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YALDIO AREA COUNCIL YAC
BACKGROUND INFORMATION

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TABLE OF CONTENTS.

1. BACKGROUND
2. CLIMATE
3. SOILS
4. VEGETATION
5. POPULATION
6. LAND TENURE
7. LIVESTOCK PRODUCTION
8. CROP PRODUCTION
8:1 PRODUCTION CYCLE
8:2 CROPPING PATTERN
8:3 AGRICULTURAL TOOLS
8:4 EXTENSION SERVICES
9 OFF-FARM ACTIVITIES
10 PRODUCTION CONSTRAINTS
10:1 LAND CONSTRAINT
10:2 LABOUR CONSTRAINT
10:3 CAPITAL CONSTRAINT
10:4 NATURAL HAZARDS
10:4:1 CLIMATE
10:4:2 PESTS
10:4:3 DISEASES
10:5 TRADITIONAL BELIEFS
10:6 ROADS
10:7 WATER SUPPLY/HEALTH
10:8 INPUT SUPPLY
10:9 EXTENSION SERVICES
10:10 PRODUCE MARKETING
10:11 EQUATORIA PROVINCE AGRIC. PRODUCTION CORPORATION
11 CONCLUSION

1. BACKGROUND

Yambio Area Council includes Yambio Town three village and two rural councils and it is one of the three area councils in Western Equatoria Province. The others are Meridi and Tenbura. Yambio the province capital is located some 34 kms from the Sudan-Zaire border. It is a major commercial centre linked to Juba to the East and Wau to the North by an all weather roads. The Yambio area is within the greenbelt ecological zone which has a high potential for crop production.

2. CLIMATE

The area has a wet climate with a long rainy Season extending from March to November. The annual rainfall ranges from 1400-1800 mm. The most rainy months are May to August where a measurement of 180-200 mm per month may be recorded. The distribution is usually good. The dry Season stretches from December to February where temperatures are relatively high. There may be some drizzle during this dry period. Minimum temperatures (16°c) are recorded between July and September and maximum (28°c) between December and March.

3. SOILS

Soils are lateratic, red in colour with an acid reaction. There is some variation in the Soils of the area ranging from deep red loam on a juvinile norite profile with good water retension capacity to light shallow soils consisting of ironstone pepples with poor water retension capacity. The red loamy Soils supports, plant life better than the hight shallow Soils. The ironstone is underlined with Basalt and granite which are hard rocks. The Soils are porouc, that allows rapid water movement, with low nutrient content and susceptable to Soil erosion (McCall 1950). It gets depleted after three years of continuous caltivation and it responds favourably to nitrogen and phosphorus application.

4. VEGETATION

The vegetation is composed of high grass woodland, within the woodland there are great numbers of plant associations which includes both broad leaved trees and dense forests. The type of plant associations gives one a rough idea about the value of the Soils on which they appear. Plant species that grow on relatively rich soils include Khaya grandifolia Cola Cordifolia, Chloropliora excelsa and Ceiva Orlandra. Mangoes and Oil palms grow wild in the area. The dense vegetation and the thick growth of trees protect the Soil from erosion and excessive leaching, they also tap deeper layers of the Soil hence compensting for leaching.

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5. POPULATION

Yambio Area Council has a human population of 51,000; 95% of whom are Azande. The remainder are Arab traders living in Yambio and Nzara towns with a few Southern Sudanese who are mainly government officials. The people live along the trunk and feeder roads individually, most homesteads hold nuclear families with most men having only one wife (Social monitoring Project 1982). The individual homestead is the basic economic Unit where both men and women share equally in the cultivation activities. Shifting-cultivation is widespread where the farmers grow cassava, sorghum, finger millet, maize, groundnuts, sesame, pulses, rice, coffee, pineaples, tomatoes, bananas, yams, sweet potatoes and cotton. Land clearing is done by men and he is assisted by the women in cultivation. All the other household activities such as fetching water, collecting firewood and grinding are performed by women. In the past food crops were grown by women and cash crops by men. The absence of population pressure will continue to influence the pattern of farming:- shifting - cultivation. Lack of communal work and limited demand have hindered production for marketing and has restricted growth and development.

6. LAND TENURE

The control of land is under the chief or his representative the headman. He allocates land to his subjects and settles any land disputes in respect to holding. If a man chooses a plot close to that of another man he must obtain his neighbours agreement first. A man has complete ownership rights over land he cultivates and his fallow as long as he remains domiciled in any given subchiefship. If he changes his domicile to another sub-chiefship then he losses all rights over this land. However, he has the right to claim any root or perennial crops he might have planted in the plot. There is no pressure on the land, nominally, it commands no price and the Situation is likely to remain so until a sizable increase in population takes place.

7. LIVESTOCK PRODUCTION

The area has no livestock because of large population of tsetsefly which transmits Trypanosomiasis (sleeping sickness) both among man and animals. Some goats and chicken are reared by only a few farm families. The area is deprived of animal manure and animal protein. All the cattle for slaughter are trekked in from the flood plain high losses are incured during transportation.

8. CROP PRODUCTION

The farming System is of the Slash and burn. type. The land clearing is done at the beginning of the dry Season and the cuttings are burnt just at the

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onset of the rainy Season. The land is brought under production for three years and then allowed to revert to bush fallow for some six or more years. Both annual and perenial crops are grown under conditions of mixed cropping. Groundnuts, maize and Sorghum have two distinct periods within production season.

Farm labour is supplied by the members of the Household with no hired labour, communal spirit for the performance of common field tasks jointly doesn't exist.

4:1 PRODUCTION CYCLE

Crop Calender for Yambio Area Council

(SIMPLIFIED)

CROP	1ST SOWING	2ND SOWING	WEEDING	HARVESTING
Maize	March/April	July	April/August	July/November
Sorghum	May	July	June/August	November/December
Groundnuts	April	July	May/August	July/October
Sesame	March	July	June/October	September/December
Sweet Potato	May	August	June/September	September/November
Finger millet	July	-	September	October/December
Cassava	April	-	June	After a year
Rice	May	-	June	October
Beans	June	-	July	October
Cotton	June	-	August	November
Pineaples	April	-	June	After a year
Bananas	May	-	June	After a year
Coffee	May	-	July	After 3 years

FIRST HALF OF THE SEASON (JANUARY-JUNE)

Bananas, fruit trees, tobacco and medicinal plants are to be found at the courtyard. Next to the courtyard is a ridge (NDUKA) which surrounds the homestead. The ridge is normally built by the women at the onset of the first rains in March where they plant pumpkins, maize, sweet potatoes, Roselle, Okra, tomatoes and egg plants. Small quantities of groundnuts and Yams may also be sown on the ridge. All the crops planted near the homestead are in small quantities and are to relief famine during the period when food reserves are low and cultivation is at its peak.

The main cultivation takes place in the clearing out of the homestead where the major crops of maize, groundnuts, cassava, finger millet, Rice, Sesame, Sweet potatoes, Pineaples, beans and possibly coffee are grown. Weeding of groundnuts, maize, cassava, Rice, Sorghum, Sesame, Sweet potatoes and Pineaples take place from April to June. In June, harvesting of maize and groundnuts progresses hand in hand with the weeding of the main crops and the sowing of Finger millet. Sorghum, Beans, Cotton and rice.

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SECOND HALF OF THE SEASON (JULY-DECEMBER)

In the second half of the Season, maize, groundnuts, Sorghum, Sesames and Sweet potatoes are planted; weeding of coffee, cotton, millet. Sesame, Sorghum, maize and groundnuts is done and nearly all the crops are harvested in this period. Much of the cultivation is off the homestead at the clearing.

Agricultural work reaches a yearly maximum in August which declines gradually in September. Other non-Agricultural activities also take place during the Season.

6:2 CROPPING PATTERN/SYSTEM.

- HOMESTEAD " NDUGA "
- MAIZE + PUMPKINS + OKRA/ROSELLE
- MAIZE + SWEET POTATOES + CASSAVA
- OUT OF HOMESTEAD "CLEARING"

MAIZE + GROUNDNUTS

RICE + FINGER MILLET + SORGHUM

MAIZE + GROUNDNUTS + CASSAVA

Almost all the crops in the area are intercropped into some complex mixtures. The main crops in the pattern include maize, groundnuts, cassava, Finger millet, Rice, Sorghum. Coffee, fruits and vegetables. Coffee is only intercropped in the first two years after which it is left as a pure stand. However, not all the smallholder farmers grow coffee even though by 1982/83 the number of registered farmers stood at 1,377 with a total of 2,139 feddans under coffee.

Rotation.

1ST YEAR - MAIZE + GROUNDNUTS
- RICE + FINGER MILLET/SORGHUM

2ND YEAR - GROUNDNUTS + FINGER MILLET
- MAIZE + FINGER MILLET + CASSAVA

3RD YEAR - MAIZE + SORGHUM + SESAME
- GROUNDNUTS + MAIZE + CASSAVA.

4TH YEAR - CASSAVA

5TH-10TH YEAR - BUSH FALLOW

The rotation is complex, it can only lend itself to broad generalization.

6:3 AGRICULTURAL TOOLS

Improved Agricultural implements such as machetes, hoes, axes and adzels can be bought in the shops but the following traditional implements of the Azande are still popular.

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- Axes, this is used for cutting small trees, shrubs and vines, the largetrees are ring barked and left to die"Molodo"is a traditional hoe, circular in shape and it is fitted on a V-shaped handle with an angle of less than 900 degrees.

- Slasher is a knife which could be a spear blade and it is used for slashing vines and small bushes.

- "Digi" a flat ring used for harvesting finger millet heads.

- Crowbar, fitted on the end of a spear shaft and is used for digging holes.

- Knife, knives are of various shapes and uses.

6:4 EXTENSION SERVICES.

There are three bodies engaged in extension activities in the area:-

- Regional ministry of Agriculture, the ministry has a Provincial Extension Officer who is in charge of the whole province. YAC has four diplomates who Serve as Technical Assistants and six overseers.

- Project development Unit PDU. The Project is only involved in Coffee Extension. Since Yambio is second to Yei in coffee production and the extension strategy for coffee is well developed, the extension activities in the area appear to have made a tremendious impact on the smallholder farmers.

- Equatoria province Agric. Production Corporation EPAPC Following the failure of the cotton Industry, there is only a very small number of small farmers still growing cotton. The reactivation of the dormant Extension section of the Corporation will very much depend on the rehabilitation of the Corporation and whether the Corporation will be on a position to offer the small farmers remunerative prices.

9. NON-AGRICULTURAL ACTIVITIES

The off-farm activities in YAC include Money Gathering, Hunting, Fishing, blacksmith, Handicraft, Building and Carpentry. Most of these activities take place during the dry Season and they do not seem to compete for labour during the peak periods for Agricultural production. In the dry Season the people are engaged in visiting distant relatives and in the performance of traditional ceremonies whereby the women make salt and Brew beer.

Hunting is a mans occupation, a big hunting party may set off and stay away for a number of days before returning home, they hunt for both big and small game.

Fishing is done by both men and women, they may make use of a poison or isolate a small body of water, empty the water and collect the fish at the river bed.

Honey collection by men from the traditional type of bee-hive, is a very important activity that may require a close study so as to evolve improved bee-hive to boost this Industry.

Local blacksmiths, provide most of the farm implements that are used in YAC. White ants play an important role in the diet of the Azande.

Most of these non-farm activities generate cash which the farmers may use to purchase badly needed commodities.

10. PRODUCTION CONSTRAINTS

10:1 LAND CONSTRAINT

Land is free and plenty. One can clear it and put it under production. The only drawback is that the smallholder farmer do not practice suitable Soil conservation measures. Cultivation of sloping land and the burning of cultivable land have led to high losses of the top Soil through erosion. In comparison to the other resources - Capital and labour, land presents a less important constraint to the small farmer since there is so much land of good quality in the area.

10:2 LABOUR CONSTRAINT

With an average family size of 3.2 and the fact that only family labour is available for the performance of all the Agricultural activities indicate that labour is a bottleneck during the peak periods of planting, weeding and harvesting. Low population density; shortage of funds and the unwillingness of the people to work for wages have made it practically difficult to hire additional labour during the peak periods of production. The community is well aware of the gravity of the labour problem but the individualistic nature of the people prevent them from any engagement in communal work or working parties that could reallocate labour in the critical times. It has been claimed that fishing, hunting and honey collection may cause some delay in cultivation at the onset of the rains. This is solely speculative since there is no record of any study to determine whether there is competition between Agricultural and off-farm activities for labour.

0:3 CAPITAL CONSTRAINT

In the traditional farming System where most of the assets in the holding are made from family labour, capital can be said to play a minor role. In Yambio, the small farmer experiences cash constraint which is reflected in the common practice of selling his produce soon after harvest when prices are very low and purchasing food at higher prices at a laterdate. He may be unable to pay for improved seeds and hoes or hire any labour.

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When considering innovations that require some investments before introduction, we have to approach the whole matter with care because of the mere fact that the savings of the small farmers are very small.

10:4 NATURAL HAZARDS

10:4:1 CLIMATE

Rainfall, floods and Soil erosion are some of the uncontrollable forces outside the farmers control. Too little rain or late start of the rains may cause serious crop losses. The intensity of the individual showers, average amount, the annual distribution and the yearly variation of rainfall play an important part in crop production. Breeding for drought resistance can be conducted in line with the rainfall variation. Soil losses through erosion cause deleterious effect on crop production.

10:4:2 PESTS

Red pigs, tsetsefly, Foxes, squirrels, guinea fouls, monkeys, baboons, Termites, army worms and cassava mite are the common pests of the area. The red pig is a voracious feeder and is highly destructive, it eats any crop that he comes across. The high population of the red pig coupled with the fact that it is a taboo for a Zande to eat the flesh of the pig because they believe it causes leprosy means that it will still remain an important pest in the area for sometime to come. Attempts by the wildlife department to hunt the pig have met with a failure because of its prolific System of reproduction and the thick vegetation characteristic of the Yambio Area. Army worms wiped out the finger millet crop for the last Season. At certain vulnearable stages of the crops, the farmers have to guard them against damage from birds, Foxes, squirrels, guinea fowls monkeys and baboons.

10:4:3 DISEASES

Groundnut rossette and rust, Sesame gall, Sorghum smut, Cassava mossaic virus are the most prevalent diseases in YAC. However, the extent of the damage they cause on crop yields has not been assessed.

Build up of persistant weeds because of the labour shortage and the lack of herbicides has encouraged a high build up of pests and diseases.

10:5 TRADITIONAL BELIEFS.

The people maintain strong beliefs in their traditional religions and supertitutions. They have strong faith in witchcraft, bad and good magic and oracles.

A man may shift his homestead to a new area when he losses his wife, when death of children or sickness among the household occurs or when he has had continuous crop failures. On the death of his wife, a man must abondon all his belongings and crops. He cannot rist looking back at her hut or grave so that he does't catch the widowers disease" or madness. His other wives may come back to their fields and harvest them. If the head of the family dies, all the other inhabitants have to move to his brothers or Sons home where they live as dependent relatives. The choice of any new site must be agreed upon by the oracle. Most of the people would not cultivate a large area of land for fear of being bewitched. They would not even build permanent house in the event of having to move to a new site, they would not incur heavy losses. A small group of people are fighting these beliefs but their impact appears to be minimal.

10:6 ROADS

The feeder roads with a total distance of 442 kilometres are under the Yambio Area Council. Environmental effects, settlement patterns, low volume of traffic, nature of the bridges and some institutional constraint have resulted in serious degradation of these roads. Failure of the wooden bridges and fallen trees across the road have rendered some of these roads not passable by motorised transport while others are passable with difficulty. The Council lacks the necessary funds, equipment and resources to maintain them. The efforts of the chiefs to mobilize labour to build and repair roads has met with limited success because the self help spirit is non-existant within the local people. Moreover the time for repairing roads coincides with the cultivation Season, when most people are very busy.

10:7 WATER SUPPLY/HEALTH

There are basically three sources of water; Streams, open wells and bore holes. The bore holes have proved difficult to maintain because there are no specialized maintaince crews resident in the area. Most of the open wells were constructed by the Swiss interchurch aid Project. Unfortunatly the project came to an abrupt end and since no provisions were made for the continuation of their maintainace; most of the wells are out of use. During the months of November to March the area experiences shortage. Most of the streams dry up and the general water table having fallen; women have to fetch water from distant sources. This activity is not expected to compete with Agricultural activities because it takes place during the dry Season although it interferes with the household activities performed by the women.

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Debilitating diseases like sleeping sickness, filaria, and dysentry cause havoc in the area. Shortage of drugs, personnel and funds have rendered the medical authorities helpless to curb the spread of the common diseases in the area. Sleeping Sickness, by far the most important disease has had bad effects on labour efficiency hence lowering labour productivity.

10:8 INPUT SUPPLY.

Most of the farmers use hand tools locally produced by blacksmiths and save their own seeds. An inadquate supply of improved seeds and tools are available and the system of distribution to the needly farmers is not well developed. Information on distribution channels, input prices and price trends is lacking.

Credit from neither formal nor informal sources for the purchase of inputs, hiring of additional labour or the construction of modern storage facilities in the area is not available.

There is no useful information on the price trends paid by the farmer for his farm inputs and how this relates to his overrall income trend.

10:9 EXTENSION SERVICES

There is no effective extension service in the area to serve as a promoter of useful innovation on crop production. The extension department lacks all the necessary facilities such as vehicles, fuel and funds for its effective function. moreover, it lacks a meaningful package to deliver to the small farmers. Absence of any properly conducted foodcrop Research has even aggravated the situation; thus, leaving the department of Extension with no sound technological components that promise reasonable solutions to the problems of the Smallfarmers to innovate.

10:10 PRODUCE MARKETING

There are 23 local markets in Yambio Area council-all along the feeder roads where people meet on Wednesdays and Sundays in the open. There are neither stores nor shops. Owing to the poor road conditions, many of these village markets cannot be reached by motor vehicles. The smallholder who has no access to the town markets cannot sell his produce or purchase food staples. The labour bottleneck has been intensified by the lack of coffee and rice hullers. Data on the seasonal and annual variations in price levels of the commodities is non-existant. The marketing channels are poorly developed because of poor roads; lack of stores, no market information; lack of hullers; input inavailability, no government price guarantees and high transport costs.

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10.11 EQUATORIA PROVINCE AGRICULTURAL PRODUCTION CORPORATION. EPAPC.

The corporation has been facing a lot of problems among which is the lack of funds for the purchase of needed supplies and raw materials; lack of transport and absence of top level civil servants capable of managing the corporation efficiently.

11 CONCLUSION

The secondary information I attempted to compile is only adquate for the development of general impressions but is not sufficiently detailed to orient research on inproved technology. Such detail will require first hand knowledge of the farmers circumstances and problems. Two related sets of activities are required for the acquiresition of the first-hand information. The first of the activities is the exploratory Survey work in the Yambio Area Council for which technology is to be developed. The informal but organized discussions with the farmers, traders and extensionists will be continued. Visual observations will reenforce the informal discussions and focuses on production practices and problems, product markets and input supplies will be made. The second of the activities is the Formal survey. The information and insights are intergrated into the questionnaire which are to be administered to a random sample of farmers from each tentative recommendation domain in the area. The questionnaire will be focused on the farmers, farms, crop mixtures, livestock and non-farm activities. The data will be summerised, analysed, interpreted and incorporated into a final baseline Survey report for Yambio Area Council. The information generated from the diagnonistic Survey will then be used in planning on-Farm Experiments on which development programmes will be based.

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