AG:DP/ZAM/79/002
Terminal Report

COFFEE PRODUCTION IN THE NORTHERN AND NORTHWESTERN PROVINCES

ZAMBIA

PROJECT FINDINGS AND RECOMMENDATIONS

UNITED NATIONS DEVELOPMENT PROGRAMME

FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS ROME, 1987

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PROJECT FINDINGS AND RECOMMENDATIONS

Report prepared for
the Government of Zambia
by
the Food and Agriculture Organization of the United Nations
acting as executing agency for
the United Nations Development Programme

UNITED NATIONS DEVELOPMENT PROGRAMME

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 1987

The Food and Agriculture Organization is greatly indebted to all those who assisted in the implementation of the project by providing information, advice and facilities.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

The agricultural sector in Zambia operates on two levels: there are about 630 000 smallholders, either subsistence farmers or producers who sell only a small portion of their output, and approximately 800 commercial farmers and some specialized farms. The smallholding farming families represent about 60 percent of Zambia's population, but production from this group amounts to little more than half of the total marketed agricultural output, the remainder coming from the few hundred commercial farmers.

Zambia's Third National Development Plan (TNDP), for the period 1980-85, gives priority to rural development in general and to increased agricultural production in particular. It focuses on achieving sufficiency in staple foods, the provision of adequate supplies of raw material for domestic agro-based industries, and also on the export potential of certain crops such as tobacco, sugar, rice, a wide range of fruits and vegetables, and coffee.

The original coffee production project was located mainly in the Northern Province, where up to now there has been comparatively little agricultural development. The bulk of agricultural activities in this area was based on chitemene, a traditional form of forest-burning cultivation, but this system was officially banned by the Government some ten years ago as being wasteful and destructive. Therefore, new methods would have to be developed and introduced to the farmers of the area.

Coffee development, based on earlier, rather modest coffee growing and primary processing schemes and on investigations and feasibility studies carried out by the United Nations Industrial Development Organization (UNIDO) and, more recently, by the World Bank, promised to be a suitable means to achieve the above mentioned objectives, especially since it involved a growing number of small-scale farmers.

Coffee research had been in progress at Misamfu Research Station for a number of years, but little extension and development work had been carried out.

With the intention of developing and expanding coffee production, in 1978 the Government of Zambia approached the World Bank and the United Nations Development Programme for assistance in the establishment of two parastatal coffee estates, coffee extension services and an expanded research programme.

1.2 OUTLINE OF OFFICIAL ARRANGEMENTS

A project was agreed upon, and a project document was signed on 28 December 1979, with UNDP designating FAO as executing agency and the Ministry of Agriculture and Water Development of Zambia as government implementing agency. When the FAO Chief Technical Adviser arrived and took up duties in January 1980, he found that the project document was not appropriate, as the World Bank, using their own staff, had already commenced the establishment of the parastatal coffee estates. The document was accordingly revised in June 1980, and defined responsibilities as follows:

(a) UNDP and FAO, together with the Ministry of Agriculture and Water Development, would be responsible for coffee research, extension and development.

(b) The World Bank, together with Rucom Industries Ltd, would be responsible for the parastatal coffee estates.

The project document was again revised in May 1984, when, on the direct instructions of His Excellency the President, the responsibility for coffee development was transferred from the Department of Agriculture (which had not been able to provide the necessary support) to the Lint Company of Zambia Ltd, a parastatal company which had been instrumental in developing smallholder cotton production. The Department of Agriculture remained responsible for cotton research on its research stations, with advice and technical assistance available from the FAO staff as necessary. Both organizations form part of the Ministry of Agriculture and Water Development.

The duration of the project was to be five years, from 1 January 1980 to 31 December 1985. The Government, however, requested an extension until the commencement of a much enlarged programme, due to start in 1987 with International Development Association (IDA) finance. Total UNDP financial support was $US 999 680.

International and national project staff are listed in Appendix 1, Appendix 2 provides an inventory of equipment provided to the project and documents prepared by the project are listed in Appendix 3.

At about the same time as the formation of Lintco Coffee Development Division the Government established the Zambia Coffee Company Ltd (ZCCL) (lately part of Rucom). After discussions between the Ministry of Agriculture and the parties involved the following division of responsibilities was decided:

Lintco Coffee Division

- To advise Government on policy and technical matters on the production (as opposed to sales) of coffee by all classes of growers.

- To carry out extension and advisory work related to coffee development by small-scale and emergent farmers primarily in the four provinces mentioned above, but also elsewhere where farmers have taken up coffee growing on their own initiative.
- To maintain nurseries and provide planting material to small-scale growers.
- To provide inputs in kind on credit to small-scale growers.
- To purchase all coffee produced and deliver to ZCCL, Kasama for secondary processing and sale. (Commercial farmers to deliver directly to ZCCL if they wish.)
- To provide and supervise primary processing facilities for small-scale growers.
- To handle the 50 percent foreign-exchange earnings retention on behalf of the small-scale growers.
- To give technical advice to commercial farmers on request.

Zambia Coffee Co. Ltd (ZCCL)

- To oversee operation of the parastatal coffee estates in the Northern Province.
- To purchase all suitable parchment or sundries coffee from Lintco Coffee Division and commercial farmers and to carry out secondary processing of this coffee at the factory at Kateshi.
- To arrange the export or local sale of the final product.

1.3 OBJECTIVES OF THE PROJECT

The original objectives were:

To develop and improve smallholder coffee production by

- development of about 90 ha of smallholder coffee production, involving some 600 subsistence farmers, at Kasama Mpika, Chinsali/ Mporokoso, Isoka and Mbala District in Northern Province;
- taking measures to overcome the constraints for smallholder coffee production;
- identifying and preparation of future smallholder coffee development projects.

To initiate and to expand coffee research by

- strengthening the ongoing research work and capabilities at Misamfu Regional Research Centre and at Malashi and Lucheche substations;

- designing dryland coffee research programmes with particular emphasis on future coffee development by smallholders;
- identifying and preparing new research projects with particular emphasis on smallholder coffee production.

When Lintco assumed responsibility the objectives were modified (June 1984) as agreed at a tripartite meeting in March 1984:

- To strengthen the capability of the Lint Company of Zambia Ltd to expand coffee production in Zambia with particular attention to the Northern, Northwestern, Luapula and Copperbelt Provinces.
- To train extension officers and farmers in modern methods of coffee husbandry and primary processing.
- To introduce grading standards for Zambia coffee in accordance with the government's objective of exporting significant quantities of coffee by 1988.
- To support the Department of Agriculture with regard to coffee research with particular reference to smallholder coffee production.

2. PROJECT RESULTS AND CONCLUSIONS

2.1 RESEARCH

There are two main groups of coffee growers in Zambia, small-scale farmers and commercial farmers. Research work is aimed at the general improvement of coffee production by both groups, but since 1980 more emphasis has been placed on expanding research related to small-scale production under rainfed conditions. Particular attention was paid to spacing and liming trials under these conditions and the introduction of new cultivars reputed to have a degree of drought tolerance and disease resistance.

The project as such had no financial capability to carry out trials itself. All inputs, except for some items of equipment, were dependent upon contributions from the Department of Agriculture, which was subject to severe financial constraints.

2.1.1 Maintenance of existing programmes

The following existing programmes were maintained at Misamfu Research Station and substations at Malashi (Mpika), Lucheche (Mbale) in the Northern Province and Chalulikila in Luapula Province.

- Museum collection. Planted 1964, Misamfu; 21 mainly East African varieties maintained for observation on yield and pest and disease tolerance.
- Portugese variety trial. Planted 1977, Misamfu.
  To compare 17 selections from the International Leaf Rust Control Centre, Lisbon, with two East African selections and three other, older, Portugese releases with regard to leaf rust resistance and yield. The first crop in 1980 was moderately good but subsequent crops have been quite small. No fungicide has been applied and there has been no trace of leaf rust disease.
- Caturra spacing observation. Planted 1972, Misamfu.
  A non-replicated observation to assess the effect of six tree population densities between 2 400 - 7 600 per hectare on the yield of irrigated dwarf caturra coffee. Over 17 years, the higher densities have given the highest yields. Very close square plantings make work within the plot very difficult and a practical recommendation would be a spacing of 2.25 x 0.75 m (5 925 per ha) which allows work between the rows and gives one of the highest average yields of 2 400 kg/ha.

- Maximum yield plot. Planted 1975 at Misamfu. An attempt to obtain the maximum possible yield from a plot of coffee under Zambian conditions using SL 34 and Caturra at close spacing under irrigation. Spacing 1.5 x 1.5 m and 1 x 1 m, both varieties. Yields for both varieties at 1.5 x 1.5 m averaged 1 960 kg/h, and at 1.0 x 1.0 m 2 700 kg/ha over 6 years, indicating the potential for high yield. However management is difficult in practice; disease-control spraying, harvesting, application of fertilizer and other activities are difficult at such close spacings.
- N, P, K, Mg fertilizer trials on arabica coffee. Planted 1962 on the three stations showed consistent response only to N after 19 years of bearing and were discontinued in 1983 in consultation with the National Coffee Research Committee.

2.1.2 New research programmes

The project initiated the following new coffee research programmes. Most are of long-term nature.

- Spacing trials. Misamfu, Malashi, Lucheche, 1980. To determine the spacing at which rainfed coffee can be grown reliably and economically within the limits imposed by low moisture availability in the dry season.

  Spacing was tried at: (a) 2.3 x 2.3 m (1 890 trees/ha); (b) 2.3 x 2.0 m (2 174 trees/ha); (c) 2.0 x 2.0 m (2 500 trees/ha); and (d) 2.3 x 1.5 m (2 898 trees/ha).

  Preliminary indications over the first two years of production are that yields from the lowest density (a) are inferior to the other three. Conclusive results will not be obtained for another five years.

  Liming trial. With arabica coffee under rainfed conditions planted at Misamfu, Lucheche, Malashi in 1980. To observe the effect of application of lime on the performance of arabica coffee under dryland conditions on the acid soils of Northern Province.

  Treatment was carried out as follows: 1 t/ha, ground limestone broadcast; 2 t/ha, ground limestone broadcast; 4 t/ha, ground limestone broadcast; 200 g/planting-hole ground limestone applied before planting.

  Results have been inconclusive over the first two years of production.

2.1.3 Introduction of coffee cultivars

Testing has commenced of introduced cultivars reported to have a degree of tolerance to drought and disease to assess whether they are of value to small growers, most of whom do not have irrigation facilities.

In December 1982, 20-30 g of seed of 10 arabica coffee selections were obtained from IAC, Brazil, via FAO Headquarters. A similar introduction of one selection from Turrialba, Costa Rica, was obtained in February 1983.

One of the Brazilian selections failed to germinate. The ten remaining selections were planted out in a field trial in January 1984 together with two locally grown East African selections (K7, SL34) included for comparison purposes. The trial at Lucheche, Mbala, was of randomized complete design with three replications, each containing ten trees of each of the twelve selections.

The seedlings left over after planting the above trial were planted in an observation trial at Misamfu Research Station, Kasama.

Seed of fifteen individual Catimor progenies was obtained from CENARGEN/EMBRAPA, Brazil via FAO Headquarters in February 1984, and set in a nursery at Misamfu, to await a field trial planting in December 1985. Catimor is a cross between Caturra (a high-yielding dwarf variety) and Timor (tolerant to leaf rust), which may be of considerable value to the small coffee-grower in Zambia.

2.1.4 Coffee seed gardens

The selections recommended for planting in Zambia are:

- SL34, Ex-Kenya, high yielding and high quality but susceptible to leaf rust and coffee berry disease (CBD) (not yet present in Zambia).
- SL28, Ex-Kenya, similar to the above, slightly lower yielding but hardier.
- K7 and F839. These two varieties do not produce as high a yield as SL34 and SL28 under high levels of management, but under adverse conditions are more vigorous, somewhat tolerant of drought and suffer less from die back. These are recommended for planting by small growers.

Of the above, only seed of SL34 was in adequate supply at the beginning of the project; therefore, seed of SL28, K7 and F839 was collected from the museum plots and planted in nurseries in 1980. The resulting seedlings were used to establish seed gardens of 1 000 trees of each selection in January 1982 at Misamfu Research Station. The first seed production was obtained in 1985 and future production will be adequate to meet all foreseeable demands for these selections.

2.1.5 Preparation and distribution

Coffee seed was prepared at Misamfu Research Station and distributed to district nurseries and larger growers. Most of this was of the selection SL34. Seed is prepared and supplied only against previous order. Distribution was as follows:

	1981 kg	1982 kg	1983 kg	1984 kg	1985 kg
Northern Province	388	580	431	428	452
Northwestern Province	51	114	194	150	150
Copperbelt Province	61	91	55	325	200
Lusaka Province	10	20	-	-	-
Southern Province	1	-	54	-	-
Luapula Province	-	20	10	65	70
Total	511	825	744	968	872

2.1.6 Observations

It was observed that on interplanting Flamingia congesta in arabica coffee, the Flamingia grew very well under irrigated conditions and served its purpose excellently in controlling inter-row weeds and in providing mulch. It failed, however, to make satisfactory growth under rainfed conditions.

2.1.7 Research conclusions

Research has demonstrated that it is possible to obtain consistently high yields from well managed coffee under Zambian conditions, particularly when irrigation facilities are available. Pests and diseases are of minor importance at present, but care should be taken to avoid a build-up as coffee planting expands.

2.2 EXTENSION AND DEVELOPMENT

Extension work originated in 1980 in the Northern Province and was largely confined to that Province until Lintco Coffee Division took over responsibility from the Department of Agriculture in 1984. There were two Zambian counterpart extension officers (one of whom died in January 1984) who were joined by a FAO coffee extension expert in February 1982.

The original aim in Northern Province was to encourage and assist 600 small growers to establish 90 ha of coffee; this target has been more than reached, with 781 farmers establishing 253 ha by the end of the December 1984/March 1985 rains.

A further 236 000 seedlings were expected to be planted by 254 farmers during the rains starting November/December 1985. This does not include commercial farmers.

A considerable reorganization was carried out when Lintco Coffee Division assumed responsibility for coffee development in 1984. FAO staff were attached to the new organization; the project area was expanded to cover four provinces (Northern, Northwestern, Luapula and Copperbelt) rather than just Northern as previously; funds and transport became available; and Zambian extension staff was expanded from two to 29.

All Zambian staff (24 district officers, four provincial officers, one senior officer) are on secondment to Lintco Coffee Division from the Department of Agriculture, and with the exception of the Senior Coffee Development Officer, have little experience of coffee, not having worked with the crop before. Provincial officers are provided with a Landrover. District officers are supplied with a motorcycle against a loan repayable from salary and claim mileage allowance for duty travel.

2.2.1 Training

When FAO staff joined Lintco, an initial course on general coffee technical matters was held for the new recruits. Since then four training courses of seven days duration each have been held for provincial and district coffee officers, either in Kasama or Solwezi. Each course included theoretical and practical work associated with some forthcoming major activities: the November courses, for example, dealt with planting and maintenance of young coffee; March/April courses dealt with primary processing.

On completion of these courses, staff returned to their districts and held courses on the same subjects for farmers; 546 farmers attended 26 such courses.

The Chief Technical Adviser took the senior officer, the four provincial officers and the marketing officer on a one-week study tour to Zimbabwe in May 1985. Places visited included the headquarters of the Coffee Growers Association, the Honde Valley Smallholder Coffee Scheme, commercial coffee estates and Chinpinge Coffee Research Station. None of the officers had seen coffee production outside Zambia before and found the visit of great benefit.

2.2.2 Credit scheme

Lack of credit facilities, especially among the smallholder producers, has in the past discouraged potential growers. The Lintco Coffee Division has begun a loan programme for smallholder growers. The loans are intended to help both new and old growers in establishing and improving coffee farms, and are interest-free during the first five years. The loans are in the form of direct coffee inputs, and not cash.

One such 'loan package' consists of a pack of the necessary fertilizer and spray chemicals, which was developed in conjunction with a local supplier. The 'coffee pack' is supplied to small growers on credit, with recovery to be made from future sales of coffee to Lintco. The pack contains sufficient of the following to treat 100 trees for one year: copper oxychloride (leaf rust control); Sumithion (insect pest control); dieldrin (stem borers and soil pest control); ammonium nitrate (fertilizer).

Five thousand of the coffee packs were dispatched to districts for distribution to small growers. Three open field days were held to familiarize farmers with the credit 'Coffee Pack' Scheme; 175 farmers attended. It is also planned to supply small growers with secateurs and 10-litre knapsack sprayers on credit terms.

2.2.3 Seedling supply

An important function of the project was the establishment of nurseries and the distribution of coffee seedlings to growers. Up to 1984-85 the project raised and distributed 850 000 seedlings (most medium and large farms raise their own). There were 390 000 seedlings in 25 nurseries to be distributed during the December 1985 rains. New nurseries were established in September/ October 1985 to enable the project to distribute 1 million seedlings each year up to 1988-89.

The following tables give the present position together with future targets for the smaller growers. Commercial farmers are not included.

Table 1

COFFEE PLANTINGS (SMALL GROWERS) 1984-85

Province	No. of farmers	No. of coffee trees	ha
Northern	781	506 056	253.0
Northwestern	351	97 569	48.7
Luapula	45	19 690	9.8
Copperbelt	8	29 560	14.7
Others	-	211 329	105.6
Total	1 185	864 204	431.8

Table 2

NUMBER OF SMALL GROWERS,
ACTUAL (1984-85) AND TARGETED (1986-88)

Province	1984	1985	1986	1987	1988
Northern	781	1 035	1 535	1 800	2 000
Northwestern	351	500	750	1 050	1 250
Luapula	45	200	500	500	650
Copperbelt	8	20	50	100	150
Others	-	20	50	200	250
Total	1 185	1 775	2 885	3 650	4 300

2.2.4 Increase in production

Total national coffee production by all classes of groups has increased as follows:

1982-83 - 71.25 t
1983-84 - 153.7 t
1984-85 - 380.5 t

A small quantity of smallholder coffee was produced in 1983-84, and was of low quality. In 1984-85 (the coffee year ends in September) more of the earlier planted coffee came into production for the first time. It is a measure of the great success of the project's training of extension staff in coffee processing and the intensive follow-up that all smallholder parchment

coffee delivered to ZCCL has been graded as export standard, and in some cases was better than that produced by commercial estates.

The International Coffee Organization (ICO) granted Zambia an initial quota of 330 tons in September 1984, which was later increased to 350 tons. Zambia exported coffee for the first time in 1985, with a total of 377 t mainly to quota markets (one parcel to a non-quota market). The quota has been increased to 450 tons for 1985-86. This progressive increase in production is planned to continue until Zambia is producing 8 000 t of parchment coffee by the mid 1990s, which will permit an export of 6 000 t of clean coffee after allowing for the 20 percent loss between parchment and clean, loss on grading, and local consumption.

2.2.5 Future expansion

The World Bank's financial assistance to the Parastatal Coffee Estates in Northern Province was due to terminate in December 1985, and the Bank planned a Phase II Project to concentrate on assisting the expansion of coffee production by private growers. This project is expected to start in early 1987 with an IDA credit of $US 1 000 000. The main components will be strengthening of Lintco Coffee Division, provision of credit to all classes of farmers for the establishment and expansion of coffee plantings, including irrigation facilities, and for the installation of coffee-processing. facilities and stores. This potential development is to a large extent a direct result of the activities of the present project.

2.2.6 Conclusions from extension and development

The project has clearly demonstrated the potential for growing coffee by smallholder and emergent farmers in Zambia. Practical experience shows that irrigation is a definite advantage and that the stage has now been reached where small growers must be formed into groups. After a naturally rather slow start by a few pioneer farmers, interest in growing coffee has expanded to a point where some regulation is now necessary.

3. RECOMMENDATIONS

The following recommendations are made taking into account the high priority given by the Government to coffee development in the Fourth National Development Plan (1986-90) as a potential foreign-exchange earner and as an important component of the diversification programme.

3.1 FORMULATION OF AN OVERALL COFFEE POLICY AND LEGISLATION

- It is recommended that Government should finalize an overall coffee policy for the industry in consultation with producer groups concerned: Lintco, ZCCL and the Commercial Farmers Bureau.
- Legislation should be introduced to regulate the industry and to make possible the control of locations, types of coffee to be grown, quality, and pricing mechanisms. In addition, control of pests and diseases should be compulsory.

3.2 STANDARDS FOR FUTURE PRODUCTION AND DEVELOPMENT

- In view of the considerable increase in interest in coffee growing in recent years, it is recommended that future coffee production should generally be limited to be in line with the quota that Zambia is likely to obtain from the International Coffee Organization (this may be 6 000 tons by the mid 1990s).
- The aim should be to produce fully washed coffee of high quality.
- Additional coffee development should concentrate on private-sector smallholders, emergent farmers, and commercial farmers, and not on parastatal estates.

3.3 STRENGTHENING OF TECHNICAL ASSISTANCE TO SMALLHOLDERS

- Lintco Coffee Division should be strengthened technically and continue to be responsible for coffee development by smallholders and emergent farmers in selected areas of Northern, Northwestern, Luapula and Copperbelt Provinces and for providing technical advice and assistance to commercial farmers as necessary.

- Efforts should be stepped up to form farmers into groups, to facilitate the provision of irrigation, processing and extension facilities. This will not be easy, in view of the low population in most areas, but future support should be concentrated on these groups and not on scattered individual farms. Consideration should be given to making emergent or commercial farms the nuclei of some of such groups.
- It is recommended that international or bilateral aid be sought to support coffee development work in Northwestern and Copperbelt Provinces, should activities under the World Bank Phase II project be restricted to Northern and Luapula Provinces, as has been proposed by some members of the Bank mission.

3.4 EXPANSION OF RESEARCH CAPABILITY

It is recommended that the coffee research capability and be expanded based on Misamfu Research Station. The major areas requiring further work are:

- The introduction and assessment of new genetic material with special reference to yield, pest and disease resistance and drought tolerance should be continued. This should include the assessment of CBD-tolerant selections from Kenya and Ethiopia if the countries concerned are prepared to release them.
- The purification of the currently recommended variety SL34 from which is derived the bulk of the seed currently distributed for planting.

(It should be noted here that the assessment of new varieties is of a long-term nature and can have no effect upon the present coffee development programme under which the target planting will be reached by 1990.)

- Establishment of a new series of fertilizer trials.
- Study of plant - water relationships and total water requirements in relation to evapo-transpiration and soil moisture availability.
- Irrigation practices. Trials have been carried out at Misamfu but may need to be repeated in other areas.
- Establishment at Misamfu of facilities for soil and leaf analysis of samples from coffee plots so that tests can be carried out quickly to enable the farmer to take rapid remedial measures in case of nutrient deficiency. At present it takes too long to obtain results from Mt Makulu Central Research Station.

- Monitoring of pests and diseases in the various project areas, with reference to prevalence, seasonal variation, environmental conditions, irrigation etc., to enable recommendations for appropriate and timely control measures.

The implementation of the above recommendations depends largely upon the Government's capability to provide the necessary financial support.

Appendix 1

PROJECT STAFF

Name	Function	Dates of Service Starting	Concluding
International			
R.G. White	Chief Technical Adviser	Jan. 1980	Dec. 1985
W.M. Ardagh	Coffee Extension Expert	Feb. 1982	Dec. 1985
National			
C.P. Simwanza	Coffee Agronomist	Jan. 1980	March 1983
C. Mulekwa	Coffee Agronomist	April 1983	Dec. 1985
J.L. Wanga	Senior Coffee Development Officer	Jan. 1980	Dec. 1985
R.M. Njapawu	Coffee Development Officer	April 1985	Jan. 1984 (deceased)
Coffee Research Staff			
Junior Technical Officers	Agric. Sup. (3)	Jan. 1980	Dec. 1985
	Sen. Agric. Asst. (1)	Jan. 1980	Dec. 1985
	Agric. Asst. (1)	Jan. 1980	Dec. 1985
Extension Staff			
P. Mwenya	Prov. Coffee Officer (N. Province)	Jan. 1984	Dec. 1985
B.K. Mwalwali	Prov. Coffee Officer (L. Province)	Jan. 1984	Dec. 1985
D.H. Mudenda	Prov. Coffee Officer (N.W. Province)	Jan. 1984	Dec. 1985
A. Samani	Prov. Coffee Officer C/B	Jan. 1984	Dec. 1985
District Coffee Officers	24 Technical Officers	Jan. 1984	Dec. 1985
	Northern Province - 9	Jan. 1984	Dec. 1985
	Northwestern Prov.- 6	Jan. 1984	Dec. 1985
	Luapula Province - 4	Jan. 1984	Dec. 1985
	C.B. Province - 5	Jan. 1984	Dec. 1985
	24		

(Please note that all national appointments are continuing.)

Appendix 2

EQUIPMENT INVENTORY

Vehicles

Peugeot 504 Saloon - 1

Toyota Land Cruiser Station Wagon - 3

Office Equipment

Typewriter Olivetti Editor 4

Photocopier 3M Model 368

Radio - Micom HF - SSB fixed station with micom automatic antenna tuner.

Appendix 3

DOCUMENTS PREPARED BY THE PROJECT

1. Annual reports on coffee research 1980-84. Incorporated in Misamfu Regional Research Station reports. Give results to date of investigations applicable to coffee growing by farmers.

2. Annual reports on coffee extension in Northern Province 1980-84. Incorporated in annual reports of provincial agricultural officers. Reports on work to date and progressively identifies problems associated with smallholder coffee growing.

3. Functions of Lintco Coffee Division. Outlines measures necessary to expand the project to cover four provinces.

4. Evaluation Mission Report. GRZ/FAO/UNDP, Feb. 1985. Gives recommendations for the future direction of coffee research and development work.

5. Preparatory report on Phase II Coffee Project. World Bank, Sept. 1985. Based largely on experience gained by the project. Gives recommendations as in (4) above.

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