloric equivalent (calories/ UNMILLED kilogram)		3,570	3,530	3,320	0	0	1,490	1,350	5,490	0	0
/ Caloric equivalent of base commodity		3,570	3,570	3,570	3,570	3,570	3,570	3,570	3,570	3,570	3,570
= Base Commodity Equivalent Coefficient (.00)		1.00	0.99	0.93	0.00	0.00	0.42	0.38	1.54	0.00	0.00
Milling extraction rate (.00)		85%	60%	75%	0%	0%	30%	90%	70%	0%	0%

COMMODITY: MAIZE (Base) ZAIRE

	1985	1986	1987	1988	1989	Average
Gross domestic food production	710,500	725,590	730,000	753,280	760,100	735,894
- Total non-food uses	127,890	130,606	131,400	135,590	136,818	132,461
= Net domestic food production	582,610	594,984	598,600	617,690	623,282	603,433
- Net change in stocks	0	0	0	0	0	0
- Total food exports	0	0	0	0	0	0
= Domestic food supply	582,610	594,984	598,600	617,690	623,282	603,433
+ Total commercial food imports	35,000	58,000	56,000	57,717	44,528	50,249
+ Food Aid	0	4,000	8,000	4,000	5,000	4,200
= Total food supply	617,610	656,984	662,600	679,407	672,810	657,882
/ Population (thousands)	30,562	31,478	32,423	33,395	34,397	32,451
= PER CAPITA CONSUMPTION (UNMILLED kg/year	20.2	20.9	20.4	20.3	19.6	20.3
= PER CAPITA CONSUMPTION (MILLED kg/year)	17.2	17.7	17.4	17.3	16.6	17.2

COMMODITY: RICE ZAIRE

	1985	1986	1987	1988	1989	Average
Gross domestic food production	297,170	298,670	300,170	310,830	314,370	304,242
- Total non-food uses	35,660	35,840	36,020	37,300	37,724	36,509
= Net domestic food production	261,510	262,830	264,150	273,530	276,646	267,733
- Net change in stocks	0	0	0	0	0	0
- Total food exports	0	0	0	0	0	0
= Domestic food supply	261,510	262,830	264,150	273,530	276,646	267,733
+ Total commercial food imports	69,750	105,042	51,688	84,583	94,562	81,125
+ Food Aid	0	0	84,860	15,050	31,767	26,335
= Total food supply	331,260	367,871	400,698	373,164	402,974	375,193
/ Population (thousands)	30,562	31,478	32,423	33,395	34,397	32,451
= PER CAPITA CONSUMPTION (UNMILLED kg/year	10.8	11.7	12.4	11.2	11.7	11.6
= PER CAPITA CONSUMPTION (MILLED kg/year)	6.5	7.0	7.4	6.7	7.0	6.9

COMMODITY: WHEAT ZAIRE

	1985	1986	1987	1988	1989	Average
Gross domestic food production	3,000	4,000	5,000	5,000	6,000	4,600
- Total non-food uses	210	280	350	350	420	322
= Net domestic food production	2,790	3,720	4,650	4,650	5,580	4,278
- Net change in stocks	0	0	0	0	0	0
- Total food exports	0	0	0	0	0	0
= Domestic food supply	2,790	3,720	4,650	4,650	5,580	4,278
+ Total commercial food imports	113,352	206,673	156,415	156,689	147,995	156,225
+ Food Aid	99,478	56,423	93,978	98,882	98,663	89,485
= Total food supply	215,620	266,816	255,043	260,221	252,238	249,988
/ Population (thousands)	30,562	31,478	32,423	33,395	34,397	32,451
= PER CAPITA CONSUMPTION (UNMILLED kg/year	7.1	8.5	7.9	7.8	7.3	7.7
= PER CAPITA CONSUMPTION (MILLED kg/year)	5.3	6.4	5.9	5.8	5.5	5.8

COMMODITY: MANIOC ZAIRE

	1985	1986	1987	1988	1989	Average
Gross domestic food production	15,400,000	15,900,000	16,400,000	17,000,000	17,440,000	16,428,000
- Total non-food uses	1,540,000	1,590,000	1,640,000	1,700,000	1,744,000	1,642,800
= Net domestic food production	13,860,000	14,310,000	14,760,000	15,300,000	15,696,000	14,785,200
- Net change in stocks	0	0	0	0	0	0
- Total food exports	0	0	0	0	0	0
= Domestic food supply	13,860,000	14,310,000	14,760,000	15,300,000	15,696,000	14,785,200
+ Total commercial food imports	0	0	0	0	0	0
+ Food Aid	0	0	0	0	0	0
= Total food supply	13,860,000	14,310,000	14,760,000	15,300,000	15,696,000	14,785,200
/ Population (thousands)	30,562	31,478	32,423	33,395	34,397	32,451
= PER CAPITA CONSUMPTION (UNMILLED kg/year	453.5	454.6	455.2	458.2	456.3	455.6
= PER CAPITA CONSUMPTION (MILLED kg/year)	136.1	136.4	136.6	137.4	136.9	136.7

COMMODITY: PLANTAIN ZAIRE

	1985	1986	1987	1988	1989	Average
Gross domestic food production	1,795,100	1,796,600	1,798,100	1,799,100	1,818,540	1,801,488
- Total non-food uses	197,461	197,626	197,791	197,901	200,039	198,164
= Net domestic food production	1,597,639	1,598,974	1,600,309	1,601,199	1,618,501	1,603,324
- Net change in stocks	0	0	0	0	0	0
- Total food exports	0	0	0	0	0	0
= Domestic food supply	1,597,639	1,598,974	1,600,309	1,601,199	1,618,501	1,603,324
+ Total commercial food imports	0	0	0	0	0	0
+ Food Aid	0	0	0	0	0	0
= Total food supply	1,597,639	1,598,974	1,600,309	1,601,199	1,618,501	1,603,324
/ Population (thousands)	30,562	31,478	32,423	33,395	34,397	32,451
= PER CAPITA CONSUMPTION (UNMILLED kg/year	52.3	50.8	49.4	47.9	47.1	49.5
= PER CAPITA CONSUMPTION (MILLED kg/year)	47.0	45.7	44.4	43.2	42.3	44.5

COMMODITY: PEANUTS ZAIRE

	1985	1986	1987	1988	1989	Average
Gross domestic food production	386,000	388,000	390,000	399,300	403,440	393,348
- Total non-food uses	69,480	69,840	70,200	71,874	72,619	70,803
= Net domestic food production	316,520	318.160	319,800	327,426	330,821	322,545
- Net change in stocks	0	0	0	0	0	0
- Total food exports	0	0	0	0	0	0
= Domestic food supply	316,520	318,160	319,800	327,426	330,821	322,545
+ Total commercial food imports	0	0	0	0	0	0
+ Food Aid	0	0	0	0	0	0
= Total food supply	316,520	318,160	319,800	327,426	330,821	322,545
/ Population (thousands)	30,562	31,478	32,423	33,395	34,397	32,451
= PER CAPITA CONSUMPTION (UNMILLED kg/year	10.4	10.1	9.9	9.8	9.6	9.9
= PER CAPITA CONSUMPTION (MILLED kg/year)	7.2	7.1	6.9	6.9	6.7	7.0

ZAIRE: POPULATION AND GROWTH RATE

Growth Rate =	3.0 %
1984	29671407
1985	30561549
1986	31478396
1987	32422748
1988	33395430
1989	34397293
1990	35429212

SOURCE: Census 1984

ZAIRE:

FOOD NEEDS ASSESSMENT: 1990

MAIZE PRODUCTION: 1983 - 1989

YEAR	PRODUCTION (Metric Tons)
1983	673070
1984	703950
1985	710500
1986	725590
1987	730000
1988	753280
1989	760100

DATA SOURCE:

1983 - 1988: DEPARTEMENT DE L'AGRICULTURE/SEP, (Decembre 1989).

1988 - 1989: ESTIMATES

ZAIRE:

FOOD NEEDS ASSESSMENT:

MAIZE IMPORTS, (METRIC TONS): 1985 - 1989

YEAR	COMMERCIAL	CONCESSIONAL	TOTAL IMPORTS
1985	35000	0	35000
1986	58000	4000	62000
1987	56000	8000	64000
1988	57717	4000	61717
1989	44528	5000	49528

DATA SOURCES:

COMMERCIAL IMPORTS: 1985 - 1987: DEPARTEMENT DE L'AGRICULTURE/SEP, (Decembre 1989)

1988 - 1989: OFIDA, (Decembre, 1989)

CONCESSIONAL IMPORTS: FAO

ZAIRE:

FOOD NEEDS ASSESSMENT: 1990

RICE, (PADDY) PRODUCTION: 1983 - 1989

YEAR	PRODUCTION (Metric Tons)
1983	271333
1984	286000
1985	297167
1986	298667
1987	300167
1988	310833
1989	314367

DATA SOURCE:

1983 - 1988: DEPARTEMENT DE L'AGRICULTURE/SEP, (Decembre 1989).

1988 - 1989: ESTIMATES

ZAIRE:

FOOD NEEDS ASSESSMENT:

RICE IMPORTS, (METRIC TONS): 1984 - 1990

YEAR	COMMERCIAL	CONCESSIONAL	TOTAL IMPORTS
1984	31530	3000	34530
1985	41850	0	41850
1986	63025	0	63025
1987	31013	50916	81929
1988	50750	9030	59780
1989	56737	19060	75797

DATA SOURCES:

OFIDA AND USAID/KINSHASA, (December 1989).

ZAIRE:

FOOD NEEDS ASSESSMENT: 1990

WHEAT PRODUCTION: 1983 - 1989

YEAR	PRODUCTION (Metric Tons)
1983	2000
1984	2000
1985	3000
1986	4000
1987	5000
1988	5000
1989	6000
1990	7000

DATA SOURCE:

DEPARTEMENT DE L'AGRICULTURE. AUTOSUFFISANCE ET SECURITE ALIMENTAIRE AU ZAIRE. DRAFT, JUILLET 1989.

ZAIRE:

FOOD NEEDS ASSESSMENT:

WHEAT IMPORTS, (METRIC TONS): 1984 - 1990

YEAR	COMMERCIAL	CONCESSIONAL	TOTAL IMPORTS
1984	117543	105296	222839
1985	113352	99478	212830
1986	206673	56423	263096
1987	156415	93978	250393
1988	156689	98882	255571
1989	147995	98663	246658

NOTE: All Quantities in Wheat Equivalent Terms.

DATA SOURCES:

OFIDA AND USAID/KINSHASA, (December 1989).

ZAIRE:

FOOD NEEDS ASSESSMENT: 1990

MANIOC PRODUCTION: 1983 - 1989

YEAR	PRODUCTION (Metric Tons)
1983	14600000
1984	15000000
1985	15400000
1986	15900000
1987	16400000
1988	17000000
1989	17440000

DATA SOURCE:

1983 - 1988: DEPARTEMENT DE L'AGRICULTURE, (December 1989).

1988 - 1989: ESTIMATES

ZAIRE:

FOOD NEEDS ASSESSMENT: 1990

PLANTAIN PRODUCTION: 1983 - 1989

YEAR	PRODUCTION (Metric Tons)
1983	1703000
1984	1749000
1985	1795100
1986	1796600
1987	1798100
1988	1799100
1989	1818540

DATA SOURCE:

1983 - 1988: ANNUAIRE DES STATISTIQUES AGRICOLES, 1979 - 1988.

1989: ESTIMATE

ZAIRE:

FOOD NEEDS ASSESSMENT: 1990

PEANUTS PRODUCTION: 1983 - 1989

YEAR	PRODUCTION (Metric Tons)
1983	366900
1984	375000
1985	386000
1986	388000
1987	390000
1988	399300
1989	403440

DATA SOURCE:

1983 - 1987: DEPARTEMENT DE L'AGRICULTURE, (Decembre 1989).

1988 - 1989: ESTIMATES

ZAIRE:

FOOD NEEDS ASSESSMENT: 1990

SEED COTTON PRODUCTION: 1983 - 1989

YEAR	PRODUCTION (Metric Tons)
1983	26800
1984	20800
1985	20700
1986	19100
1987	17000
1988	16200
1989 *	14890

* = Estimate

DATA SOURCE:

DEPARTEMENT DE L'AGRICULTURE. ANNUAIRE DES STATISTIQUES AGRICOLES, 1979 - 1985 AND 1986 - 1988. SERVICE D'ETUDES ET DE PLANIFICATION AGRICOLES/ DIVISION DE LA STATISTIQUE AGRICOLE.

ZAIRE:

FOOD NEEDS ASSESSMENT:

COTTON IMPORTS, (METRIC TONS): 1984 - 1990

YEAR	COMMERCIAL	CONCESSIONAL	TOTAL IMPORTS
1984	232	0	232
1985	520	4906	5426
1986	220	7440	7660
1987	0	3694	3694
1988	0	1446	1446
1989	0	3822	3822

DATA SOURCES:

OFIDA AND USAID/KINSHASA, (December 1989)