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INCOME STRUCTURE OF SMALL SCALE FARMERS HOUSEHOLDS IN THE HINTERLAND OF UYO, SE-NIGERIA[1]

An Analysis against the Background of the Carrying Capacity Concept

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Abstract

The hinterland of Uyo, Capital of Akwa Ibom State in SE-Nigeria is one of the most populated rural areas in Nigeria. Most of the small scale farmers who reside within this region are not able to produce enough basic foodstuffs for themselves and their families. They therefore, have to buy additional foodstuffs such as cassava, gari, co-coyams and yams which are brought down to periodic markets in the Uyo urban region imported from the northern parts of Cross River State, and other areas of Delta State

With the support of the University of Calabar, Calabar, field studies were undertaken from October 1992 to April 1995 to find out how small scale farmers finance their additional demand for food-stuffs. A sample of 159 households in 7 villages of the hinterland of Uyo was taken. Household members were interviewed by a set of structured questionnaires to identify their economic activities important for the generation of monetary and non-monetary income. As a result it was possible to distinguish between 4 types of households concerning the combination and importance of different economic activities. The most important activities with a changing level of significance for the types of households studied are the production and marketing of oil-palm products, the commercial and occasional intermediate trade with oil-palm products and foodstuffs, to a less extent services and at least for nearly 40% of all households the financial support of migrants for their families in the villages.

Introduction to the Study and the Investigation Area

This field study utilises the Carrying Capacity Concept as an aspect of the analysis of the economic structure in the hinterland of Uyo, capital of Akwa Ibom State. The Concept of Carrying Capacity is used in a sense implying total economic carrying capacity as used by MANSHARD (1988, 19) and not only in an agricultural sense as

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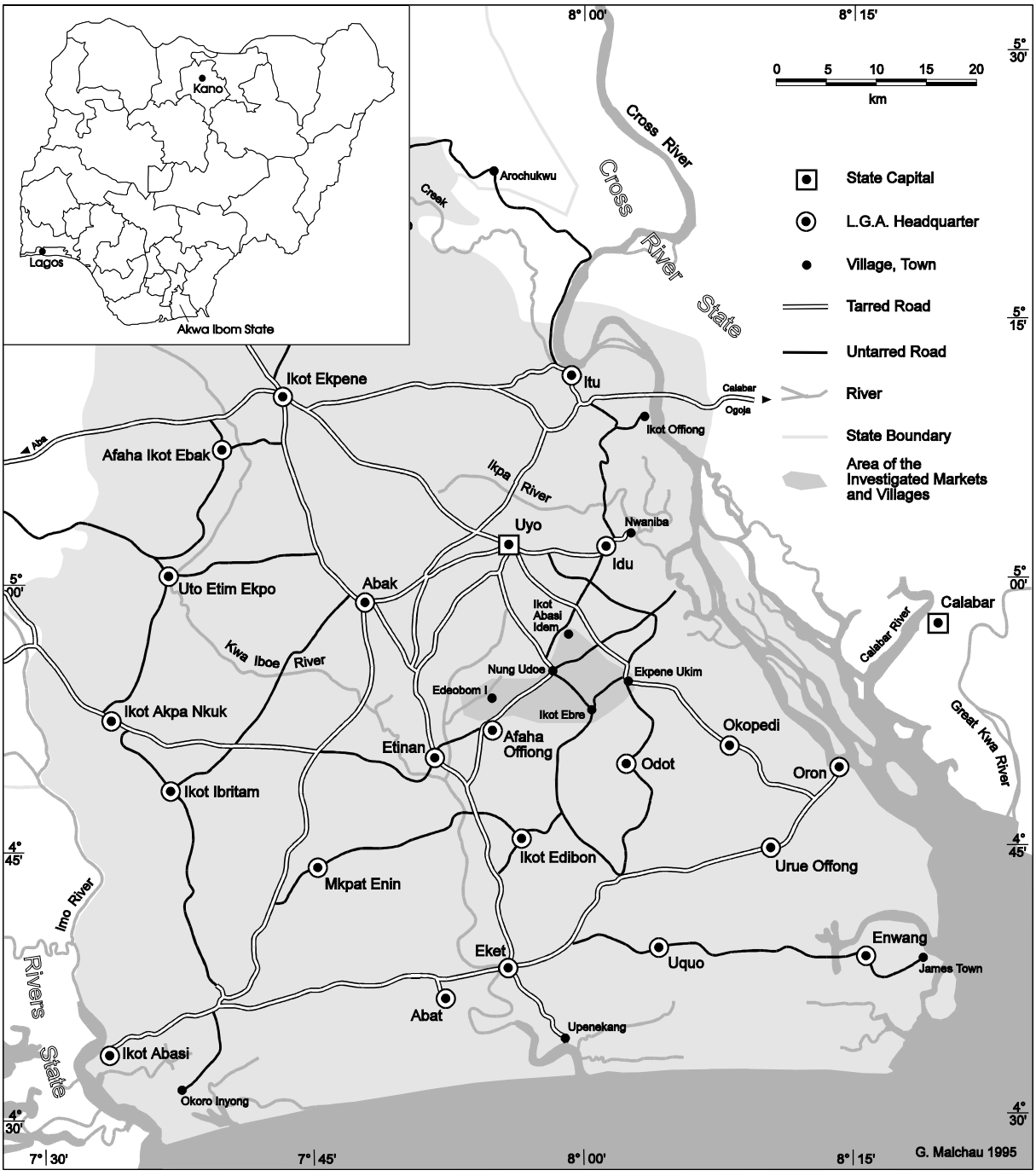
it is usually the case in many other field studies. The investigation area (see Figure 1) is situated in one of the most densely populated regions of Nigeria, carrying up to 800 inhabitants per sq. km. Some of the villages with different outfit of central place characteristics (e.g.periodic markets) were selected for market studies and household interviews.

Figure 1: **Investigation Area in Akwa Ibom State**



Source: MAP OF AKWA IBOM STATE (1991), Fieldwork 1993-95

The average population density of Akwa Ibom State comes to 326 inhabi-

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tants/sq km (POPULATION CENSUS 1991) and the rural area of the investigated part of the hinterland carries up to 480 inhabitants/sq km (MALCHAU 1996, 19). Although the absolute density values are exceedingly high for a rural area, a population growth of 1.89% per annum from 1953 to 1991 is moderate compared to the Nigerian average with 2.70%. This is probably a result of discrepancies in the counting from 1953 and 1991, despite the high migration rate (FRICKE & MALCHAU 1994, 172).

As a result of the high population density, and the distribution of available farmland to an increasing number of family members, most farms consists of only small farm plots scattered over the entire area of the villages. As early as the early seventies, about 46% of the households owned less than 0.5 ha of arable acreage (CROSS RIVER DEVELOPMENT AUTHORITY 1978, B-7). The small-scale farmers who constitute approximately 80% of the population are cultivating food crops like tubers, beans, vegetables, and maize. Although there is a marketing of seasonal surplus at local periodic markets, the production of food crops hardly covers their needs for self-sufficiency in food in many parts of Akwa Ibom State, especially in the investigation area.

In addition to the cultivation of food crops, there is a production and marketing of oil-palm products. The fruits of oil-palm are processed to palm-oil and palm-kernels and sold as cash crops to large stock collectors on big periodic markets in the area. Against former times, the export of palm-oil for the world market, which was a very important factor in the Nigerian external trade before the civil war, does not play any longer an economic role in the hinterland of Uyo.

As already stated, the production of food crops hardly covers the needs of the population. The result of research projects by UDO (1971, 1975a, 1975b) and HAY & SMITH (1970) in the sixties and seventies had pointed to this phenomenon. At that time UDO characterized parts of the Ibibio area (today Akwa Ibom State) as food deficit areas. Against this background, and heightened by the creation of Akwa Ibom State in 1987, with the fast growing population of Uyo-Town, its capital, a fresh study was undertaken in 1988/89 (MALCHAU 1991) regarding the marketing of basic foodstuffs on big periodic hinterland markets and daily town markets.

The most important results of that study were the tracing of commodity flows and the localisation of production areas for basic foodstuffs offered to the selected markets. Neither the daily urban markets, nor the big periodic hinterland markets were supplied from the rural hinterland of Uyo. Nearly 100% of the investigated basic foodstuffs like yams, cassava and gari were imported from production areas, some 300 km away, in the northern Cross River State and in the Delta State of Nigeria. From the result of this first study arises the question: How do small scale farmers in the hinterland of Uyo finance their additional demand of basic foodstuffs?

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Figure 2: **Balance of Monthly Money Flows for all Investigated Households (Prices in Naira 1994)**

	*Support from Migrants**	*Oil-palm-Products**	*Basic-Foodstuffs**	*Balanced Amounts*
(1) Akwa Ibom State in SE-Nigeria	**+4.710 (38%)**	**+7.500 (6%)**	**-2.800 (3%)**	**+9.410**
Ikot Offiong	-	-	*-2.800*	*-2.800*
Uyo	*+3.700*	*+7.500*	-	*+11.200*
Other Locations	*+1.010*	-	-	*+1.010*
(2) SE-Nigeria	**+3.600 (29%)**	**+78.500 (63%)**	**-80.000 (82%)**	**+2.100**
Aba	-	*+55.000*	-	*+55.000*
Calabar	*+770*	-	*-2.600*	*-1.830*
Ikom L.G.A.	*+160*	-	*-14.400*	*-14.240*
Ogoja L.G.A.	-	-	*-63.000*	*-63.000*
Owerri	*+270*	-	-	*+270*
Port Hartcourt	*+2.400*	*+20.000*	-	*+22.400*
Umuahia	-	*+3.500*	-	*+3.500*
(3) SW-Nigeria	**+3.000 (24%)**	**+8.000 (7%)**	**-14.600 (15%)**	**-3.600**
Agbor	-	-	*-14.600*	*-14.600*
Ibadan	*+800*	-	-	*+800*
Lagos	*+2.200*	*+8.000*	-	*+10.200*
(4) N-Nigeria	**+540 (4%)**	**+29.800 (24%)**	**- (0%)**	**+30.340**
Abuja	*+270*	-	-	*+270*
Kaduna	*+270*	*+5.000*	-	*+5.270*
Kano	-	*+11.000*	-	*+11.000*
Yola	-	*+13.800*	-	*+13.800*
(5) Abroad	**+670 (5%)**	**- (0%)**	**- (0%)**	**+670**
Sum	**+12.520(100%)**	**+123.800(100%)**	**-97.400(100%)**	**+38.920**

* „+“: money flow into the investigation area, „-“: money flow out from the investigation area.

Source: Fieldwork 1993-95

The basic instruments for the present study are the analysis of production and marketing systems for foodstuffs and palm-oil products. The balancing of commodity and money flows (ISENBERG 1953, 1970) of these products, completed by financial support from migrants, shows the economic interrelationship between the hinterland of Uyo and other regions in Nigeria. A detailed information about the monetary and non-monetary income structure, as well as expenses is given by the analysis of individual households (EVERS 1981, 1987; ELWERT, EVERS & WILKENS 1983).

Money and Commodity Flows between the Hinterland of Uyo and other Regions in Nigeria

The balancing of the most important money flows, and vice versa, commodity flows between the investigation area and other regions in Nigeria is a very essential aspect of this study. Concerning the money flows, a particular carrying capacity concept is of interest which is mentioned in the German literature by DAMS, DE HAEN, KÖTTER, THIMM & ZUREK (1985, 112) in their studies on integrated rural development, by

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FRICKE (1986, 168) and recently again by BÄHR (1992, 264). The origin of this concept is already old and was presented by the economist ISENBERG (1953, 1970) after the Second World War in Germany. The economic situation in the western part of Germany at that time was characterised by high unemployment and millions of migrants from the former eastern parts of Germany. Measures aimed at increasing the carrying capacity in a German state with few raw materials by the reconstruction and expansion of an export-orientated industrial sector were seen as the solution and precondition for the unemployed to find a living existence. According to ISENBERG carrying capacity is not a fixed factor. There are different interrelating factors (1953, 4-9) like (1) nature, (2) accessibility, (3) technical equipment, (4) the degree of utilization of the natural base, (5) level of living standard and (6) the economical interrelationship with other regions or states.

Applying this concept to the hinterland of Uyo implies the calculation of in-flow and out-flow of money and commodities from, and to other regions. A balancing of these flows then allows an evaluation of the present economic resources in the study area.

The data-base comprises the results of the present study regarding the household and market interviews for oil-palm products, and financial support from migrants, as well as results of an earlier study (1988/89) on basic foodstuffs. The market investigations supplied the level of significance for markets in the production areas (basic foodstuffs), and respectively locations of the industry, small scale industry and other ranges of application for the subsequent treatment of oil-palm products. Data on prices and quantities from household interviews on basic foodstuffs and oil-palm products as well as financial support from migrants were processed to determine the significance of locations.

The balance as shown in *Figure 2* Akwa Ibom State (Pos. 1) is separated to demonstrate the local flows concerning the town-hinterland relation of Uyo which includes the study area. These flows mainly consist of profits from the selling of palm-kernels to small scale industries at Uyo and from financial transfers of migrants who are working at Uyo. 30% of all financial transfers to households in the investigated villages are coming from migrant family members working in Uyo. This development is relatively new and associated with the creation of Akwa Ibom State in 1987. Even the well established centres like Lagos or Port Harcourt do not have such an importance as Uyo today. This is perhaps a sign that also in Nigeria the flow of migrants from rural areas to large urban centres has decreased as recently described for Kumasi in Ghana by HOFMANN (1994).

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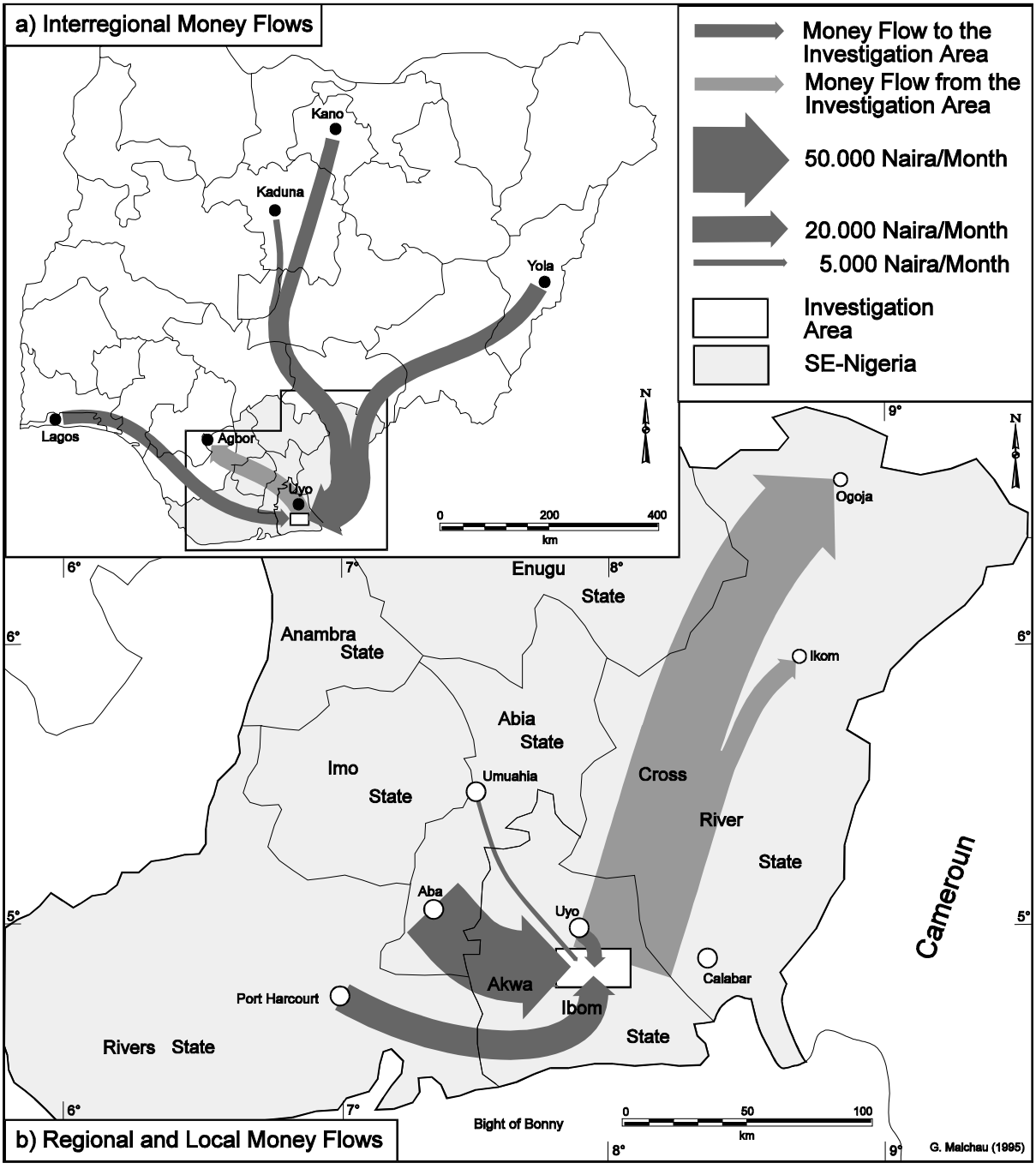
Figure 3: **Interregional, Regional and Local Money Flows refering to the Study Area**



Source: Fieldwork 1993-95

The SE region of Nigeria is taken as a whole (Pos. 1 and 2 in *Figure 2*). One notices a large outflow of monetary expenses from households of small scale farmers to northern Cross River State (see also *Figure 3*) for their additional demand of basic foodstuffs. But nearly the same amount is generated as monetary income on this regional level again by the selling of palm-oil and palm-kernels to different industries (e.g. soap) in Aba, Port Harcourt and Umuahia. 69% of all profits from oil-palm prod-

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ucts, 67% of the financial transfers from migrants and 85% of all expenses for basic foodstuffs are related to the regional level of SE-Nigeria, which also includes the local level of the town-hinterland relation of Uyo. The balanced money flow for the investigated households on regional level is already positive, although further expenses for foodstuffs on interregional level (SW-Nigeria) are not compensated completely.

The positive money flow is still increased if the national or interregional level is considered. There are two more sub-regions - SW- and N-Nigeria. The balanced money flow for SW-Nigeria is even presenting a minus for the investigation area. The expenses for foodstuffs in Delta State are larger than profits from palm-oil trading and financial transfers from migrant workers in Lagos or Ibadan. Only profits mainly from selling of oil-palm products to consumers in northern Nigeria are realizing at least a considerable surplus for the total balancing.

The international level is rather insignificant, there are small amounts from traders and small scale farmers who migrated to Western Cameroon. One household is even supported from the United States. As already stated oil-palm products from the study area are not sold to the world market.

Summing up, it may be said that all investigated households together in the hinterland of Uyo were able to compensate their additional expenses on foodstuffs by the production and marketing of oil-palm products. That means the limit of carrying capacity in the defined sense would not be exceeded on condition of the contemporary living standard and the economic strategy of many family members to migrate to the towns. But there are restrictions. At first, the calculation of money flows based on average monetary household incomes and expenses. That means households belonging to *Type 1* as it is presented in the next section may have serious difficulties to provide a sufficient daily nutrition. Secondly both the marketing of foodstuffs and of oil-palm products passes over long distances. High transportation costs with different effects on purchase prices for foodstuffs and selling prices for oil-palm products. Purchase prices of foodstuffs are increasing whereas selling prices of oil-palm products to wholesale traders on the periodic markets are decreasing.

Regarding the linkages between the investigation area and the regional and interregional level, the factor of transportation costs makes the system of commodity and money flows to a sensible construction that can be disturbed very easily because of the macro-economical situation of Nigeria. Only households belonging to *Type 3* and *4* (see next section) with an absolute higher monetary income also from non-agricultural sectors and a sufficient production of foodstuffs for own consumption would not be affected immediately.

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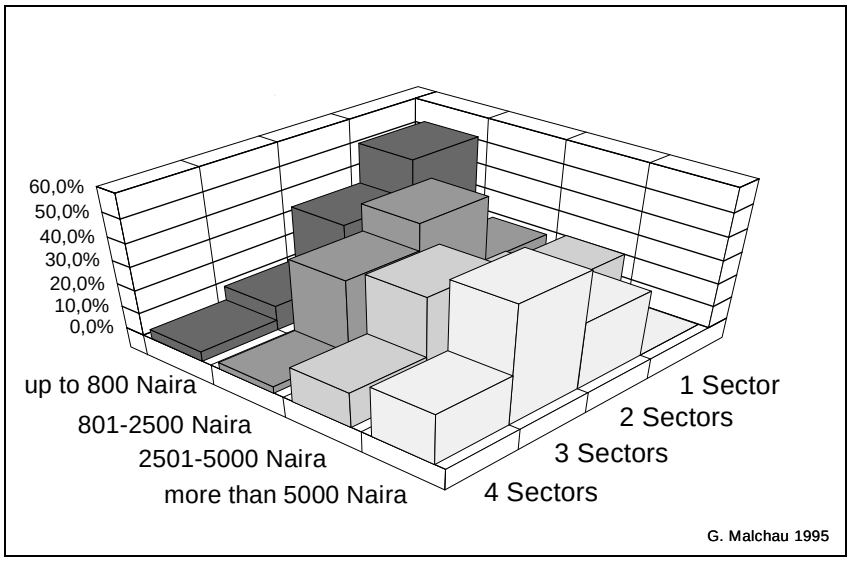
Combination of Household Incomes and the Types of Households

At all there are 6 important sectors of monetary income of all investigated households. For a better differentiation the agricultural sector was split into 3 subsectors - the commercial trade with oil-palm products, the occasional trade with oil-palm products and trade with foodstuffs. Other sectors are small scale industries and trade with non-agricultural products, services and at least financial support from migrant family members.

The most important sector with 25.5% of the total income of all households is the occasional trade in oil-palm products. Almost every household is engaged in this business by producing oil-palm and palm-kernels from own palm trees and selling the products to middleman and wholesale traders in periodic markets.

Figure 4: **Classified Income per Household and Month in Relation to the Number of Activities per Household in Different Economical Sectors**



Source: Fiedwork 1993-1995

Nearly the same share of the total income (23.7%) comes from small scale industries and trade in non-agricultural products. The building trade with carpentries and the production of cement blocks has to be stressed in particular.

18.1% of the total income is made by the marketing of self produced foodstuffs and more essential by the intermediate trade of foodstuffs like cassava, gari, yams, cocoyams and maize.

Another important factor is the commercial trade with oil-palm products (17.6%). The commercial trade of oil-palm products means the regular intermediate and wholesale trade on big periodic markets.

10.7% originates from public and private services and at least the smallest share of the total income of all households is the financial support from migrants to their families in the villages with 4.4%.

But only a few households realize their monetary income from only one economic sector. 71% of the investigated households are active in 2 or 3 or even up to 4 sectors at the same time. In general, different members of the same household work

in one sector, but it is also possible that one member is active in several sectors (see e.g. EVERS 1981; ELWERT, EVERS & WILKENS 1983). *Figure 4* shows the result, i.e. the number of activities per household in different economic sectors related to the classified income per household and month. It can be stated, that a distribution of the capacity of work per household to a greater number of economical activities is combined with an increase of household income.

After setting the monthly household income against the number of economic activities, which was a basic reflection at the beginning of the study, a typifying of all investigated households was undertaken to examine if there are correlations to other variables e.g. size of agricultural enterprise, cultivated farmland at the time of investigation, average fallow, size of household, number of migrant family members, level of self-sufficiency on the basis of cassava production, additional demand for basic foodstuffs etc.. With the aid of a discriminant analyses (see e.g. BACKHAUS, ERICHSON, PLINKE & WEIBER 1990) it was possible to distinguish 4 types of households[2] concerning the structure and partly the economic strategies (see Figure 5):

Type 1: 40.5% of all investigated households belong to this group, which is the largest one of all groups. Monetary income (up to 800 Naira/month[3]) is derived from the occasional marketing of palm-oil and palm-kernels, but most households (66%) in this group are supported exclusively or to a smaller extent additionally by family members who have migrated. 2.7 members from these households migrated in the average. Many households are not provided any longer with farm land and this is certainly one of the main reasons for migration. Those provided with farm land are cultivating their plots 2 to 3 years before they are allowing a short fallow of 1 year or none at all. The average size of the farm land is 0.2 ha, corresponding with a low level of self-sufficiency of 31.7%. Almost the whole monetary income has to be spent on additional foodstuffs (cassava and maize) and it is very questionable if this leads to a well-balanced nutrition. Because of lack of capital the strategy of these households consists of the migration of family members (= not suitable capacity of work in the household) to Uyo or other towns or in some cases to less densely populated areas in Cross River State.

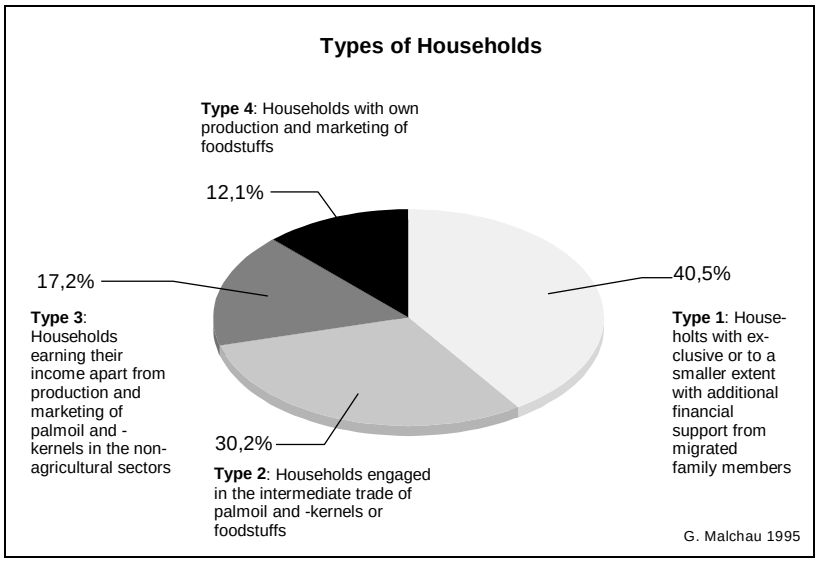
Type 2: 30.2% of all households belongs to this group. The monthly income varies between 800 and 2,500 Naira. The most important sector is the commercial trade in oil-palm products. The household members buy palm bunches or already processed palm-oil to sell it again to wholesalers at big periodic markets such as in Nung Udoe, Edeobom I and Ekpene Ukim. In return they buy foodstuffs from whole-

[2] The sum of all investigated households comes up to 159. In Edebom 1 = 114, in Ikot Ebre = 30 and in Ikot Abasi Idem = 15 households. The location of the villages see *Figure 1*.
[3] Prices in 1994.

salers or middlemen to sell it to final consumers. Services and small scale industries are also important sources of income - 50% of the households in this group are engaged in the 3 sectors. Financial support from migrant family members appears to be only of a small extent. The average size of farm land is 0.3 ha, that means there is no marketing of self cultivated agricultural products in this group too, apart from a small seasonal surplus. At a level of self-sufficiency of 44.5% nearly 80% of the monthly household income has to be spent on additional food stuffs.

Type 3: Type 3 is already one of the smaller groups. 17.3% of all investigated households belong to this group with a monthly household income of 2,500 up to 5,000 Naira. The most important economic sector is the commercial intermediate trade with oil-palm products. Palm-oil plays a very important role in these households. Not only the commercial buying up and selling to generates income, also the selling of self-processed palm-oil and palm-kernels from self-owned oil-palm trees contributes to it. This is possible because of an average size of farm land of 0.7 ha. The level of self-sufficiency was calculated to be 84%, and reaches almost the 100% mark. 54% of the income is spent on the additional demand of foodstuffs. Most of the households in this group are earning income in 3 economic sectors. Apart from the oil-palm nearly 40% of the monthly household income derives from non-agricultural sectors like small-scale industries and services, e.g. carpentries, production of cement stones, bicycle and motorcycle repair, tailoring, and at least for households in Edeobom I jobs in the L.G.A. administration in the neighbouring Afaha Offiong.

Figure 5: **Types of Households in the Studied Villages**



Source: Fieldwork 1993-1995

Type 4: This is the smallest group with 12.1% of all studied households. With more than 5,000 Naira monthly household income these are the better situated households. Only this group has a level of self-sufficiency of more than 100% (exactly 116%) because of the size of farmland which is in average 0.9 ha. The demand of basic foodstuffs is covered and the marketing of surplus on periodic markets is possible. 70% of these households are engaged in 3 or even 4 economic sectors, but

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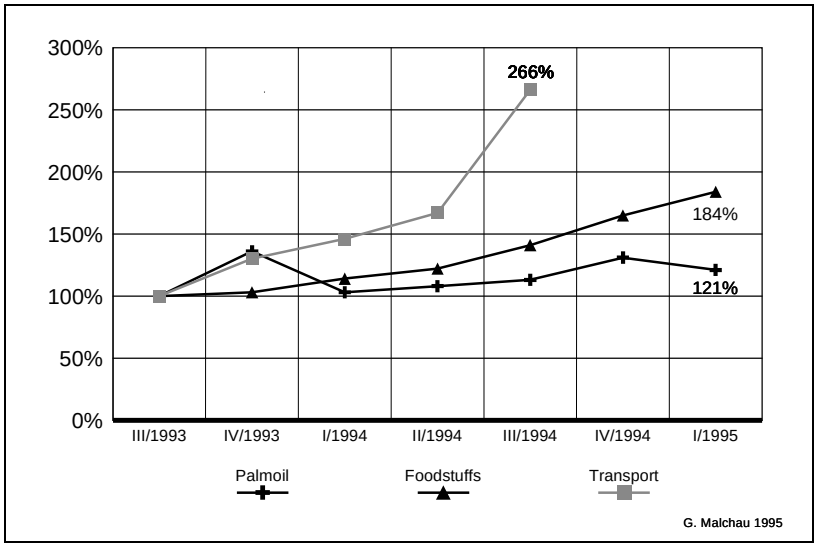
the non-agricultural sector with services and small-scale industry is not so important as compared to Type 3, although the absolute earnings in Naira are often higher. This group which comprises many households from chiefs or other dominant personalities in the villages are still able to generate an important share of their income by own production and marketing of foodstuffs and oil-palm products. Probably their land resources are less exhausted because of exceptional authorities inside the village society.

Conclusions

The typifying and classification of the types of households studied shows that a balancing of money and commodity flows alone as presented earlier in this paper is not satisfying to examine the economic situation in the study area according to the additional demand of foodstuffs and the financing of it. The distribution of household income is too unbalanced, especially if it is compared with the percentage of Type 1 and 2 (= 70.7%) with Type 3 and 4 (= 29.3%).

Figure 6: **Development of Prices for Foodstuffs, Transport and Palm-oil in the Study Area**



Source: THE NIGERIAN ECONOMIST (March 20, 1995), Fieldwork 1993-1995

The classification gives detailed information about the difficult living conditions for a majority of the studied households. It also shows the importance of financial transfers from migrants for a large group of households (Type 1 = 40.5%), although this sector has only a share of 4.4% concerning the total income of all investigated households. Many households in the densely populated rural hinterland of Uyo depend directly on the economic outcome from their family members in the urban centres, especially Uyo.

The production of oil-palm products, the natural wealth of this region of Nigeria, and the earnings from the marketing of these products do not bring much benefit to the lowest income group. Mainly households from Type 3 and 4 (= 29.3%), that means, the economically better situated households, with some farm land resources

have the opportunity to generate income from the oil-palm sector. But these households do not depend so much on the additional demand of foodstuffs. They are responsible for the positive balancing of the money flows of the study area as presented in *Figure 2* and *3*.

Although the productivity of oil-palms in the investigation area is low and the quality of palm-oil is poor - a large number of palm-trees is totally superannuated -, the profits from the marketing of palm-oil and palm-kernels are still the most important income source regarding the total outcome of all investigated households. But compared to field-studies in this area at the beginning of the seventies (USORO 1974, 1990) a further decline of the percentage concerning household incomes from oil-palm products can be observed. The poor quality of the palm-oil caused by the traditional processing method is responsible for the non-marketing on the world market. Nevertheless, it must be realized that there is a development potential for the area by rehabilitation schemes for the oil-palm resources and modernization of the palm-oil processing, especially for households of Type 3 and 4.

Unfortunately, both the marketing of oil-palm products as well as the supply of foodstuffs are combined with long distance trade and high transportation costs as already mentioned. The increasing gap between selling prices for oil-palm products and cost of foodstuffs in particular (see Figure 6), could very easily produce a collapse of the study area's economic interconnections with other regions. And in particular those households belonging to Type 1 and partly to Type 2 afflicted at first.

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