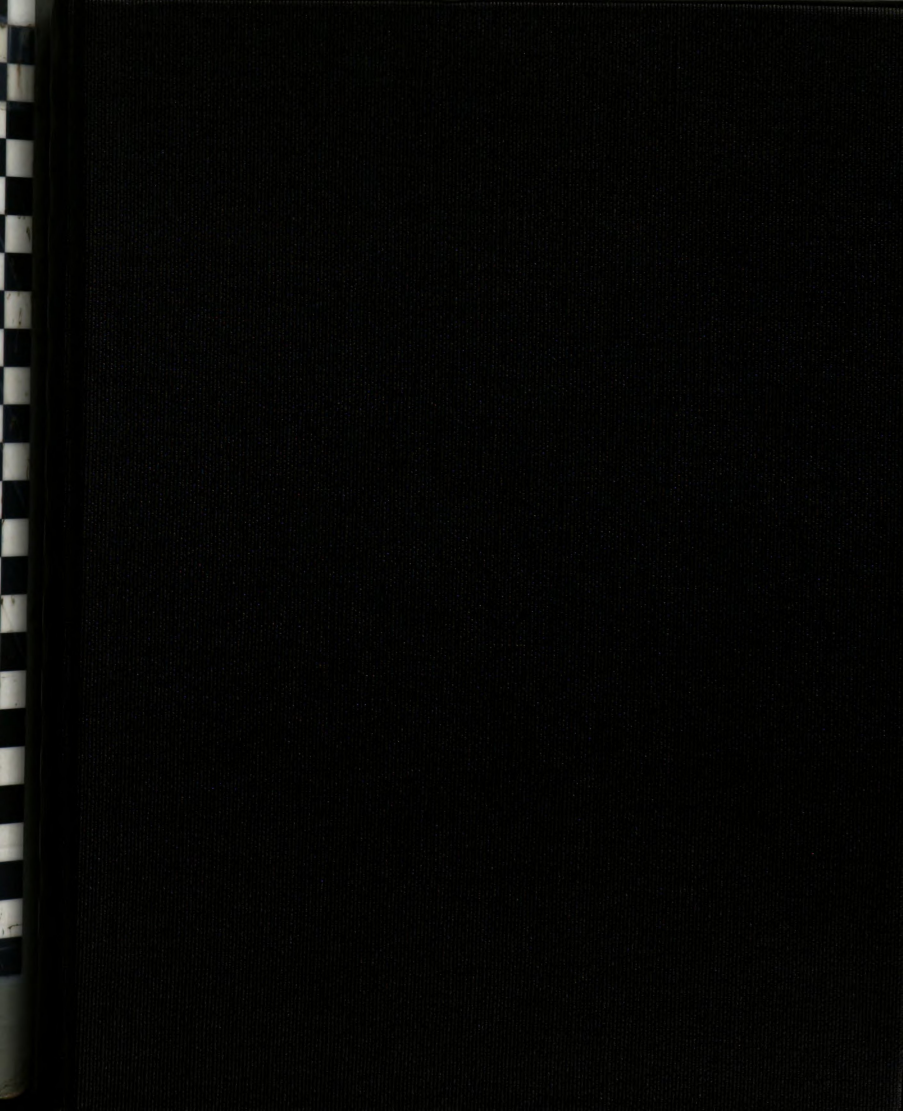
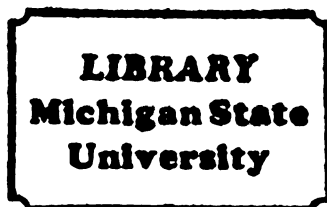




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Christoffel Johannes Petrus Antonius Maria den
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Maxine S. Ferris

Major professor

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THE IMPACT OF AGRICULTURAL EXTENSION ACTIVITIES OF
FIVE RURAL DEVELOPMENT PROJECTS
ON FOOD CROP PRODUCTION IN THE PEOPLE'S REPUBLIC OF THE CONGO

By

Christoffel Johannes Petrus Antonius Maria den Biggelaar

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1989

ABSTRACT

THE IMPACT OF AGRICULTURAL EXTENSION ACTIVITIES OF FIVE RURAL DEVELOPMENT PROJECTS ON FOOD CROP PRODUCTION IN THE PEOPLE'S REPUBLIC OF THE CONGO

By

Christoffel Johannes Petrus Antonius Maria den Biggelaar

During the Congo's colonial period, little attention was given to small farmers in general and food production in particular. After Independence in 1960, Congolese governments continued to neglect the rural sector which, combined with the increasing rural-to-urban migration and school attendance rates, has led to a steady decline in agricultural production. Development programs have not been very successful in reversing the decline. This study is a secondary, qualitative analysis of the rural system of the Congo and of five development projects carried out between 1970 and 1987. The analysis is based on the systems concept and a model combining the stages in the diffusion of innovations with the hierarchy of extension evaluation criteria. It concludes that agricultural extension alone cannot increase production if the many shortcomings in the total rural system are not being addressed simultaneously, and identifies particular strengths and weaknesses of each project.

RESUME

L'IMPACT DES ACTIVITES DE VULGARISATION DE CINQ PROJETS DE DEVELOPPEMENT RURAL SUR LA PRODUCTION VIVRIERE EN REPUBLIQUE POPULAIRE DU CONGO

Par

Christoffel Johannes Petrus Antonius Maria den Biggelaar

Pendant la période coloniale du Congo, peu d'attention a été donnée aux petits agriculteurs en général et à la production vivrière en particulier. Depuis l'Indépendance en 1960, les gouvernements congolais ont continué à négliger le secteur rural ce qui, en combinaison avec la croissance rapide de la migration rurale-urbaine et de la scolarisation, a contribué à une baisse persistante de la production agricole. Les programmes de développement rural n'ont pas eu de succès significatif à renverser ce déclin. Cette étude-ci est une analyse qualitative secondaire du système rural congolais et de cinq projets de développement rural mis en exécution entre 1970 et 1987. L'analyse est basée sur le concept des systèmes et un modèle combinant les étapes du processus de la diffusion des innovations avec les critères hiérarchiques de l'évaluation des programmes de vulgarisation. Des forces et faiblesses particulières de chaque projet ont été identifiées. La conclusion principale est que la vulgarisation agricole seule ne peut pas accroître la production si les multiples défauts dans le système rural total ne sont pas abordés en même temps.

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1. The first part of the document is a list of names and titles.

*Aux paysannes et paysans d'Afrique, spécialement
ceux de la Lékoumou en République Populaire du Congo.*

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LIST OF ABBREVIATIONS

AEF	Afrique Equatoriale Française
AfDB	African Development Bank
ARR	Action de Renovation Rurale
BDPA	Bureau pour le Développement de la Production Agricole
BEMG/T	Brevet d'Etudes Moyennes Générales/Techniques
BEMTA	Brevet d'Etudes Moyennes des Techniques Agricoles
BNDK	Banque Nationale de Développement du Congo
CA	Conducteur d'Agriculture
CAP	Certificat d'Aptitude Professionnelle
CARE	Cooperative for American Relief Everywhere
CAT	Centre d'Appui Technique
CCC	Comité de Consultation et de Coordination
CEGP	Collège d'Etudes Générales Primaires
CESB	Centre d'Etudes Sociales de Brazzaville
CETA	Collège d'Etudes Techniques Agricoles
CFA	Centre de Formation Agricole
CMA	Centre des Metiers Agricoles
CNCA	Caisse National de Crédit Agricole
CP	Collège Professionel
CPA	Centre Professionel Agricole; also Conducteur Principal d'Agriculture
CPR	Centre de Progrès Rural
CRAL	Centre de Recherches Agronomiques de Loudima
CS-SPP	Chef de Service - Service de la Production Paysanne
CVTA	Centre de Vulgarisation des Techniques Agricoles
DARAC	Direction d'Animation Rurale et d'Action Coopérative
ENSAC	Ecole Normale Supérieure d'Afrique Centrale
F.CFA	Francs du Communauté Financière Africaine
FAC	Fonds d'Aide et de Coopération
FAO	United Nations Food and Agriculture Organization
FESAC	Fondation pour l'Enseignement Supérieure en Afrique Centrale
FIDES	Fonds de Développement Economique et Social
GPC	Groupement Pré-Coopérative
IBRD	International Bank for Reconstruction and Development
IDR	Institut de Développement Rural; also Ingénieur de Développement Rural
IFAD	International Fund for Agricultural Development
ILO	International Labor Organization
IPSE	Institut Pédagogique des Sciences de l'Education
ITA	Ingénieur des Travaux d'Agriculture
ITDR	Ingénieur de Travaux de Développement Rural
IUED	Institut Universitaire d'Etudes de Développement
KASA	Knowledge, Attitudes, Skills and Aspirations

MAE	Ministère d'Agriculture et d'Elevage
MDR	Ministère de Développement Rural
MERAC	Ministère d'Equipeement Rural et d'Action Coopérative
OECD	Organization for Economic Cooperation and Development
OCC	Office du Café et du Cacao
OCT	Office Congolaise du Tabac
OCV	Office des Cultures Vivrières
ONCPA	Office National pour la Commercialisation des Produits Agricoles
OPMA	Opération de Petite Motorisation Agricole
ORSTOM	Office de la Recherche Scientifique et Technique Outre-Mer
PAPAL	Projet d'Assistance aux Petits Agriculteurs de la Lékoumou
PAPAN	Projet d'Assistance aux Petits Agriculteurs du Niari
PCA	Poste de Contrôle Administrative
PCT	Parti Congolais de Travail
PDR	Projet de Développement Rural (du Pool et des Plateaux)
RNPC	Régie National des Palmeraies de Congo
UJSC	Union de la Jeunesse Socialiste Congolaise
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations International Children Emergency Fund
UNV	United Nations Volunteers
UPAB	Unité de Production d'Aliments de Bétail
USAID	United States Agency for International Development
WFP	World Food Program
WHO	World Health Organization

DEFINITION OF TERMS

Animation rurale: A movement in French speaking Africa pioneered and popularized by the Catholic church whose goals are very similar to community development. It is an educational and political movement aimed at awakening rural people to realize their potential. The purpose is not to stir up political opposition but to develop local, self-confident leadership to help implement (government) development plans.¹ In this study, the term animation rurale refers to the conscious raising and organizing activities of the project reviewed as distinct from training and extension activities.

Animateur: A person chosen by the villagers to act as a change agent, innovator, and/or trainer in the village on a voluntary basis. He or she will be the catalyst for the development of the village, helping the people with assessing needs, planning of actions, finding solutions and necessary funds or materials, and implementing the projects agreed upon.

Chef de secteur: District agricultural officer, having the professional rank of Conducteur Principal d'Agriculture but more often of Conducteur d'Agriculture (see below).

Conducteur d'Agriculture: Diploma holding agricultural officer, graduate of the two-year CETA's. They work mostly as chefs de secteur, but, as their number grows, are increasingly assigned as extension agents.

Conducteur Principale d'Agriculture: Holder of the Baccalauréat of the Lycée Agricole at Brazzaville. Employed as district agricultural officers and assistants to the chiefs of service of the marketing boards and the Ministry of Agriculture and Animal Husbandry.

Environment: The environment of a system includes all those factors which have an influence on its effectiveness, but which are not directly controllable by the system itself.²

¹M.E. Adams, Agricultural Extension in Developing Countries (Essex, United Kingdom: Longman Group Limited, 1982), 69.

²Adapted from Thomas H. Athey, Systematic Systems Approach: An Integrated Method for Solving Systems Problems (Englewood, New Jersey: Prentice-Hall, Inc., 1980), 13.

Farmer: As used in this paper, the word refers to persons of both sexes who earn their living from farming.

Groupelement pré-coopérative: Village level farmers' organization which is in a preliminary stage of becoming a full cooperative. Members pay a fee to join, elect executive officers, and undertake some collective production or service oriented economic activities, usually the joint cultivation of fields, the exploitation of a fish pond, market gardening, animal husbandry, or commerce. The pre-cooperatives do not (yet) fully adhere to all cooperative principles developed in 19th century Europe and those spelled out in the country's socialist doctrine. Hence the name pre-cooperative.

Moniteur/Monitrice (Agricole): Non-staff (agricultural) extension agent, having taken a one year formal training course given by the Ministry of Agriculture after completion of primary school. Additional education has primarily been on-the-job training.

Ouvrier (Agricole): Non-staff (agricultural) extension agent with only primary schooling and on-the-job training. Both the ouvriers and moniteurs were former members of the Action de Renovation Rurale movement of the early 1960's, and were given paid jobs in the Ministry of Agriculture when that movement was abolished.

CHAPTER I

THE PROBLEM AND ITS BACKGROUND

Introduction

It is axiomatic that extension has been and still is an important factor in increasing agricultural production; it provides the vital link between research and the farming community. The much praised triad of education-research-extension has been very successful in Western countries, so much so that in many countries it has led to over-production not only of food crops and livestock, but also of less desired byproducts (such as manure) and side effects (pollution, soil erosion, environmental degradation).

Yet, despite its success in the Western countries, agricultural extension has not proven very successful in boosting food production in the developing countries, especially in Africa. The development of the African small farm agricultural sector (the main producer of food crops) has been ignored for a long time: during the colonial period, almost all efforts were directed at export crops to the detriment of much investment and interest in traditional food crop production. These colonial policies have been continued for a large part by the newly independent nations of Africa in the sixties and seventies. Only after the droughts and famines of the 1970s and 1980s have governments awakened to the adverse effects of these policies on their nations and

people. Development plans now increasingly stress the importance of the traditional agricultural sector and the small farmers for national development and food security.

One such country is the Congo where the author worked for two years in an UNDP/FAO project helping the government's Bureau of Food Crops (the Office des Cultures Vivrieres) with the installation of an extension service in one of the nine regions of the country.

The Country

The Congo is a little known country, especially here in the US, although it is the third largest trading partner of the United States in black Africa.¹ Many people still confuse it with Zaire, although they have always been separate nations and shared the same name only until Mobutu africanized "his" Congo (the former Belgian Congo) and renamed it Zaire in 1971. Their development, however, has been very different. Zaire adopted a capitalistic, free market oriented economic development model after independence. In contrast, the Congo has followed a Marxist-Leninist path of development since 1963, and officially adopted a scientific-socialist ideology in 1969, the first country in Africa to do so. Two phenomena contributed to the adoption of a socialist ideology, namely the high levels of education and urbanization. At independence

¹Africa Contemporary Record: Annual Survey and Documents 1985-1986. New York: Africana Publishing Company, 1987, B217. In 1986, US imports from the Congo amounted to \$100m (mainly oil), and US exports to the Congo were \$12.2m (mainly tools, machinery and parts for the oil industry).

from France in 1960, the country had already the highest rate of urbanization (35%) in Sub-Sahara Africa, and one of the highest rates of schooling (18%).² These rates have continued to increase steadily, and are still among the highest in Black Africa today.³

But in spite of all the socialist rhetoric about government by and for the people, most people have remained outside the political and economic processes especially in the rural areas. The rural population was virtually neglected until 1975⁴; some attempts have been made since then to increase government attention and investments in the farm sector, but these have mostly been directed at the state farms and large scale agro-industrial enterprises. Outputs of both export, industrial and food crops have and continue to decrease in spite of all the efforts to halt the backward slide in production.⁵

Agricultural extension is considered by the government as an important means to modernize the traditional farm sector. After several futile attempts at establishing extension programs by the Ministry of Agriculture in the 1960s and early 1970s, it was decided to ask for the

²Bernard N'Kaloulou. Dynamique Paysanne et Développement Rural au Congo. Paris: Editions L'Harmattan, 1984, 138.

³In 1982, the rates of schooling were 120% for primary education and 73% for secondary education (rate of schooling is the number of children in school divided by the total number of school age children in the respective age group multiplied by 100%). Marche's Tropicaux et Méditerranéens No. 2212 (1 Avril 1988), special edition on education in Africa.

⁴See accounts by N'Kaloulou, op. cit. and by Hugues Bertrand, Le Congo: Formation Sociale et Mode de Développement Economique. Paris: Francois Maspero, 1975.

⁵Virginia Thompson and Richard Adloff. Historical Dictionary of the People's Republic of the Congo. Metuchen, N.J.: The Scarecrow Press, Inc., 1984, 41-42.

assistance of the United Nations Development Program and other specialized UN agencies to help organize the farmers and modernize farming practices.⁶ A multitude of extension projects or projects with some extension component has sprung up over the years.⁷ One could pose the question whether extension services are at all necessary for boosting food production in the absence of a coordinated rural development policy and a clear vision of extension's role in attaining the country's goal of food self-sufficiency. In spite of these projects agricultural production has not significantly increased, especially the production of food crops; more and more needs to be imported every year to meet increasing demand.⁸ Are extension services then not a luxury that the country cannot really afford in view of the many obstacles in the extension systems' environment on which the systems depend so much for their success?

Government policies have also contributed to the decreasing agricultural production; in general, these policies do not favor the small farm sector but highly affect its productivity: controlled prices,

⁶Bernard N'Kaloulou, op.cit.

⁷It would go beyond the limits of an introduction to the topic of this study to expand on the history of agricultural and rural development in the Congo at this time. More in-depth information on the history and on the impact of development projects on food production will be given in later chapters of this study.

⁸Total food production has increased since independence in 1960 by an average of 1.2% a year. However, this rate of increase was much lower than the rate of population growth, which averaged 2.4% a year. Food production per capita has declined in the same period by an average -1.2% a year (-2.5% in the period 1981-85). Food imports have grown on average 11,1%, reaching 19% in the period 1981-85. Economic and Social Policy Department. 1987 Country Tables: Basic Data on the Agricultural Sector. Rome: FAO, 1987.

tightly controlled marketing of agricultural products by national marketing boards⁹, centralized decision making and planning¹⁰, low priority and funding for agricultural research¹¹, lack of inputs¹², absence of credit for individual farmers and lack of access to credit for cooperatives¹², and the continued preference for inefficient large scale agricultural production units (state farms) to which the largest portion of the national agricultural budget is allocated.¹³ Therefore, the obstacles, or intervening variables, which influence the extension service's functioning need to be addressed in order to determine the impact of agricultural extension programs. The small traditional farmers produce the bulk of Congolese food crops, and will continue to do so in the foreseeable future. Agricultural extension could be helpful to these small farmers to modernize their production systems and to increase both food production and living standards in the rural areas. But, which model of agricultural extension should be used to accomplish these tasks? What lessons can be learned from past experiences with agricultural extension carried out by various development projects which can be helpful in deciding what model to use for the future?

⁹Y. Cassignard. Amélioration des Systèmes de Commercialisation en République Populaire du Congo. Rome: FAO, 1982; and M. Fromageot, Prix et Politiques des Prix des Produits Vivrier en République Populaire du Congo. Rome: FAO, 1983.

¹⁰G. Nguyen Tien Hung. Agriculture and Rural Development in the People's Republic of the Congo. Boulder, CO: Westview Press, 1987, 190-191.

¹¹Hung, op. cit., 57.

¹²Hung, op. cit., 187.

¹³Hung, op. cit., 20 and 101.

Research Problem and Objectives

The problem addressed in this study is to determine the effect of agricultural extension activities on food crop production in the Congo. Are there differences, and if so what are the differences, between extension models used by the various development projects and national agencies? The purpose is to evaluate the various agricultural extension models used by development projects¹⁴ and one national agency in the Congo to promote the production of food crops. These models range from a highly directive, top down transfer of technology approach to a more or less laissez-faire, participatory integrated rural development approach. A comparison between the different projects will be made using the following research questions to guide the study:

1. To what extent have the following variables contributed to a project's effectiveness and impact:
 - focus: the purpose and objectives of the projects as stated in their mission statement;
 - function: the tasks (service, regulatory, information or education) to be carried out as specified in the project documents;
 - organizational structure and internal linkages: organizational chart showing the different levels, the number of levels,

¹⁴In this paper, the United Nations definition of project will be used: "A project is a planned undertaking which is a set of interrelated and coordinated activities designed to achieve certain specific objectives within a given budget and period of time. Its purpose is to convert a set of resources (inputs) into desired results through a set of activities or processes. The results (objectives) are divided in three broad categories: outputs, effects, and impact." U.N. ACC Task Force on Rural Development. Monitoring and Evaluation Guiding Principles for the Use in Rural Development Projects and Programmes in Developing countries. Rome: IFAD Publications, 1984, 12.

components of primary divisions, and coordination between different levels;

-**external linkages:** relations with other related services such as education, research, marketing, credit supply, other agencies and projects;

-**planning:** the level where planning is undertaken, involvement of farmers in planning, level where decision making is done on plans;

-**means to achieve the objectives:**

*human resources: qualifications, training, remuneration, personnel policies;

*transport equipment: kind of equipment, maintenance responsibilities, operating costs responsibilities;

*availability and kind of demonstration supplies and audio-visual equipment;

*training facilities;

*financing of operations;

-**participation of the target population:** number of people reached, number of people trained, % of target population reached, male/ female ratio of farmers reached and/or trained;

-**source and choice of technologies to be disseminated:** availability, source, who decides about technologies to be disseminated, which technologies are disseminated and in what subject area (agronomic technical, economic, marketing, etc);

-**extension method used:** demonstrations, individual farm visits, village meetings, audio-visual aids, radio, field days, farmers training;

-**achievements of the projects:** reaction of the farmers, increased awareness, changes in knowledge, attitudes, skills and aspirations, number of people trying out or adopting new practices.

2. Based on the activities and the accomplishments, or lack of such, which of the various projects has best been able to meet the needs of the small farmers?

The need of the small farmers is not primarily to produce more, but to increase subsistence and income over time, to find labor saving technologies in view of the diminishing and aging population in the

rural communities, and to procure sufficient monetary resources for their children's education, medical expenses, clothing, and leisure activities and travel. These needs are in approximate order of importance as perceived by the author and gained from numerous talks with the farmers of the Lékoumou region.¹⁵

3. What can be learned from the past experiences with this variety of extension projects? Could one of the approaches used by these different projects be adopted by the Congo as a national model for the future? Or, if none of these approaches in its entirety would be appropriate, are there elements in each of the projects that could be incorporated in a national model?

4. What changes in the extension system's environment would have to be made to make extension services more effective and successful?

¹⁵Nietschmann described the difference between needs and wants in peasant societies very well:

"The dilemma between what are needs and what are desires, and what is work and what is leisure often traps both producers and field workers alike. Most North American investigators carry with them a set of preconceived criteria for interpreting the economic and social strategies of the societies they study. Surplus is economic security and money or credit is social security. For subsistence groups, however, economic security is a confidence in their exploitative capabilities and social security is found in their social network. Subsistence groups do not spend their time producing a surplus as a business: their business is production under capacity and time is their surplus." Bernard Nietschmann. "The Substance of Subsistence." In *Geographic Research in Latin America*, eds. B. Lentnek and E. L. Carmin. Muncie, IN: Ball State University, 1971, 173.

Limitations of the Study

The major limitation of this study is the reliance on secondary sources of data (project documents, evaluation reports, books and articles written about the projects) for the analyses of the projects. Financial resources and the time frame for a Master's degree do not allow the author to do any data collection in the Congo itself. The findings of this study may therefore not be conclusive, since the reliability of the data cannot be one hundred percent: evaluations by donor agencies are often biased in their favor and might not give an objective statement of the situation. A lack of objectivity is inherent in the use of secondary data sources on rural development, since many of the studies undertaken are not subject to scientific methods of investigation and are often used only for funding purposes or to justify the executing agency's need for continuing its presence. However, the author's experience working in the Congo provided him some inside view on people's attitude towards extension services, which will be helpful in analyzing and interpreting the technical and evaluation reports prepared by the various executing agencies of rural development projects included in this study.

Although there are also agencies and projects doing extension work for cash crops, this study will limit itself to those working in the area of food crop production and marketing. This choice is based both on author's background and interests and on the more precarious situation of the food sector in the Congo.

Implication and Application of the Study

Comparative extension studies are still few and mostly very dated. The studies by Axinn and Thorat¹⁶ and ECA/FAO¹⁷ date back to the early seventies. The works by Rivera¹⁸, Blankenburg¹⁹, and Rivera and Schram²⁰ are some of the more recent works in the area of comparative extension research. However, all the aforementioned studies compare extension systems in different countries. No previous studies have been done to analyze and compare efforts of extension education projects and programs in a single country, at least none that are publicly accessible and usable as reference works. Hogle's dissertation research on the influence of agricultural extension in India²¹ focuses only on adoption of improved practices and increases in production of selected crops. No

¹⁶George H. Axinn & Sudhakar Thorat. Modernizing World Agriculture: A Comparative study of Agricultural Extension Education Systems. New York: Praeger Publishers, 1972.

¹⁷U.N. Economic Commission for Africa and FAO. A Comparative Analysis of Agricultural Extension Systems of Eight East African Countries. Addis Ababa: ECA/FAO Joint Agriculture Division, 1971.

¹⁸William M. Rivera. Comparative Extension: The CES, TES, T&V and FSR/D. College Park, The University of Maryland Center for International Extension Development, 1986.

¹⁹Peter von Blankenburg. Agricultural Extension Systems in Some African and Asian Countries: An Analysis of Country Reports. FAO Economic and Social Development Paper No. 46. Rome: FAO, 1984.

²⁰William M. Rivera & Susan Schram, eds. Agricultural Extension Worldwide: Issues, Practices and Emerging Priorities. London: Croom Helm, 1987.

²¹Homer Hogle. The Influence of Agricultural Extension in Selected Villages of Kaira District (Gujarat, India). Ann Arbor: University of Michigan School of Education, 1972.

agency characteristics were taken into account to explain differences in the dependent variables studied.

The importance of comparing extension systems is stated very concisely by Dogan and Pelassy: "Comparison is the engine of knowledge."²² Rivera et al.²³ give four reasons for comparing agricultural extension systems: 1) the academic value of such comparisons, 2) their value in administrative decision making, 3) their relevance to policy makers, and 4) their ultimate benefits for farmers and the rural community. The value of comparative studies is also underscored by de Wilde in his introduction to Experiences with Agricultural Development in Tropical Africa:

"....perhaps the most critical consideration is the conviction that a proper analysis of selected experiences with agricultural development can provide important guidelines for the future."²⁴

This study will be a first attempt at analyzing systematically a number of rural development projects in the Congo focused either entirely on agricultural extension or with a substantial extension and farmers' training component. The significance of the study is twofold:

1. it will contribute to the academic knowledge on comparative

²²M. Dogan & D. Pelassy. How to compare Nations: Strategies in Comparative Politics. Chatham, N.J.: Chatham House, 1984, 3.

²³William M. Rivera, Joseph Seepersad and Douglas H. Pletsch. "Comparative Agricultural Extension Systems: Frameworks for Socio-Institutional Study." In D.J. Blackburn, ed., Foundations and Emerging Practices in Extension. Guelph, Ontario: University of Guelph, Department of Rural Extension, 1988.

²⁴John C. de Wilde. Experiences with Agricultural Development in Tropical Africa: The Synthesis. Baltimore: Johns Hopkins University Press, 1967.

extension; and 2. it will provide Congolese policy makers, planners and administrative decision makers with information on which to model an effective national extension service for the future.

Outline of the Study

This research paper is presented in four parts. Part one consists of three chapters: the problem and its background (Chapter I), a review of related research (Chapter II), and the methodology (Chapter III). The second part, Chapter IV, will give a more detailed description of the Congo (natural and human resources, administrative structure, economy, planning and financing, and the educational and agricultural systems) to provide a background to the development of the various extension systems and to put these systems in perspective. The description, analysis and comparison of the projects make up Part three of the study (Chapters V and VI). Part four (Chapter VII) comprises the conclusions and recommendations. The recommendations will pertain both to changes and improvements in the extension systems themselves and to changes necessary in the extension systems' environment to make these systems more viable and effective in carrying out their tasks.

CHAPTER II

REVIEW OF RELATED LITERATURE

Extension services are a widely applied means to accomplish 'development' in the rural areas of the world. Many of the services currently in operation in the developing countries were originally set up as or still function under the title of 'development' programs or projects. Many donor countries in the Western hemisphere also have set up special ministries or agencies to coordinate policies and channel funds for development cooperation with the developing countries. But what is meant by the term 'development'? An understanding of the term is necessary because it constitutes the basis both for instituting development programs and projects and their subsequent evaluation.

Defining Development

Webster's New World Dictionary defines 'development' as "a developing or being developed, a step or stage in growth, advancement, etc." One of the meanings given to the term 'develop' is "to progress economically, socially and politically after emergence into statehood."¹ Most authors agree that development is synonymous with positive or desired change and progress, but there is considerable disagreement on

¹Webster's New World Dictionary of the American Language, 2nd edition. New York: Simon and Schuster, 1986, s.v. "development" and "develop."

what the change and progress should be, from who's standpoint the change should be seen, and how it should be measured. These disagreements not only occur because of different values the various authors adhere to (based on political, cultural and religious orientation), but also because of different professions of the authors.

Rodney, a historian, makes a distinction between development at the level of the individual and at the level of society as a whole.

"Development at the level of the individual implies increased skill and capacity, greater freedom, creativity, self-discipline, responsibility and material well being. At the level of social groups, development implies an increasing capacity to regulate both internal and external relationships."²

MBithi, a Kenyan sociologist, basically agrees with Rodney but adds a factor of control over one's environment to his definition of development:

"(Rural) development is an increase in the ability of the individual and of the community to increase its span of control over factors which affect it. Development, therefore, means improving the outcomes which people are able to elicit from their environment, so as to make achievements correspond to wants."³

²Walter Rodney. How Europe Underdeveloped Africa. London: Bogle-L'Ouverture and Dar es Salaam: Tanzania publishing House, 1972, 9-10.

³Philip M. MBithi. "Agricultural Extension as an Intervention Strategy: An Analysis of Extension Approaches." In Rural Administration in Kenya: A Critical Appraisal, ed. David K. Leonard. Nairobi, Kampala, and Dar es Salaam: East African Literature Bureau, 1973, 85. (parenthesis added).

Although not explicitly stated by Mbithi, the environment refers not only to the physical environment but extends also to the social, political and cultural environment in which people are living. For real development to take place a positive change has to occur in the total environment with which the people are dealing.

In contrast to the above definitions, economists view of development is generally much narrower, focusing mostly on only one aspect of development, i.e. economic progress as measured by some desired end product, and not so much the process by which this end product is to be achieved. Lele, an economist with the World Bank, used the following definition of rural development as a guide for the analysis of projects in her book The Design of Rural Development:

"Improving the living standards of the mass of the low income population residing in rural areas and making the process of their development self-sustaining."⁴

This definition is rather vague, since no information is given on the nature the living standards to be improved, who is to determine these standards, and whether they include only quantitative indicators or also qualitative indicators of change. However, given the reputation of the World Bank, one can infer that the living standards are measured chiefly by quantitative, economic indicators, the justification being that economic indicators are also indicators of other social changes as well. The explanation given about what constitutes "self-sustaining development" is also rather unclear and ambiguous:

⁴Uma Lele. The Design of Rural Development. Baltimore: The Johns Hopkins University Press, 1975, 228.

"Making the process self-sustaining requires the development of the appropriate skills and implementing capacity at the local, regional and national levels to ensure the effective use of existing resources and to foster mobilization of additional financial and human resources for continued development of the subsistence rural sector."⁵

Stevens and Jabara, an agricultural economist at Michigan State University and an economist with the US Department of the Treasury respectively, take an even narrower look at the term development, equating it with the desires for higher levels of material welfare:

"Governments, political parties, and rural people in developing nations usually seek to increase the pace of development. The immense proliferation of communication in developing nations, especially radio and more recently television, has enabled rural people everywhere to learn a great deal about developed nations. Evidence is overwhelming that expectations and desires for higher levels of material welfare have increased greatly and are pervasive in developing nations."⁶

The authors do acknowledge, though, that "people in each nation should define for themselves through their social, political and cultural systems what they view as desired development."⁷ However, higher levels of material welfare alone do not constitute development, which involves a much broader spectrum of a society's activities. As Mbithi writes:

"Development involves an increase in the total complexity of rural life, and it cannot be monitored by single, partial

⁵Lele, op. cit., 228.

⁶Robert D. Stevens and Cathy L. Jabara. Agricultural Development Principles: Economic Theory and Empirical Evidence. Baltimore: The Johns Hopkins University Press, 1988, 7.

⁷Stevens and Jabara, op. cit., 9.

variables such as income levels, number of new crops planted, or number of practices adopted (or for that matter levels of material welfare). These tap only limited dimensions and ignore the fact that the analytically separable aspects of rural society are all parts of a single environment for the farmer living in it. Neither should analytic divisions of development on a temporal basis, such as traditional-modern, be attempted, for these deny the need for consistency and cumulation in change."⁸

Lissouba, a teacher and one of the leaders of the Congolese Revolution in the 1960s and early 1970s, also rejects the narrow dimensions attributed to the term development by Lele and Stevens and Jabara. He takes a view that concurs more with the works on conscientization by Paulo Freire. Both Lissouba and Freire place the emphasis on the mobilization of forces within people and societies to bring about change and progress.

"Development is not a case of luxurious articles and implements, nor, on the contrary, of simple political slogans or the passive injection of capital and technology. Real and lasting development consists of putting a whole population in motion to mobilize its own forces to build a future for itself. From this viewpoint, development programs are catalysts, an avant-garde without a revolutionary ideology, but capable of raising the consciousness, and increasing the initiative, responsibility and determination of people and groups of people."⁹

The model of development which most influences present day thought is one that is based on the assumption that development is a continuous process: societies can change consistently in a direction which is

⁸MBithi, op. cit., 85. Text in parenthesis added.

⁹Pascal Lissouba. Conscience du Développement et Démocratie. Dakar and Abidjan: Les Nouvelles Editions Africaines, 1975, 21.

generally regarded as desirable or highly valued. The Swedish economist Myrdal adheres to the following straight forward definition:

"....by development I mean the movement upward of the entire social system, and I believe that is the only logically tenable definition."¹⁰

As explained by Fagerlind and Saha, "Myrdal's understanding of development, because it is directed at the social system level, includes both economic and non-economic factors, for example, health, education, and other social needs. Development, then, is multidimensional in both conceptualization and reality."¹¹ However, as the authors acknowledge, "most theories of development tend to focus on only one dimension of the process," which is certainly true for the earlier quoted economists.

Evaluation and Comparative Extension Research

One way to assess whether development has actually occurred and to assess the performance of development programs, whatever their nature, is evaluation. Evaluation means making value judgements about the worth of a program. It is an important tool for planners, policy makers, and implementing/donor agencies to determine the usefulness of programs, whether they meet their objectives and goals, whether they should be continued or abolished, or whether changes are necessary to increase

¹⁰Gunnar Myrdal. "What is Development?", paper for the volume in honor of the late Professor Ayres, Stockholm (no date). As quoted in Ingemar Fagerlind and Lawrence J. Saha, Education and National Development: A Comparative Perspective. New York: Pergamon Press, 1983, 27.

¹¹Fagerlind and Saha, op. cit., 27.

their effectiveness and efficiency. Hapgood stresses the necessity of evaluation of extension services with special reference to Africa with a very pertinent question:

"Another common proposal is to train more and better extension agents. Most African extension workers are hastily and inadequately prepared, and certainly their numbers are small in comparison with what needs to be done. But before multiplying extension agents as though they were a new crop variety, an African government ought to examine their present performance. Does their yield justify planting more of the same, that is, do extension workers produce more than they cost?"¹²

Evaluation would be necessary to answer this question. But, there are many ways extension services and projects can be evaluated, and the criteria used vary widely between different evaluators. These differences are due in part to the differing views on the term development as discussed above.

Orivel, in his review of the literature on the impact of agricultural extension, rightly states that "the introduction of extension services is one factor among others that can promote increases in agricultural production."¹³ He argues that in situations where only a catalyst is needed extension programs can be very successful, but in cases where everything is lacking (land, seeds, fertilizer, markets, etc.) the impact of extension services will be insignificant. The impact will certainly be negligible, according to Orivel, if in addition the

¹²David Hapgood. "The Policies of Agriculture." Africa Report Vol. 13, No. 8 (November 1968), 11.

¹³F. Orivel. "The Impact of Agricultural Extension Services: A Review of the Literature." In Basic Education and Agricultural Extension: Costs, Effects and Alternatives. Washington, D.C.: The World Bank, 1983, 11.

extension services also have internal weaknesses such as lack of qualified personnel, motivation, and political support. Orivel divides evaluation of extension services in two broad categories:

1. The internal evaluation of extension services which is dominated by sociologists, educators and communication specialists. It is primarily concerned with the interaction between extension services and the farmers, with the obstacles to effective interaction, with underlying philosophies, and with the effectiveness of the services in disseminating information. Criteria used for this kind of evaluation are: coverage of farmers; type of farmers reached; agent/farmer ratio; training, location, remuneration and the nature of the role of the agents; availability of inputs, credit, marketing; complementary or substitution factors such as research, education and mass media.
2. The external evaluation of the impact of agricultural extension services which is essentially based on economic analysis. The methods used for the external evaluation follow fairly closely the methodology used to estimate rates of return on education and include the internal rate of return and cost-benefit analysis; comparisons of yields (time series or cross-section); micro-economic production functions; correlation at the regional level between expenditures on agricultural extension and progress in agricultural productivity.

Moris is a proponent of the internal evaluation of extension to determine extension service success. In a paper presented at a

Conference on Comparative Administration in East Africa¹⁴, he proposed the following ten characteristics as distinguishing features of field organizations which could be used for extension evaluation and comparison between agencies:

1. the type of contact group the organization tries to build up for continuing connection to the local community;
2. the breadth of farm level service it tries to offer;
3. the communication methods employed;
4. whether field workers are attached to specific farmers and communities, or whether they change their clientele at will;
5. the professionalism and training of field personnel at each level;
6. the resources given to each worker at each level to use in their work;
7. the nature of supervision, sanctions used, and spans of control between levels within the agency;
8. the kind of sanctions and rewards which field staff control in dealing with farmers;
9. the length of downward communication chains, and the provisions made for upwards communication;
10. the systems used for decision making and quality control within the organization.

Moris only uses agency characteristics to determine success and to compare agencies and does not take into account how well agencies have been able to bring about change in the rural areas and how much. Another study, using criteria similar to those employed by Moris, is

¹⁴Jon Moris. "Distinguishing Features of Field Organizations." Excerpt of a paper presented at a Conference on Comparative Administration in East Africa, Arusha, Tanzania, 1971. In Rural Africana No. 16 (Agricultural Extension in Africa), Fall 1971, 50.

"Modernizing World Agriculture" by Axinn and Thorat, which is a descriptive study comparing 12 extension education systems of both developed and less developed countries.¹⁵ Studies by Hursh et al. and Hogle, on the other hand, do not take agency characteristics into account, although they view extension success on internal evaluation criteria as defined by Orivel but from a communications point of view.

Rogers, in the preface of the report by Hursh et al. on diffusion of innovations in Nigeria, states that success is determined primarily by the amount of contact between extension agents and villages:

"In all three nations, we found that the degree of change agent contact with the village is the best explainer of the success of programs of agricultural change. But we also found that such variables as the communication strategies used by the change agent, the leadership structure of the village, etc. made a difference in the relative success of the change programs."¹⁶

Hursh et al. used a number of village characteristics, leader characteristics and extension agent's characteristics in this study as predictors for the dependent variable: program success as measured by the community response to extension programs.¹⁷

¹⁵George H. Axinn and Sudhakar Thorat. Modernizing World Agriculture: A Comparative Study of Agricultural Extension Education Systems. New York: Praeger Publishers, 1972.

¹⁶Everett Rogers. "Preface" to Innovation in Eastern Nigeria: Success and Failure of Agricultural Programs in 71 Villages of Eastern Nigeria, Gerald D. Hursh et al. East Lansing: Michigan State University, 1968, iv. Studies similar to the one in Nigeria were carried out in India and Brazil by different teams of the Department of Communication at Michigan State University. Rogers comment refers to the results of these three projects.

¹⁷Gerald D. Hursh, Niels R. Roling and Graham B. Kerr. Innovation in Eastern Nigeria: Success and Failure of Agricultural Programs in 71 Villages in Eastern Nigeria. Diffusion of Innovations Report No. 8. East Lansing: Michigan State University, 1968, 9.

Hogle, on the other hand, used adoption and production increases as measurements of success. In the conclusion of his research in Kaira district in India, he states that variables other than the three extension agencies (the independent variables in his research) had a much greater influence on the dependent variables (adoption of improved practices and production increases) than the agencies:

"All other things being equal, one would conclude that the extension agencies have exerted an impressive influence on agricultural adoption and production in the villages in which they have operated, particularly in concert. However, all things are never equal, and a synthesis of all the data presented in this study would indicate that most agricultural innovations could be attributed primarily to factors and forces other than the three agencies."¹⁸

Hogle found significantly high correlations between adoption and the farmer characteristics caste position (.81) and degree of social participation (.76). The correlation between production increases and farmer characteristics was significant for socio-economic status (.95), caste position (.79) and level of education (.76). The influence of village characteristics varied widely and was less conclusive than the influence of farmer characteristics on adoption and production. These findings are in line with the findings of the earlier mentioned study by Hursh et al. However, as stated before, both Hursh et al. and Hogle do not take the characteristics of the agencies themselves into account which could account at least in part for differences in performance and success of the agencies studied.

¹⁸Homer Hogle. The Influence of Agricultural Extension in selected villages of Kaira District (Gujarat, India). Ann Arbor, MI: The University of Michigan School of Education, 1972, 123.

Other authors disagree with researchers in the communication field and attribute extension success to other factors. Kidd, for example, rejects the notion of the importance of the amount of change agent contact with the village. Instead, he argues that there should be more attention for the quality of the change agent and the quality of the changes themselves.

"Some researchers, working from the diffusion and adoption theories seemed to be saying we should seek explanations for the diffusion and adoption of new ideas in the personal characteristics and social situations of the farmers. Others seemed to be saying that there is nothing inherently wrong with the farmers: maybe we should look at the adequacy of those advocating changes and the appropriateness of the changes being advocated."¹⁹

Kidd agrees on this point with Orivel, who mentioned the existence of external and internal weaknesses (such as lack of seeds, fertilizer, capital, motivation and quality of staff) as obstacles to extension service success in his review of the literature. Chambers also agrees with this view:

"A false impression of successful extension has been given by the fashion for extension education research, which emphasizes the process of communication rather than the value of the message. Extension is difficult to evaluate, but one of the easiest components to measure is communication; and this has encouraged a tendency to study extension education rather than the more complex and difficult and, in my view, more important subject of the value of the advice or technology offered to the farmer."²⁰

¹⁹D.W. Kidd. "A Systems Approach to Analysis of the Agricultural Extension Service of Western Nigeria." (Ph.D. Dissertation, University of Wisconsin, 1971), 159.

²⁰Robert Chambers. Two Frontiers in Rural Management: Agricultural Extension and Managing the Exploitation of Communal Natural Resources. Brighton, England: Institute of Development Studies at the University of Sussex, 1975, 3.

The question of the value of the advice and technology is important but difficult to measure. It is author's opinion that this value should be assessed from the farmers' point of view: do the advice and technology meet the needs of the farmers?, are they profitable for the farmers or only for the change agency?, do they contribute to increased income and subsistence security?, are they accessible for all farmers or only for the richer and bigger farmers? Lele, in her book The Design of Rural Development, did take some of the agency characteristics and the value of technology into account to evaluate agricultural extension carried out by the 17 projects analyzed and compared in the book. She used the following variables to compare the extension services of the different projects: organizational approaches, intensity of services (agent/farmer ratio, training of agents, transportation), costs involved, profitability of the technologies extended, their suitability for the small farmers, access to the technologies, means of dissemination, incentives and extension staff performance, and local participation (access to the services, involvement of women). Her analysis is done from an economic viewpoint geared primarily to improve the economic situation for the farmers targeted by these projects, and how the various components of the projects are related to improvements in their economic performance. However, in the postscript to the third edition, Lele also states that the success of rural development projects is dependent on a much wider set of factors than only factors related to aspects of communication, adoption and production, or improved living standards:

"The limited effectiveness of the projects in realizing rural development objectives cannot be attributed to their

inadequate or inappropriate specification of target groups but rather to a combination of factors: narrowly defined project objectives, short time horizons, ambitious project targets, inadequate understanding of the broad sector and policy issues and of their impact on realizations of project objectives, lack of (profitable) technical packages, poor knowledge of the socio-cultural environment and its impact on project interventions, extreme scarcity of trained manpower, and inadequate planning and implementation capacity of national institutions."²¹

In contrast to the various authors reviewed above, Morss et al. are representing what Orivel termed the external evaluators of extension services, who limit themselves to chiefly economic analysis to determine program success. Morss et al., in comparing 36 rural development projects in Africa and Latin America, defined success of the extension components of these projects primarily in terms of one criteria: profitability, which was defined as "the percent increase of net farm income attributable to the project."

"While no single measure is applicable to all projects (beyond criteria of profitability), it is possible to identify the significant behavioral changes among project participants which results from project activities. We therefore scale all projects according to the extent to which their small farmer participants adopted any of 13 new practices. From this scale we can draw conclusions as to the relative effectiveness of various knowledge transfer approaches."²²

They used the following list of 13 new practices to scale the projects:

- credit use;
- participation in an effective local organization;

²¹Uma Lele, op. cit., 228.

²²Elliott R. Morss et al. Strategies for Small Farmer Development, Volume 1. Boulder, CO: Westview Press, 1976, 116.

- use of fertilizer, improved seeds, pesticides, substantially changed planting and harvesting techniques;
- construction and maintenance of on-farm infrastructure;- processing of agricultural produce;
- diversification of cash crops and expansion of land under cash crop production;
- storage of crops;
- improved resource management.

However, the practices chosen for measuring knowledge acquisition seem more geared to the better-off farmers than the small, subsistence producers. Also, the authors assumed that these practices were profitable for the small farmers which might not have been the case. This study seems to suffer from what Chambers described as

"limited to 'progressiveness' rather than backwardness, to adoption rather than reasons for non-adoption, to identifying the characteristics of an area where an innovation has spread rather than those of an area where it has not spread."²³

The conclusion of the section on extension performance in the study of Morss et al. is also contrary to the findings of Hursh et al. and Kidd, namely that "extension techniques and frequency were not key explainers of success in knowledge acquisition." However, according to the authors, "the question of where extension workers' accountability lies did appear to be significant."²⁴ In the overall conclusion of their study the authors state that to better assess extension success based on adoption of new practices factors such as appreciation for the perceptions, risk considerations and interests of the farmers, thinking

²³Robert Chambers, op. cit., 3.

²⁴Morse et al., op. cit., 143.

and behavior of the farmers, and income and subsistence security should have been taken into account. They acknowledge that the latter factors would have been better able to determine possible differences in and reasons for project success (or absence of such), and would also have given more clarity about possible reasons for the non-adoption or low adoption rates of some or all of the new practices introduced by the projects.

Summary

All authors reviewed agreed that development means change, more specifically change in an upward direction. Most of the authors considered development, to a greater or lesser extent, to be multi-dimensional and involving the total complexity of society. However, the definitions of MBithi and Lissouba best reflect the purpose of extension and development programs, i.e. to educate people and strengthen people's and society's capacities of building their own future. Based on their definitions, the following definition can be deduced to serve as the underlying philosophy for this research paper:

Development is a process for building and increasing people's ability and capacity to shape their own future, to increase their span of control over the environment and factors which affect them so as to make achievements correspond to their needs and wants.

Evaluation is a making of value judgements about the worth of something, in this case of extension services and development programs. A review of the literature has shown that there is considerable variation between authors about which or whose values should be taken as a basis for evaluating programs. In most instances, evaluators concentrate only on their particular area of expertise and subsequently judge a program's success only on the basis of that particular area without taking other, maybe more important criteria, into account. This frequently results in contradictory findings. For example, economists look primarily at indicators of economic improvements resulting from a project; communication specialists at adoption rates and innovativeness of farmers; and extension educators at the educational processes which could account for project success. Very little multi- and interdisciplinary research has taken place that incorporates some or all of the various components that determine the performance and success of extension programs such as economics, history, sociology, anthropology, education (both formal and non-formal), management and administration, politics, agricultural sciences, health and last but not least the farmers themselves.

A thorough evaluation of extension, therefore, is difficult because so many disciplines and factors are involved. This becomes especially difficult when evaluating and comparing extension programs or systems located in different countries as some of the authors reviewed have done.

However, by comparing extension programs within one country, as the present study will do, these difficulties can at least partially be

circumvented. It can be assumed that there is some measure of homogeneity in history, management and administrative procedures, the political, educational and economic systems within a single country with which all the programs would have to deal. This study will also attempt to include a broad spectrum of factors across disciplines to analyze and explain success or lack of success of the projects to be evaluated.

CHAPTER III

METHODOLOGY

Theoretical Foundations

The basis of this study will be formed by two concepts, namely the systems theory, and an integration of the hierarchy of evaluation criteria based on the work of Bennett¹ and the various stages in the diffusion of innovations model.

The Systems Concept

Extension programs do not function in isolation. Numerous factors, both endogenous and exogenous to the programs, influence their performance and success. An extension service is only a small part of a larger system that influences farmer behavior and decision making. This larger system can be called the agricultural system which encompasses many elements or subsystems; the agricultural system itself is in its turn a subsystem of a larger system: a country.

But what is meant by "system"? The Dictionary of Education defines a system as "the structure of organization of an orderly whole, clearly showing the interrelationships of the parts to each other and to the

¹C.F. Bennett. Analyzing Impacts of Extension Programs. Washington, D.C.: Extension Service, U.S. Department of Agriculture, 1977.

whole itself."² Athey uses a similar definition: "Systems are any sets of components which could be seen as working together for the overall objective of the whole."³ Consequently, the agricultural system refers to the modes and practices of a society of gathering, growing (raising), and cultivating plants and animals for food, fiber, fuel, industry and leisure, and of processing, marketing and distributing the thus obtained products to its members. It also includes production, marketing and distribution of inputs (fertilizers, pesticides, machinery etc.), and the generation and transfer of knowledge to develop new or improved practices and varieties or breeds.

The transfer of knowledge within the agricultural system is one of the concerns of extension services, although not exclusively because much transfer of knowledge also takes place in the formal educational system as well as via informal channels (word of mouth, sharing of seeds and machinery, etc). In the United States the scope of the Cooperative Extension Services is much broader than agriculture, including such areas as home economics, youth development, and natural resources. In the Congo extension is only involved with agriculture, which includes mainly crop production, marketing and limited input supply.

Any extension service is part in a hierarchy of systems, belonging first to a larger system of government (Ministry of Agriculture) and consisting secondly of various parts or subsystems (for example adaptive

²Carter V. Good, Dictionary of Education. New York: McGraw-Hill Book Company, 1973.

³Thomas Athey, A Systematic Systems Approach: An Integrated Method for Solving Systems Problems." Englewood Cliffs, N.J.: Prentice Hall, Inc., 1980, 12.

research farm, monitoring unit, training unit etc.). Many interactions take place with other systems such as the marketing, credit, political, planning, and education systems which influence the effectiveness of an extension service but on which it has little or no control. These latter systems form the "environment."

The extension systems of the Congo are not organized the same as the cooperative extension service in the U.S.A. which has a distinct organization at the national, state and local level. The Congolese extension systems are organized by crops or group of crops (food crops, coffee and cocoa, tobacco, oil palm) and are part of the marketing boards responsible for these crops. Not much cooperation takes place between extension systems, which act more often as competitors than agencies working for the overall development of the rural sector and the country.

Extension is also a form of education; it is expected to inform, advise and educate the rural population in a practical manner.

"Agricultural extension services are established for the purpose of changing the knowledge, skills, practices and attitudes of masses of rural people."⁴ A good definition of an educational system is given in the International Dictionary of Education:

"The educational system encompasses all the procedures and methods, with their instrumental apparatus, whereby a society gives its members organized and controlled education in the various fields of human activity for the purpose of maintenance (functional and technical aspects) and

⁴A. Maunder. Agricultural Extension: A Reference Manual. (Abridged Edition). Rome: Food and Agriculture Organization, 1973, 23.

acceptance (ethical aspects) of the social structures and the values which justify them."⁵

Thus, extension education, as a form of nonformal education, is planned and organized education. As such, the extension system concurs with the definition of an educational system. The agreement with the above definition, however, stops here; extension education, at least in theory, should not be controlled by society and given to its members, but should be controlled as much as possible by the members themselves qua format, content and place. Admittedly, this is seldom the case both in the developed countries and especially in the developing countries.

This study will use the systems approach to put the projects under investigation in perspective: how do they fit into the national system, the agricultural and educational system, and what are the relations between the various systems? The concept will be used to describe both the environment of the Congolese extension system (physical environment, farming systems, research, planning, education, marketing and price policies) as well as the subsystems within the extension system (adaptive research, training of personnel and farmers, monitoring and evaluation, communication).

⁵G. Terry Page, J.B. Thomas & A.R. Marshall. International Dictionary of Education. New York: Nichols Publishing Company, 1977.

The Hierarchy of Evaluation Criteria

The second base for this study is formed by the way the various projects will be evaluated. The United Nations ACC Task Force on Rural Development defines evaluation as "a process for determining systematically and objectively the relevance, efficiency, effectiveness and impact of activities in the light of their objectives."⁶ The Task Force further states that "evaluation in the context of rural development projects.... is concerned with the assessment of effects - benefits or disbenefits (intermediate objectives) and impact (long range objectives) - on the beneficiaries, who are preferably classified into income groups. Its concerns are: who or which group benefitted (or has been adversely affected), by how much (compared to the situation before the activity), in what manner (directly or indirectly), and why (establishing causal relationships between activities and results to the extent possible)."

These definitions both imply a making of value judgments at different levels, but stay relatively vague on the evidence one should look for when evaluating development projects. Bennett, in his book Analyzing Impacts of Extension Programs, proposed a hierarchical classification of criteria to evaluate extension programs.⁷ He distinguishes seven levels: inputs, activities, people involvement,

⁶U.N. ACC Task Force on Rural Development, Panel on Monitoring and Evaluation. Monitoring and Evaluation Guiding Principles for the Use in Rural Development Projects and Programmes in Developing Countries. Rome: IFAD Publications, 1984, 14.

⁷Bennett, op. cit.

reactions, KASA change⁸, practice change, and end results. As stated before in Footnote 14 on page 6, the purpose of every project or program is to convert a set of resources or inputs into desired results through a set of activities or processes. In an extension project, the inputs could be personnel, money, transport and audio-visual equipment, demonstration materials such as seeds and fertilizers which are used to carry out its activities: training of extension agents and farmers, demonstrations, village meetings and farm visits, etc. These activities will involve farmers, who will react to the project activities. If the activities provide the farmers with useful information that is perceived beneficial to their situation, farmers might be stimulated to seek more knowledge and skills about these new practices or techniques, and change their attitudes and aspirations. This will hopefully lead to adoption of these innovations into their farming operations (practice change), the end result being increased outputs, incomes and living standards for farm families.

At each level one can compare what was planned or anticipated at the onset of the project with what was actually achieved. According to Bennett, evaluations are strengthened by assessing extension programs at several levels of this hierarchy including the inputs level.⁹ A recapitulation of these levels and examples of evidence for each level are given in Table 1.

⁸KASA stands for Knowledge, Attitudes, Skills and Aspirations.

⁹C.F. Bennett, op. cit., 9.

Table 1: The hierarchy of evidence for program evaluation.

Criteria Categories	Examples of Types of Evidence
7. End Results	Changes in the quality of life and standard of living of farmers.
6. Practice Change	Number of farmers adopting improved agricultural practices.
5. KASA Change	Changes in knowledge, attitudes, skills, and aspirations of the target audience.
4. Reactions	Number of persons indicating whether the extension program is useful.
3. People Involvement	Percentage of target population participating in program. Number of male and female farmers involved.
2. Activities	Learning situations set up: village meetings, farm visits, training sessions, demonstrations, etc.
1. Inputs	Personnel, money, transport and audio-visual equipment, seeds, fertilizers, etc.

Source: C.F. Bennett, Analyzing Impacts of Extension Programs (Washington, DC: Extension Service, US Department of Agriculture, 1977).

Another way of looking at the hierarchy of evaluation levels is offered by the theory of diffusion of innovations, although this theory is normally not used for evaluation purposes. There exists, however, a certain overlap in the two models. Lionberger distinguishes five steps in the process of adopting new practices:

- 1) **Awareness:** the first knowledge about a new idea, product or practice.
- 2) **Interest:** the active seeking of extensive detailed information about the idea to determine its possible usefulness and applicability.
- 3) **Evaluation:** weighing and sifting the acquired information and evidence in the light of existing conditions into which the practice would have to fit.
- 4) **Trial:** the tentative trying out of the practice or idea, accompanied by acquisition of information on how to do it.
- 5) **Adoption:** the full scale integration of the practice into ongoing operation.¹⁰

An attempt to integrate these two models is made in Figure 1 below. The complementarity of the models can be explained as follows:

Participation in extension programs will make people aware of available new techniques and practices to improve farm incomes and living conditions in the rural areas. But, people often only participate passively in organizations and therefore will not have any reactions to programs without an awareness of what a specific program tries to accomplish. By consequence, a positive reaction could be translated into interest in the program. A farmer who shows interest will probably seek more knowledge about the new practice, learn new skills etc. which can be measured by KASA change. Before changing current practices, (s)he will evaluate the new recommendations: how will they fit with social norms and values, with labor availability, and food security for the family? The farmer will also carry out trials on small plots in his fields or in a compound garden to further assess the usefulness and

¹⁰Herbert F. Lionberger. Adoption of New Ideas and Practices. Ames, Iowa: Iowa State University Press, 1961, 3.

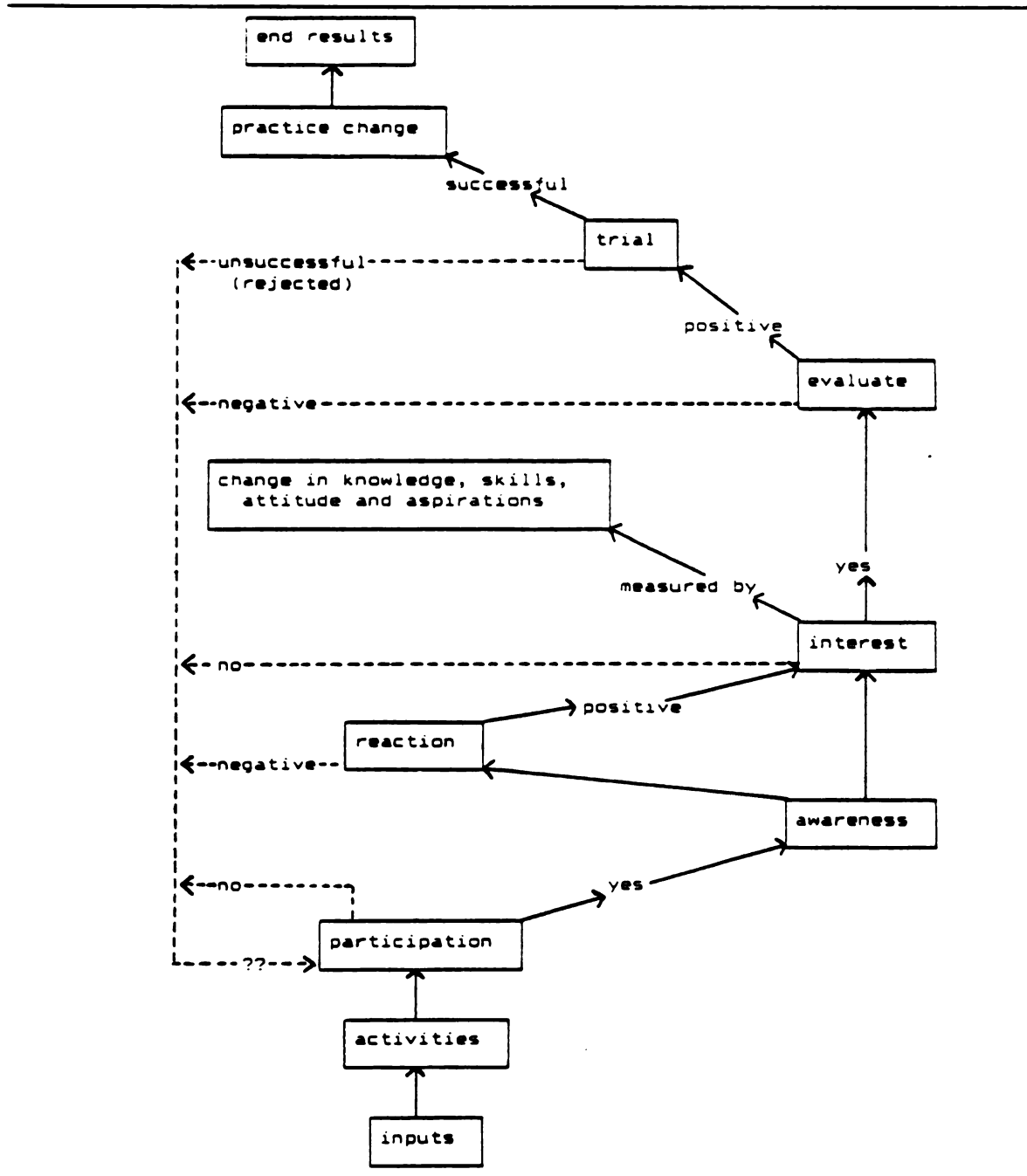


Figure 1: Integration of Bennett's hierarchy of evaluation criteria and the various steps in the adoption process.

profitability of the new practice before full scale adoption. These evaluation and trial stages are missing in Bennett's hierarchy of evaluation criteria.

However, it is author's opinion that they are essential elements: many more farmers will try out new ideas (practices, varieties,...) than the number of farmers that will eventually adopt them. It is a well documented fact that subsistence farmers regularly try out new practices and varieties, both those obtained via formal channels such as extension programs but many more that are obtained via informal channels (word of mouth, copying of neighbors, swapping of seeds etc); it is an essential component in the struggle for survival and food security for the family.¹¹ The stages in the diffusion of innovation model could therefore be seen as intermediary or half-way steps in the hierarchy of evaluation criteria model of Bennett.

The hierarchy of criteria as shown in Figure 1 will be used to analyze the projects in this study. Planned objectives will be compared with actual achievements of the projects. However, the evaluation at the higher levels, from KASA change upwards, will be more limited in scope since no data collection will be done in the Congo itself. This will especially be difficult for items testing people's awareness of, reaction to and interest in extension activities and innovations being disseminated, and KASA change. Trials on small plots and full scale adoption are observable events and are often used in evaluation reports

¹¹See for example Allen W. Johnson. "Individuality and Experimentation in Traditional Agriculture." In Extension Education and Rural Development (Volume 1), eds. Bruce R. Crouch and Shankariah Chamala. New York: John Wiley & Sons, 1981.

as indicators of program success: they can also be quantified objectively. Depending on availability and quality of information on the various levels in the documents to be used for this study, all levels will be used to evaluate the projects.

Method of Analysis

The projects that will be investigated in this study will be analyzed on a two-dimensional basis. On the horizontal plane, a systems view will be taken to determine where and how the projects fit into the national system and more specifically into the educational and agricultural systems of the Congo. Also, relationships and linkages with various subsystems (such as marketing and credit services, input supply services etc.) will be described to determine their influence on and their importance to the activities and success of the different projects.

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On the vertical plane, each project will be analyzed and evaluated to determine its effectiveness and impact in the rural areas of the Congo according to the ten variables outlined in objective one. These ten variables correspond to the hierarchy of evaluation criteria as given in the paradigm in Figure 1. The first five variables -- focus, function, organizational structure and internal linkages, external linkages, and planning -- are related to describing the project organization put in place to reach a set of goals and objectives. The remaining five variables -- means to achieve the objectives, source and

choice of technologies to be disseminated, extension methods used, participation of the target population, and achievements of the projects -- relate to the various levels of the hierarchy of evaluation criteria. The means to achieve the objectives are the inputs in the paradigm, source and choice of technologies and extension methods used relate to the activities of the project (the second level in the hierarchy of evaluation criteria), participation is the third level in the model, and achievements of the projects relate to the higher levels of awareness, reactions, interest, change in knowledge, skills, attitudes and aspirations, trial and practice change, and end results.

Each project will be described on the basis of the ten variables listed above. The measurements to be used to assess each variable are described in more detail on pages 7 and 8. The data sources to be used for the analysis include evaluation and technical reports, books and journal articles. The information available from these sources is largely of a descriptive and qualitative nature; little quantitative information is given in the documents especially as related to measures of project success (e.g. increased food crop production and farm incomes). Due to the nature of the sources used, this paper will also be descriptive in nature and be based more on qualitative than on quantitative data.

Table 2: Basic information on the selected development projects.

Development Projects					
	PDR	OCV	Assistance to OCV	PAPAN	PAPAL
Executing agency	ILO (FAO)	Gov't	FAO	CARE	CARE
Financing agency	UNDP	Gov't	UNDP	USAID	USAID
Starting year	1970	1979	1982	1982	1984
Ending year	ongoing	ongoing	1987	1986	1988
Project zone	Pool/ Plateaux	national (7 regions)	Lékoumou/ Cuvette	Niari	Lékoumou
Major project objective	integrated rural development	marketing, extension, promotion of food crops	extension, training, applied research	seed farm marketing warehouse construction training	

Project Selection

During the period 1970 to 1987, seven projects in the area of food production were carried out or are still in progress in the Congo. All projects had some agricultural extension and or training component in them. Due to a limited availability of documentation on some of the projects, only four projects are included as case materials in this study. The four projects are: UNDP/FAO project "Assistance à l'Office des Cultures Vivrières," which was operational between 1982 and 1987; CARE/USAID projects "Congo Smallholder Agricultural Development I

(PAPAN) and II (PAPAL),"¹² carried out between 1982 and 1988; and UNDP/ILO project "Projet de Développement Rural Intégré du Pool et des Plateaux Koukouya (PDR)," started in 1970 and which is still ongoing. One national agency, the "Office des Cultures Vivrières (OCV)," is included because it can be considered a national program or project funded and executed by the Congolese government. It is the main agency to carry out extension and marketing activities for food crops in the rural areas. The major characteristics of these projects are listed in Table 2. The locations of the projects are shown on the map in Figure 2.

The three projects not included are the UNDP/FAO project "Développement de la Pisciculture Rurale" and two Congolese financed FAO projects titled "Assistance au Ministère de l'Agriculture et de l'Élevage pour le Développement Vivrier et Élevage." Many studies were undertaken and reports published on food production, marketing, women's roles, prices and price policies, and agricultural extension under the auspices of these two FAO projects; a number of these reports that are relevant for this study will be used as background materials.

¹²PAPAN and PAPAL stand for Projet d'Assistance aux Petits Producteurs du Niari/de la Lékoumou respectively.

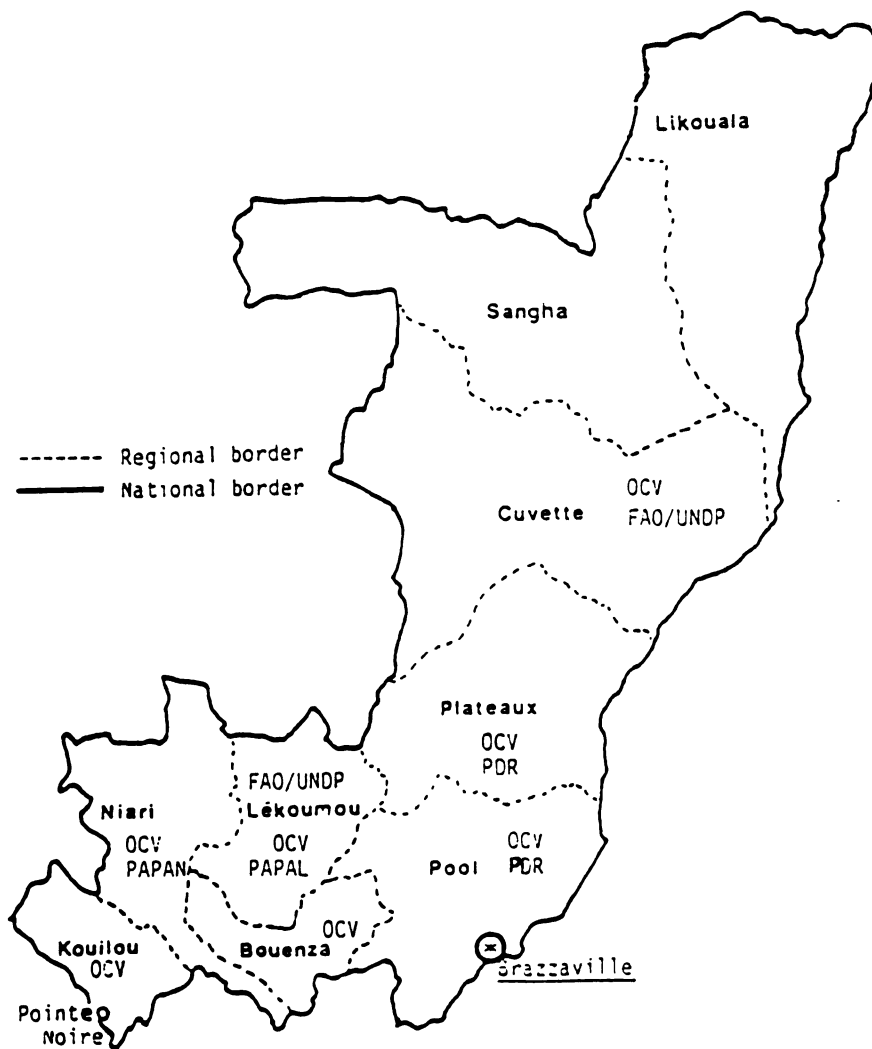


Figure 2: Regional map of the Congo showing the locations of the different projects.

Data Sources

The data sources used to analyze the projects include: project documents, technical reports written by project personnel, internal evaluation reports by the funding and/or executing agencies, journal articles, books, theses, and information gathered by the author during his two year assignment in the Congo between 1982 and 1984. Additional information was found in the various development plans of the Congo, policy papers on rural development, published interviews with Congolese government and Party officials, and sector studies by FAO and USAID.

CHAPTER IV
THE CONGO AS THE EXTENSION SYSTEMS' ENVIRONMENT:
PUTTING THE PROJECTS IN PERSPECTIVE

As stated in the previous chapters, evaluation of development projects and programs has to take many factors into account. The projects are not executed in isolation, but are subject both to interactions between various components within the projects as well as to numerous interactions with the larger system of society as whole. In addition, agricultural projects also interact with the natural environment system. Project outcomes and success are therefore related to and influenced by factors, often beyond its control, in the project environment.

In this chapter the author will address a number of those outside factors which have an effect on outcomes of the extension efforts. Brief descriptions will be given of the history, geography, and social, political and economic development as they relate to agricultural and rural development in the Congo. Also, more detailed information is provided on the educational and agricultural systems. The background information provided in this chapter will serve as a framework for understanding the analyses of projects in the following chapters and the difficulties faced by the various agricultural extension projects operating in the country.

History of the Congo

The Pre-Colonial Period

The Kingdom of the Kongo was one of the oldest in Africa, dating back to the Tenth Century A.D., occupying an area covering the southern part of present day Congo, Cabinda, parts of Zaïre, and northern Angola. The Portuguese "discovered" this Kingdom on one of their explorations along the African coast in the last quarter of the Fifteenth Century and established trade and diplomatic relationships with the Manicongo, the King of the Bakongo people.

The Portuguese never penetrated very deeply into the continent, trading only with the people living along the coasts and navigable estuaries. Also, the rapids in the Congo river further up stream and the inhospitable environment on both river banks (dense forests, diseases, mountains) proved to be un surmountable barriers to the exploration of the hinterland.

The practice of slavery by the Portuguese starting in the Sixteenth Century decimated the population of the Kongo and that of neighboring, loosely allied tribes. It also lead to increasing internal wars between various subgroups in the Kingdom vying for favors from the Portuguese in the form of Western goods in exchange for slaves. The slave trade and internal wars finally destroyed the Kingdom in the middle of the Eighteenth century.

The French first arrived in black Africa in an effort to put an end to the slave trade after it was abolished in the Western world in

1815. The almost simultaneous advent of industrialization and capitalism in Europe created a rush among the European countries to explore the African hinterland and its assumed possibilities to provide a wealth of products for the infant industries at home at low cost. However, exploration was slow, and Savorgnan de Brazza reached the Congo river only in 1877. On October 3, 1880, near the site of present day Brazzaville (named after him), he signed a treaty with Makoko, the King of the Batéké, which put the territory under French protection. The Convention of Berlin in 1885 accorded the rights to all territory North of the Congo and Oubangui rivers to the French.

The Colonial Period

In 1899, the French government divided the territory of French Equatorial Africa (AEF) among a number of concessionary companies to exploit the supposed wealth of resources and to make the land productive. These companies ranged in size from 480 to 56,000 square miles. However, these companies did not have the technical knowledge nor the willingness to commit the resources necessary to fully exploit their concessions. Some of them engaged in small trade with the inhabitants of their concession, exchanging cloth, salt, and fire-arms for ivory, palm oil, rubber etc. The French administration was not very happy with this situation because it did not provide the large profits and increased tax income it expected from these companies. It subsequently installed a more militaristic style administration in the colony to serve both public and private colonial interests. This administration imposed harsh

measures on the population in order to develop the colony: obligatory delivery of forest products by the people, recruitment of workers to build a railway between Brazzaville and Pointe Noire, forced relocation of the population along the roads so they could be controlled better, installation of a tax system, and forced labor to build administrative posts and roads. Development efforts were mainly directed at the building of infrastructure (roads, railway, ports and river transportation systems) necessary for the evacuation of timber, minerals and agricultural products from the AEF territory. Efforts to restructure the rural society and the subsistence agricultural sector were abandoned in the early 1930's because of the "un-cooperativeness" of the people and the large costs involved in this process.

The traditional society of the Congo was based on family lineages, which regulated all aspects of daily life. There was a strong division of tasks between men and women: men did the hunting and fought wars, women worked the land and raised the children. Inheritance was matrilinear, but the chief of the lineage was a man (usually a maternal uncle). The chief controlled all possessions of the lineage including land rights. This feudal system was considered by the French to be the main obstacle to agricultural and rural development; they were unfamiliar with a system in which women were the main producers, and they also did not understand the complexities of land rights, access to land and rotational systems used. The French were not able to make profound changes in this feudal social system, although the system adapted itself to the wage labor system introduced by the colonial administration. This wage system increased the tensions between the

chief and elders of the lineages and the youngsters that were working for the French. The young men earning wages were able to independently acquire a wife and access to land, bypassing their maternal uncles and the elders of the lineages. The French actively exploited this fact to destroy the traditional society.

In the financial crisis of the early 1930's the administration abandoned the costly idea of a complete disruption of the Congolese society and decided to use the feudal system to promote the development of the territory. At the same time, this choice implied that agricultural and rural development efforts would remain limited. The new role of the rural sector became to supply the cities with large numbers of cheap labor, mainly consisting of young people wanting to escape the strongly controlled lineage system in order to experience the freedoms associated with free market capitalism. The rural sector thus became dependent upon the capitalist mode of production and its markets. Agricultural prices were kept low in order to feed the large low wage earning populations in the cities. Because of these colonial policies, agricultural development in the Congo was very slow; for commercial enterprises it was impossible to compete at the price level used for the small farm sector, and for the traditional sector it was impossible to convert to more capitalist-style production systems because of lack of necessary investment capital. Agricultural exports before independence never exceeded 15,000 tons.¹ The basis for the Congo's economic

¹Hugues Bertrand, Le Congo: Formation Sociale et Mode de Développement Economique (Paris: François Maspéro, 1975), 172.

development was industry and services (mainly transportation) fueled by an abundance of cheap labor.

Because of the increased need for educated employees in trading houses, and for gardeners, domestic servants, plantation workers and low level administrators, the French started to invest more in education after World War II. The Congolese were avid learners, and many people, even in rural areas, recognized the value of education. This recognition was reinforced by a religious movement in the 1930s and 1940s, called Matsouanism (or Amicalism). According to the religious leaders, the only way that the Congolese could take charge of their own destiny and responsibility for their development would be to rapidly acquire the knowledge of the "whites."² This led the farmers to reconsider their initial aversion to schools, and they started sending their children to school instead of their 'slaves' (people captured in wars with neighboring tribes) as was common before. The fact that many of these slaves received salaried jobs after completing school was an additional motivator for sending their own children. However, since most schools, especially secondary and professional schools, were located in the larger towns and cities, the increased attendance also led to an increase in urbanization since many graduates did not return to the rural areas.

² Bernard N'Kaloulou, Dynamique Paysanne et Développement Rural au Congo (Paris: Editions L'Harmattan, 1984), 221.

The development of industry and services increased rapidly after World War II: roads, schools, hospitals, airports, and a hydro-electric dam were build, and numerous industries, banks and insurance companies established itself in the Congo. The country was destined to become the major business center in French Africa. Towards the end of the 1950's, as Hung writes, the country was socially and psychologically ready for independence, but its economy lacked the infrastructure necessary to sustain it as an independent nation.³ Samir Amin, in his book Histoire Economique du Congo 1880-1968, drew the following conclusion on the situation of the Congo in 1958:

The Congo of 1958 is certainly no longer that of Céline: it is modernized, its population urbanized and proletarianized. But it is not 'developed.' The misshapen economy of this territory is not a national economy: it is neither structured, nor self-centered, nor self-dynamic. From a primitive country the Congo has become a true underdeveloped country; a peripheral region of the world capitalist system.⁴

The Post Independence Period

The Congo gained its Independence on August 15, 1960. At this time, 35 percent of the population was urbanized, the highest rate in tropical Africa. About 42 percent of the total population of the two largest cities, Brazzaville and Pointe Noire, was younger than 15 years.

³Gregory N.T. Hung, Agriculture and Rural Development in the People's Republic of the Congo (Boulder: Westview Press, 1986), 5.

⁴Samir Amin and Catherine Coquery-Vidrovitch, Histoire Economique du Congo 1880-1968 (Paris: Editions Anthropos, 1969), 63.

The rate of schooling of 18 percent of the population was also one of the highest in Africa.⁵

The various Congolese governments since Independence have always been pre-occupied with the potentially explosive situation of these large numbers of educated, but mostly unemployed youth in the cities. This fact has guided (rural) development policies of all Congolese governments. The first government instituted a civic service for young people in an attempt to engage a large number of youngsters in productive work. Civic service was compulsory for two years for all young men and women; they received training in agricultural practices and then were sent to the rural areas to become "modern" farmers. The training was given in the so-called "Centres de Coopération Rurale," which were created in 1960 by the government as the main instrument for the development of the rural areas. The government believed that, once the young people were back in the rural milieu, they would stay there and not return to the cities. However, these "re-ruralization" efforts, as well as the continuation of the liberal economic policies of the former colonial power by the government, were not popular with the heavily unionized students, laborers and bureaucrats. A series of strikes and street protests, plus a threatened storming of the presidential palace led to the overthrow of the government in 1963 ("Les Trois Glorieuses", 13, 14 and 15 August). Although the country officially adopted Marxism-Leninism only in 1968, government policies, under pressure of the unions and through former union members now

⁵Bernard N'Kaloulou, Dynamique Paysanne et Développement Rural au Congo (Paris: Editions L'Harmattan, 1984), 138.

filling cabinet posts, became increasingly more leftist with many socialist-style reforms being implemented. Soviet, East-European, Chinese and North-Korean help was sought to restructure different sectors of the economy. In these turbulent years, most of the Western experts and embassies withdrew from the country.

One of the first socialist enterprises created, in May 1964, was a state monopoly for the marketing of agricultural products, the "Office National pour la Commercialisation des Produits Agricoles" (ONCPA). The civic service, against which so many youngsters had rebelled, was abolished in 1965 and replaced by the "Action de Renovation Rurale" (ARR). The ARR was basically the same as the civic service, although it played a political as well as an economic role. The aim of the ARR was also to relocate unemployed youth to the rural areas and to provide them with training. However, this training was not limited to agriculture but also included politics, economics and para-military education; the training was given by Labor Union and Party members (the revolutionary avant-garde). Youth thus trained (several hundred joined the ARR) were set up in cooperative villages and given some basic equipment and a small salary.⁶ The ARR was not very successful, especially once the salaries got smaller and smaller. It proved to be a drain on the government budget and was finally abandoned after six years. Cooperative members still with the ARR were consequently integrated into the public service as agricultural agents in the Ministry of Rural Economy.⁷

⁶ It was during this period that the government requested UNDP for assistance and support for the ARR movement and rural development in general. From this request the PDR project evolved.

⁷ Hugues Bertrand, *op. cit.*, 182.

Agricultural and rural development policies in these first 10 years of independence were not absent, as Tien Hung states, but they were not aimed at the farm population directly.⁸ Development policies were guided by worry over the potentially explosive situation of large numbers of unemployed youth in the rapidly growing urban centers and the increasing food imports necessary to feed the growing city population. By relocating youth in rural areas and engaging them in modern socialized agriculture, Congolese governments had hoped to tackle both of these problems at once, but this proved to be a vain hope. Not until the early 1980s were the traditional small farmers "rediscovered" as important food producers, and development policies, as laid down in the Congo's development plans since 1979, are now specifically directed toward this sector.

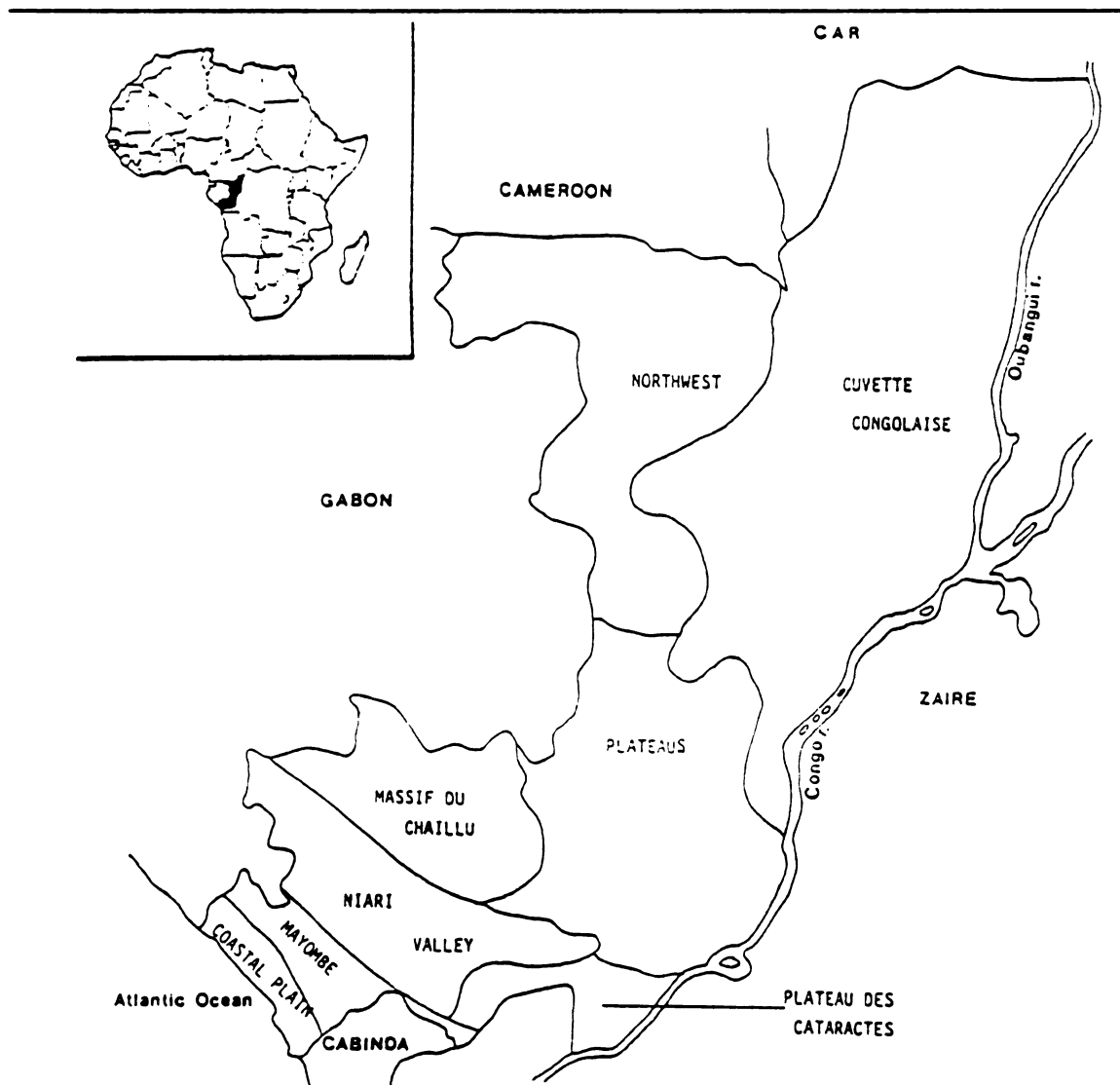
Geographical Background

The People's Republic of the Congo is situated in West Central Africa. It spans both sides of the equator, lying between 4° N and 5° S. The total area is 342,000 square kilometers (136,800 square miles), which is roughly the same as Italy, Poland or the state of New Mexico. It borders on Gabon and Cameroun in the North and Northwest, the Central African Republic in the Northeast, Zaïre on the East and South and the Angolan enclave of Cabinda in the Southwest (see Figure 3).

⁸Hung, op. cit., 46.

The Congo can be divided into seven geographical regions (see Figure 3):

1) The Eastern part, the Cuvette Congolaise, makes up nearly 44% of the country and is a part to the Congo/Zaire river basin. It ranges in altitude between 280 and 380 meters and is covered almost exclusively with inundated rain forest. 2) The Sangha region in the Northwest is also covered by rain forests, but the elevations are generally higher (400 to 900 meters) and includes Congo's highest mountain, Mt. Nabemba, which reaches 1100 meters. It is the major cocoa producing region of the Congo. 3) The region North of Brazzaville consists of four major plateaus ranging in elevation from 600 to 860 meters. The soils of this region are sandy and support mainly grassland savannas with some forest galleries along the many streams and rivers. 4) Due west of Brazzaville lies the Plateau des Cataractes, a densely populated hilly area with peaks reaching up to 700 meters. It supports both forest and shrub-land savanna. 5) The Massif de Chaillu is an area of old weathered hills entirely covered with rain forest. It separates the eastern plateaus from the Niari valley, which is the sixth geographical region. The Niari valley is a flat grass and brush savanna area; it contains the most fertile soils and is the main agricultural area of the country. 7) The Mayombe mountain chain separates the Niari valley from the coastal plains. It is densely forested and was for a long time a major barrier in the transportation system within the country. 8) The coastal plains are flat, sandy and sparsely forested.



Source: INRAP, *Géographie de la République Populaire du Congo* (Paris: Eificaf, 1976); *Africa Today: An atlas of Reproducible Pages* (Wellesley, MA: World Eagle, Inc., 1987).

Figure 3: Major geographical regions of the Congo and location of Congo in Africa (inset).

Administrative Division

The Congo is divided into nine administrative regions, which are subdivided in 45 districts to which 33 so-called "Postes de Contrôle Administrative" (PCA) are attached in some of the larger districts (see map in Figure 4). These administrative regions coincide more or less with the above described geographical regions. These administrative units serve as a basis for the Congolese Workers Party (the "Partie Congolais du Travail," the only political party in the country), the organizations of women and youth ("Union Révolutionnaire des Femmes du Congo" and the "Union de la Jeunesse Socialiste Congolaise"), the labor union (Confédération Syndicale Congolaise), the cooperative organizations, the Ministry of Rural Economy, and councils and commissions attached to the Planning Ministry. The four largest cities (Brazzaville, Pointe Noire, N'Kayi and Loubomo) have a separate administrative status as municipalities.

Climate

The Northern part of the country has an equatorial climate: it is always very humid and cloudy, and frequently foggy. The rains are year-round with some slow downs in the period December to February and in July. Rainfall ranges from 1,600 to 1,800 mm (64" to 72"), and relative humidity from 70 to 97%.

In the South, the climate is humid tropical. The rains last from October to May with a small 'dry' (i.e. less wet) season in January-

SANGHA
 1 Souanké
 2 Sembé
 3 Ouesso

LIKOUALA
 4 Doungou
 5 Epéna
 6 Impfondo

CUVETTE
 7 MBomo
 8 Kellé
 9 Makoua
 10 Ewo
 11 Boudji
 12 Owando
 13 Mossaka
 14 Loukoléla
 15 Okoyo

PLATEAUX
 16 Abala
 17 Gamboma
 18 Lékana
 19 Djambala

POOL
 20 Kindamba
 21 Mayama
 22 NGamaba
 23 Kinkala
 24 Mindouli
 25 Boko
 26 NGabé

LEKOUMOU
 27 Bambema
 28 Komono
 29 Zanaga
 30 Sibiti

BOUENZA
 31 Loudima
 32 N'Kayi
 33 Madingou
 34 Mouyondzi
 35 Boko Songo
 36 MFouati

NIARI
 37 Mayoko
 38 Divénié
 39 Mossendjo
 40 Kibangou
 41 Loubomo
 42 Kimongo

KOUILOU
 43 Madingo-Kayes
 44 M'vouti
 45 Loandjili

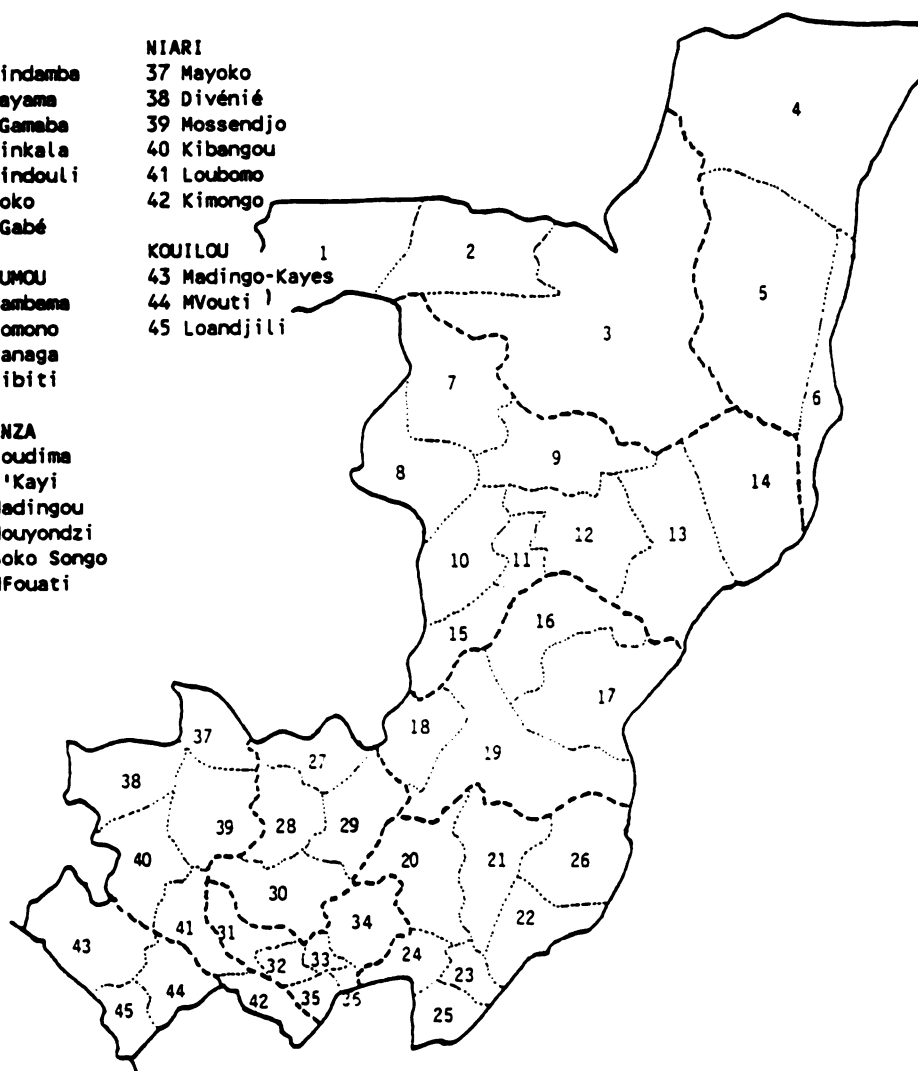


Figure 4: Administrative division of the Congo.

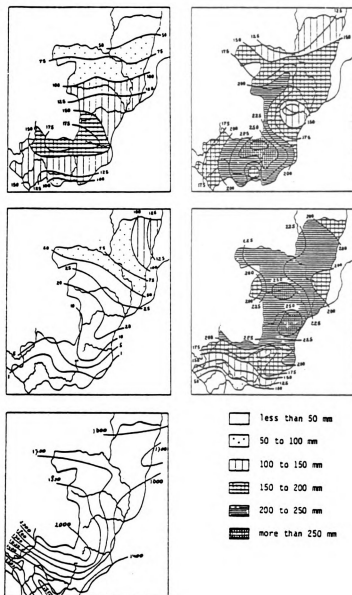
February. Rainfall ranges from 1000 mm around Pointe Noire and the Niari Valley to 2000 mm in the forest areas near the Gabon border and on the Plateau Koukouya. The humidity is high year round, ranging from 60-70% in the day to 90-98% at night. The central part of the country has a sub-equatorial climate which is an intermediate between the above two types. The dry season, from June through September, becomes more pronounced from North to South.

Temperature variations in the Congo are in general very small; the temperature amplitudes are 1.5° to about 6° C between the hottest and coldest months. Temperatures fluctuate around 25° C (77° F) year round, but still it is often very unpleasant because of the high humidity. Figure 5 shows the monthly variations in rainfall and total rainfall in the Congo.

Demographic Characteristics

The population in the Congo is at present about 1.8 million and has been growing at an increasing rate since the beginning of this century. The population growth rate, which was about 1.5% in the first half of this century, increased rapidly because of declining death rates due to better medical care and nutrition and is about 2.7% since the mid-seventies. By contrast, birth rates continue to be high and amount to 44 per 1,000 population without signs of diminishing. Figure 6 shows the evolution of the population since the beginning of this century.

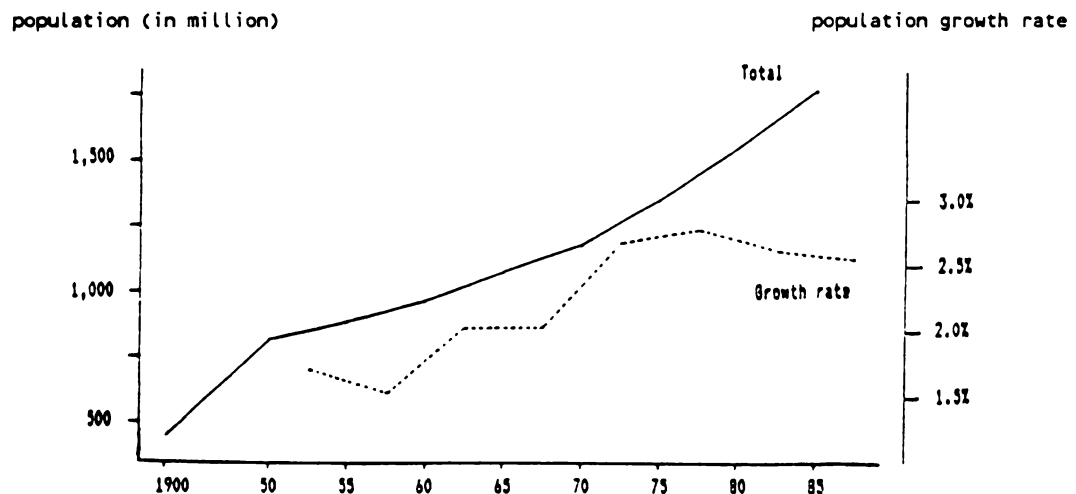
The population consists of several ethnic groups. The Atlas Jeune Afrique recognizes 74 ethnic groups, which can be arranged in five main



Source: P. Vernetier Géographie du Congo Brazzaville (Paris: Gauthier Villars, 1966), 36; and

Figure 5: Monthly rainfall patterns and total rainfall in the Congo.

categories: the Bakongo (45%), the Batéké (20%), Boulangui (16%), people from 'Gabonese' origin (15%) and various (4%).⁹ The last category includes the Pygmies which live in scattered bands in the forests.



Source: P. Platon, "Le Congo," Marchés Tropicaux No. 1912 (2 juillet 1982); FAO Economic and Social Policy Department, 1987 Country Tables: Basic Data on the Agricultural Sector (Rome: FAO, 1987).

Figure 6: Growth of the population of the Congo since 1900.

The Congo does not have a very large population in relation to its size, but the population is very unequally distributed, geographically as well as demographically. The geographic skewness has three causes: 1. Two-thirds of the people live in the southern part of the country

⁹Atlas Jeune Afrique (Paris: Les Editions Jeune Afrique, 1976), 26.

between Brazzaville and Pointe Noire which makes up only 1/3 of its land area. 2. The population of the Congo is highly urbanized, especially for an African country. The reason for this urbanization can be traced back to the development policies of the French during the colonial period. Table 3 gives an indication of the uneven population distribution of the country. The numbers given in this Table for the percentage of people living in the city only include those living in the four largest cities (Brazzaville, Pointe Noire, N'Kayi and Loubomo). When one would include the population of the secondary (semi-urban) centers, the percentages would be 40.5% in 1958, 54.6% in 1974, and over 60% in 1980 (see Table 4).

Table 3: The uneven population distribution of the Congo.

Year	Total Population	% Urban	Population in the South		
			Total	% of Total	per km ²
1958	798,161	27	565,587	71	5.3
1974	1,319,790	38	1,039,912	79	9.7
1980	1,550,882	43	1,253,452	81	11.7

The average population density in 1980 was 4.5.

Source: P. Platon, *op. cit.*, 1751-1752.

The average population density of the Congo is five persons per square kilometer and is much lower than the average for Africa as a whole (18 persons/km²). The population densities in the Congo vary widely between the different regions, ranging from less than one person per square kilometer in the Likouala and Sangha regions to more than 10 persons per square kilometer in the Bouenza (excluding N'Kayi). However, there are some rural areas with locally very high densities such as the Plateau Koukouya (30/km²) and the area directly west of Brazzaville (the districts of Boko and Kinkala).

Table 4: Distribution of the population according to the size of the locality.

Size	1974		1982		Variation in %
	Total	%	Total	%	
Cities >30,000	535,000	40.5	810,000	50	+ 51
Towns > 2,000	210,000	16	285,000	17.5	+ 33
Towns 1,000-2,000	60,000	4.5	125,000	7.5	+ 108
Rural villages	520,000	39	410,000	25	- 21
TOTAL	1,325,000	100	1,630,000	100	+ 23

Source: André Guichaoua, "Développement Rural et Décentralisation Régionale au Congo: Le Plan Quinquennal 1982-86 à Mi-Parcours." Le Mois en Afrique No. 229-230 (fév-mars 1985), 75.

The demographic unbalance in the Congolese population relates to the high percentage of youth, a higher percentage of females than males, higher growth rates in the cities, and the absence of people of working age in the rural areas and consequently an overabundance of this group in the cities. Fifty-five percent of the Congolese population is younger than 20 years old, a percentage that will only slowly decline over the next decades.¹⁰ Because of the unequal population distribution between urban and rural areas, this percentage is higher in the cities. Many young people move to the cities to attend schools, especially for secondary and higher education, and do not return to their villages upon completion or when dropping out. Figure 7 shows the population pyramid for the Congo and the Lékoumou region, the latter being a typical example of the rural regions of the country.

Uneven growth rates will further unbalance the geographic distribution of the population in the future. Growth rates are higher in the cities (reaching nearly 6% in Brazzaville) and the lowest in the rural areas, where the rate wavers around or below 1% (see Table 5).

Women outnumber men in the general population, although there are some regional differences. In Pointe Noire and N'Kayi there are more males, which Platon attributes to the harbor and industrial activities in these cities which demand a male labor force. In the Lékoumou region and the districts of Ewo, Boko and Divénié the male-female ratio is 45%/55%. Polygamy is therefore still frequent, especially in the rural areas. This is probably related to the traditional role of the women as

¹⁰Pierre Platon, "Le Congo: D'Où vient-il? Qui est-il? Où va-t-il?" Marchés Tropicaux No. 1912 (2 juillet 1982), 1753.

Table 5: Regional and urban populations and population growth rates in 1974 and 1982.

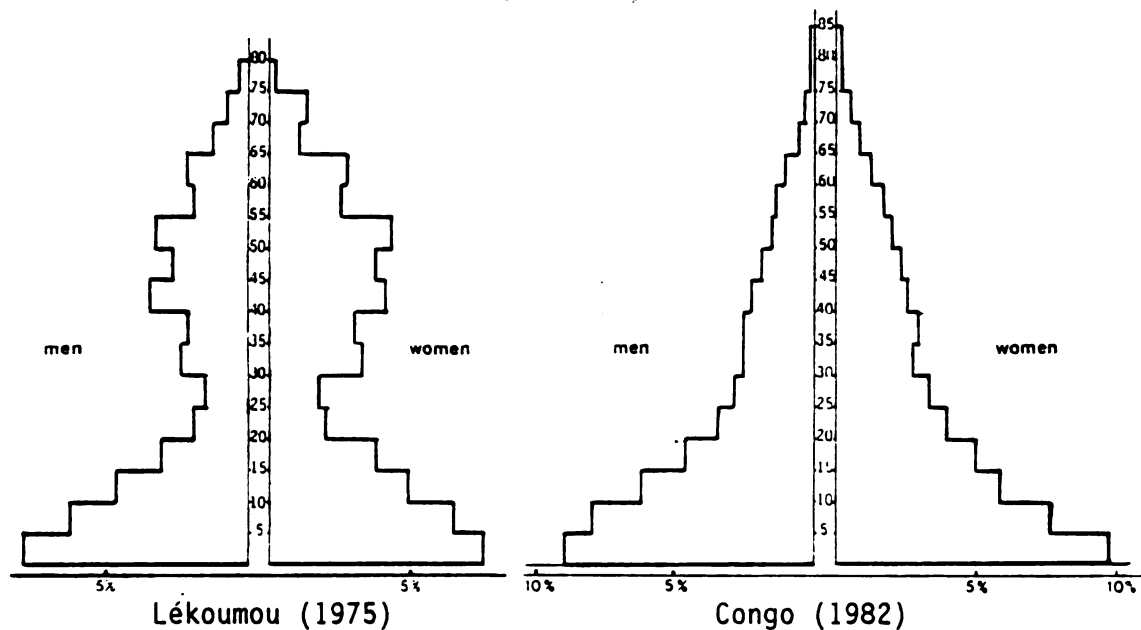
(in 1000's)	1974	1980	Average annual increase in %
Brazzaville	302.46	422.4	5.72
Pointe Noire	140.37	185.11	4.72
Loubomo	28.58	30.83	1.27
N'Kayi	28.96	32.52	1.95
Kouilou	73.30	76.28	0.67
Niari	99.75	106.38	1.08
Lékoumou	60.11	62.73	0.71
Bouenza	117.76	128.8	1.50
Pool	188.64	208.42	1.68
Plateaux	96.15	102.67	1.10
Cuvette	114.54	121.47	0.98
Sangha	39.19	41.36	0.90
Likouala	30.01	31.93	1.04

Source: P. Platon, *op. cit.*

chief workers of the land as explained in the section on the history of the Congo. On average, 21.5% of the families are polygamous (ranging from 11% in Brazzaville to 44% in the Plateaux region) with an average of between 2 and 2.5 women per husband.¹¹

The working population of the Congo, that is the age group between 15 and 60 years, represented 48% of the population in 1980. According to the last five year development plan, this percentage will increase to about 52% at the end of the century. However, not all the people counted in the labor force do actually participate: a large group of the younger

¹¹p. Platon, *op. cit.*, 1753.



Source: P. Platon, op. cit., 1973; P. Duboz, "Aspects Démographiques de la Région de la Lékoumou (République Populaire du Congo)" *Cahiers ORSTOM Série Sciences Humaines* XII, No. 4 (1975), 290.

Figure 7: Population pyramids of the country as a whole and of the Lékoumou region.

people counted in the labor force attend schools until the age of about 25. A large number is also unemployed (official estimations of unemployment figures put the rate at 12-14%), and there is also much underemployment in the country for which no figures are available. Table 6 shows the development of the labor since 1961.

No earlier unemployment figures are available for the country, although Bertrand gives some numbers for the cities of Pointe Noire and Brazzaville.¹² In Pointe Noire, 39% of the male working age population

¹²Hugues Bertrand, *Le Congo: Formation Sociale et Mode de Développement Economique* (Paris: François Maspéro, 1975), 160-168.

was unemployed in 1970, compared to 20% in 1962. In Brazzaville, these numbers are 26% and 34.2% in 1962 and 1970 respectively. The growth in unemployment is smaller in Brazzaville because many young people found jobs in the government, whose bureaucracy tripled in size during this same period. No unemployment figures are available for women because only a small number were employed in salaried jobs. However, women were increasingly looking for work which did increase the pressure on the labor market.

Table 6: The development of the labor force since Independence.

(1,000's)	1961	1965	1970	1975	1980	1985
Total Labor	446	479	526	582	649	710
Agricultural labor	298	316	342	371	405	433
Agricultural labor as % of total	67	66	65	64	62	61
% Unemployed			12.6	14		

Source: FAO 1987 Country Tables (Rome: FAO, 1987) and P. Platon, op. cit., 1754.

Economic Policies since Independence

Congo served as the administrative center of French Equatorial Africa during the colonial period. Development efforts were, therefore, centered around the catering of services to the administrative and business sectors in the urban areas. The funds allocated annually by the French Treasury (after World War II by the Fonds de Développement Economique et Social or FIDES) for public works were mainly spent on construction of housing for the civil servants, administrative buildings and infrastructural works in and around the urban areas. Very little money was allocated to agricultural and rural development, which was, as explained in the section on the history of the Congo, a deliberate attempt to disparage the traditional feudal society. At Independence, the Congo inherited a bloated service sector which the country had to try to integrate into an economy more in line with its natural and human resources.

The economic development of the Congo since 1960 can roughly be divided into four periods:

1. From 1960-63, the economy was run on a liberal base that encouraged foreign investments in continuation of the later years of the colonial period. Economic policies addressed the restructuring of the economy and the fight against unemployment.
2. A transitional period which is characterized by increasing influence of the labor unions and the signing of agreements of economic cooperation and opening of diplomatic relations with China, the

USSR, Cuba and other East Block countries. Disillusioned with the inability of liberal capitalism to solve the country's economic woes led the government to more progressive economic policies leaning increasingly towards scientific socialism as a guiding principle of the economy. In 1969, the Congo officially became a People's Republic, and adopted Marxism-Leninism as a guide for its development.

3. The seventies were marked by both successes and failures in the mining sector, alternating high hopes for rapid modernization and near bankruptcy. Rising oil prices increased the country's revenue, but the older oil wells started drying up by the mid-seventies, leading to a sharp decline in export earnings. The almost simultaneous closing of the potash mines due to flooding further diminished income. This led to the almost complete bankruptcy of the country and the implementation of the 1975-77 development was almost completely stopped.

The second Party Congress which took place in 1972 called for the total elimination of the foreign capitalist sector. The state was to take complete control of the economy to guarantee its economic independence. The national private sector was allowed to stay in business but only under the control of the State. Foreign assets were nationalized and many foreigners left in this period. The economic setbacks coupled with the hardline socialization of the economy made this a very difficult period in the post-independence of the Congo.

4. The fourth period, starting at the Third Party Congress in 1979, is characterized by more pragmatism. Although the goal of its development continues to be complete state control over the national economy, a private sector (both domestic and foreign) is allowed to exist in the country. The country continues its fight against "imperialism," but, in view of its present state of development, recognizes the importance of technical, financial and economic cooperation with foreign countries. However, socialism remains the guiding principle of the economy because its leaders consider it to be the best road to successful development. Present economic policies are directed to substitute an economy directed outward to a more self-centered and self-dynamic economy.

New off-shore oil wells were discovered at the end of the seventies and put into production in the early 1980's. The boom thus created by the higher oil exports and higher prices of that time created an euphoria in the country. An ambitious development plan was developed for the 1982-86 period, to be financed mainly by the oil income. But, the history of the 1970's repeated itself in the country when prices for oil on the world market collapsed. Only through heavy borrowing against future oil earnings was the country able to stay afloat.

Table 7 gives an indication of the structure of the Congolese economy. As can be seen from this Table, agriculture is a shrinking sector. The Congo has been an oil exporting country since the 1960s (although a small one). The discovery of new off-shore oil fields in the

seventies coupled with the rising oil prices in the same period rapidly increased production and export of oil and oil products. This explains the large increase in GNP between 1975 and 1980, and the simultaneous decline of the share of agriculture and services in the national production.

Table 7: Gross domestic product and its division over the different sectors of the economy.

	1961	1965	1970	1975	1980	1985
GNP (million \$)	151	197	274	767	1,706	2,000
Agricultural GNP (million \$)	30	38	49	111	199	160
Agriculture as % of total GNP	20	19	18	14	12	8
Industry as % of total GNP		19				54
Services as % of total GNP		62				38

Source: FAO, 1987 Country Tables (Rome: FAO, 1987).

Based on the above GNP figures, per capita income is estimated to be about \$1,100. The distribution of this income is very lopsided which is, as Hung states, unique among the economies of West and Central Africa.¹³ Agricultural income per capita based on the contribution of agriculture to the GNP is only \$129, or 12% of the national average. There is a growing imbalance between the modern sectors of the economy fueled by the oil income and the traditional small farm sector, with the latter becoming more and more depressed. More detailed information about the agricultural sector will be given in the section on agriculture later in this chapter.

Educational System

Development of the Educational System

The first schools in the Congo were established by Catholic missionaries in the 1880's. Education in these schools, which were open to both boys and girls, stressed literacy in French, vocational training, and religious instruction. After the separation of church and state in France in 1905, some public schools were established by the colonial government. However, the mission schools continued to operate, receiving small subsidies from the government. All schools, public and private, were required to follow an official curriculum that devoted a majority of its program to French language and culture.

¹³Hung, op. cit., 21.

The schools were accessible only for a small portion of the population. Knowles reported that in 1934 the Congo had only 6571 pupils in the six primary grades (2411 in public, 3407 in Catholic and 753 in Swedish Lutheran schools), out of a population of 770,000.¹⁴ An advanced primary school which opened later in 1934 to train administrative employees could only find ten students in the entire federation of the AEF interested in attending. Greater efforts were made by the French to develop the educational system in its African territories after World War II. It instituted a policy of assimilation that led to the introduction of the metropolitan curriculum in Africa. Diplomas granted by the secondary schools in the Congo were considered to be equivalent to those obtained in France. The diplomas gave access to both public employment and allowed entrance into schools of higher education in France. The French government also granted scholarships to students to study in schools of higher, secondary, and vocational education in programs not available in the AEF or Cameroon. During the 1957-58 school year, there were 87 Congolese studying in France (of which 49 had a scholarship), while there were 79,000 pupils in primary and 2,000 secondary and technical education.

The private schools were nationalized in 1965, and a single public school system was established. The law also made education free and mandatory from ages six to sixteen. Missionary teachers were replaced by both Congolese and foreign laymen.

¹⁴Asa S. Knowles, ed., International Encyclopedia of Higher Education (San Francisco: Jossey Bass Publishers, 1977), 1010.

To provide university level education within the former French Equatorial Africa after Independence, France and the four states established the FESAC (Fondation pour l'Enseignement Supérieur en Afrique Centrale) in 1961. Special institutes were established in the participating states: animal husbandry in N'Djaména (Chad), agronomy in M'baïki (Central African Republic), a polytechnic in Libreville (Gabon), and an institute for the social sciences (the CESB) awarding degrees in law, economics, mathematics, letters, and physical sciences in Brazzaville. A teachers' training college (ENSAC) was established a year later with help of UNESCO and France, also in Brazzaville. Most of the teaching staff and the funding necessary to run the FESAC institutes was provided by France. Programs were also closely patterned after those in French universities. Towards the end of the 1960's, there was increasing discontent over the dominance of French influence in the educational systems in the former colonies. Each country wanted to establish its own university with programs better adapted to each country's needs. The increasingly Marxist-Leninist policies of the Congolese government and political instability in the country at the end of the sixties finally led to the dissolution of the FESAC. The University of Brazzaville (later renamed the Marien Ngouabi University) was created in 1971. It incorporated the old CESB which was divided into three faculties: law and economics, social sciences, and sciences. The ENSAC was renamed the Institut Pédagogique des Sciences de l'Éducation (IPSE). With help from North Korea a polytechnic institute was built, which had a higher normal school for technical education attached to it. It opened in 1975, as did the Institute of Health Sciences for the training of physicians,

dentists, pharmacists and mid-level health personnel in cooperation with the World Health Organization.

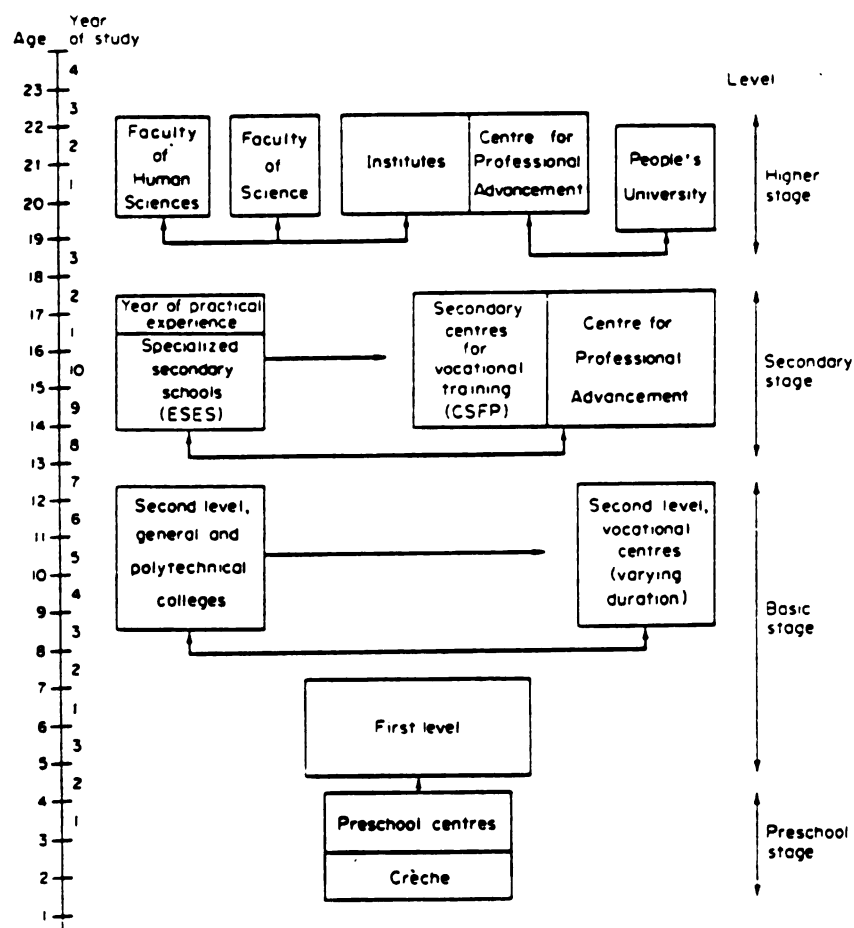
During the mid-seventies, a large number of Congolese were also studying abroad. Knowles reported that 800 Congolese were studying in the Soviet Union and 400 in Romania in various institutions during the 1974-75 schoolyear. During the same year, there were over 200 Soviet professors teaching in secondary and higher institutions, nine Chinese professors among the 423 technical personnel from China in the health field, and 66 French faculty at the University. Only one third of the permanent faculty members at the University were Congolese in 1975.¹⁵

Present Educational System

Education was made compulsory in 1965 for all children ages six to sixteen. The educational system, which is greatly influenced by the French system, was modified in the early 1980's to adapt it more the needs of the country. The present organization of the system is shown in Figure 8.

Officially, schooling starts at the age of three with kindergarten or pre-school, but outside the urban areas hardly any of such schools exist. This stage is therefore limited with very few children enrolled. The ten year mandatory basic education is divided into two levels: a first level of six years (grades 1 to 6) corresponding to primary education, and a second level of four years (grades 7 to 10) which is equivalent to junior high. The students entering the second level can

¹⁵Asa S. Knowles, op. cit., 1014-1015.



Source: Torsten Husen & T. Neville Postlethwaite, eds., *The International Encyclopedia of Education* (Oxford: Pergamon Press, 1985), 976.

Figure 8: Structure of the educational system in the Congo.

choose between general education in colleges of general and poly-technical education (the CEGP) and vocational education in vocational training centers (Collège Professionnel or CP). Exams are taken at the end of the four years, leading to the BEMG/T (=Brévet d'Etudes Moyennes

Générales or Techniques) or to the CAP (=Certificat d'Aptitude Professionnelle) respectively.

The secondary stage takes three years to complete and is again divided into general education, leading to the Baccalauréat Philosophique or Scientifique, and in vocational education, leading to a Baccalauréat Technique. There are specialized schools for these types of education, namely lycea and secondary centers for vocational education.

The higher stage is of variable length and is based on the faculties and institutes of the Marien Ngouabi University, the sole university in the country.

The number of students at the various levels of schools has increased dramatically, especially since Independence as can be seen in Table 9. Attendance rates as a percentage of relevant age groups are the highest in Francophone Africa (see Table 8).

Table 8: School attendance rates as a percentage of relevant age groups in 1970 and 1982.

Year	Primary Education	Secondary Education
1970	96%	17%
1982	120%	73%

Source: Marchés Tropicaux et Méditerranéens No. 2211 (1 avril 1988); based on figures of the World Bank and UNESCO.

Only Gabon matches Congo's primary school attendance rates, but secondary schooling rates are much lower in Gabon (35% in 1982). Conversely, illiteracy is also among the lowest in Africa, standing at 37% in 1985.

Table 9: Evolution of the number of students from 1934 to 1985.

Year	Primary Education	Secondary Education	Higher Education
1934	6,571	--	--
1960	116,000	6,000	400
197	241,000	34,000	1,800
1980	391,000	188,000	7,300
1985	476,000	222,600	17,500

Source: Marchés Tropicaux No. 2211 (1 avril 1988), based on figures of the World Bank and UNESCO; Africa Research Bulletin March 31, 1987, 8581C.

However, the rapid increase in student population has also its negative sides. Human, financial and material resources have not been able to keep pace with the expansion of the educational system. Some of the shortcomings in the system as mentioned in the Africa Research Bulletin and by Gakosso are:

- An average student/teacher ratio of more than 50.
- A lack of qualified teachers. In 1980, only 32% of primary and 17% of secondary school teachers were qualified.

- Inadequate equipment and buildings, both quantitatively and qualitatively. Schools often use a shift system, especially in the urban areas.
- Emphasis on general education to the detriment of technical education. The reason for this is that general education does not require large investments for laboratories, machineries etc.
- Lowering of educational standards. More than a quarter of the children in primary schools repeated a year. Pass rates for the major exams at the end of the first and second stage were 23.8 and 20.4% respectively. In 1985, only 92 students passed the written part and 2456 the orals for the Baccalauréat out of a total of 17,133 candidates.
- The schools disguise a latent unemployment problem, particularly from secondary schools upward. Sixty percent of the secondary school population is over 20 years old.
- Education continues to be very intellectual and bookish, separated from social life and everyday problems.¹⁶

Nonformal Education

Some nonformal education takes place in the Congo, mostly in the form of adult literacy courses. However, as Husen and Postlethwaite write, the literacy efforts are erratic and suffer from a lack of a coherent and consistent policy, which is evidenced by the great variations being reported in the number of literate people, literacy teachers and centers over the years.¹⁷ In the early 1980's, a German financed Rural Radio project included literacy training in its broadcasts, which were backed up by a field team that would visit the

¹⁶Africa Research Bulletin (31 March 1987), 8581C; Gilbert Gakosso, La Réalité Congolaise (Paris: La Pensée Universelle, 1983), 222-225.

¹⁷Torsten Husen & T. Neville Postlethwaite, eds., The International Encyclopedia of Education (Oxford: Pergamon Press, 1985), 977.

villages and trainers on a regular basis. However, this project was limited to two regions only, the Cuvette and Lékoumou.

Because of the many shortcomings in the formal educational systems, some companies are engaging in nonformal, on-the-job training for their employees. This practice is especially well developed in the banks, railways, and the post and telecommunications agency for the internal training and retraining of personnel.

Administration and Financing of Education

Education, except for the specialized training in the army, police and business, is supervised by two Ministries: the Ministry of Basic Education and Alphabetization, and the Ministry of Secondary and Higher Education, Culture and Arts. In each of the regions and in the municipality of Brazzaville there are regional Directorates of Education, which administer the school systems in their jurisdiction.

Public expenditures for education account for about 25% of the state budget, or 11% of the Gross Domestic Product. In 1980, expenditures for primary education were 35% of the total expenditures for education; secondary education received 28%, and higher education 25%. Three quarters of the budget is spent on staff salaries. The University benefits from the largest share of equipment purchases (about 2/3).

Agricultural Education

Agricultural education in the Congo was established in the Congo only after Independence. As in the general education system, there are schools at various levels. At present there are 11 agricultural schools at the secondary level and one at the higher level, the Institut de Développement Rural (IDR) which is a part of the Marien NGouabi University. Table 10 gives an overview of the institutions and their student populations.

After the abolishment of the FESAC, no Congolese students were able to attend the institutes for agronomy and animal husbandry of the FESAC in the Central African Republic and Chad. Large numbers of students attended universities in the USSR and Romania, but the government felt that it was also necessary to educate young people in the agricultural sciences in country. The government therefore established the Institut de Développement Rural (IDR) for higher education in agricultural related subjects. The Institute is attached to the Faculté des Sciences of the national Marien Ngaoubi University in Brazzaville.

To qualify for entrance into the IDR, students need to have a Baccalauréat and three years of working experience. The Institute has three academic départements: a department of basic agronomic sciences (Département des Sciences Agronomiques Fondamentales) which teaches production oriented agricultural subjects, a department of rural development sciences (Département des Sciences de Développement Rural)

which educates students in social science oriented subjects such as rural sociology, economics, community development and management, and a department for short training and continuing education (Département de Formation Courtes et Perfectionnement).

The IDR trains students at two levels. The two year stream leads to the degree of Ingénieur des Travaux de Développement Rural, equivalent to something between an associate and bachelor's degree. A five year program leads to the diploma of Ingénieur de Développement Rural, which is roughly the same as a master's degree. The first group of graduates left the IDR in 1980.

The teaching staff of the IDR during the 1979-80 academic year consisted of 18 full-time and 23 part-time faculty. Ten faculty had a diploma of Ingénieur Agronome (M.S.), 9 had a "Diplôme d'Etudes Approfondies" which is also equivalent to a M.S., and 22 a "Doctorat de 3ème Cycle" (equivalent to Ph.D.). Graduates of the two year course usually are employed in middle level management positions, for example as regional directors of the various marketing boards and the Ministry of Agriculture and Livestock regional representations. The Ingénieurs de Développement Rural will become senior managers at the state farms, the Ministry, or the national offices of the marketing boards; some also become researchers at the national research center in Loudima (CRAL) or teachers at the Lycée Agricole or other agricultural schools.

The Lycée Agricole has five departments: agricultural mechanization, animal production, plant production, agricultural engineering, and economics and management. The school, which is located

Table 10: Agricultural education institutions in the Congo.

School	Year Established	Location	Number of Students			Duration (in years)	Degree awarded
			M	F	Total		
Ecole Nationale des Eaux et Forêts	1967	Mossendjo	76	8	84	3	Brévet Technique Forestier
C.E.T.A.	1962	Sibiti	89	40	129	2	BEMTA
C.E.T.A.	1980	Elogo	65	-	65	2	BEMTA
C.E.T.A.		Lékana	50	22	72	2	BEMTA
Centre des Metiers Agricoles	1976	Mouyondzi	43	62	105	2	Attestation de Niveau
Centre Professionel Agricole	1984	Mindouli	167	68	235	2	Preparation for entrance exam
Centre Professionel Agricole	1973	Loubomo	61	156	217	2	Preparation for entrance exam
Centre de Formation Agricole	1976	Boko	48	12	60	2	Certificat de Fin de Stage
Centre de Formation Agricole	1981	Ewo	30	26	56	2	Certificat de Fin de Stage
Centre de Progrès Rurale	1962	Mindouli	12	14	26	3	Brevet d'Etudes Moyennes
Lycée Agricole	1966	Brazzaville	245	49	294	3	Baccalauréat Technique
Institut de Dévelop- pement Rural	1975	Brazzaville	39	1	40	2	ITDR
			93	7	100	5	IDR

C.E.T.A. = Collège d'Etudes Techniques Agricoles

BEMTA = Brévet d'Etudes Moyennes des Techniques Agricoles

Source: FAO, Directory of Agricultural Education and Training Institutions in Africa (Rome: FAO, 1984), and Burton E. Swanson, ed., International Directory of Agricultural Education Institutions, Volume I: Africa (Urbana-Champaign: University of Illinois Bureau of Educational Research, 1981), 30-32.

just North of Brazzaville, has a schoolfarm of 40 hectares for growing field, fruit and vegetable crops and for raising pigs, poultry and sheep. There are also some workshops for agricultural mechanics and

engineering. All students are required to do practical work at the school farm and/or on neighboring farms. The teaching staff consists of 65 persons, of whom 30 are expatriates; 36 faculty have a B.S. and 20 an M.S. degree. Graduates receive a Baccalauréat Technique in agriculture and will end up in mid-level management positions within the Ministry, the state farms and the parastatal marketing boards. They are also employed as teachers in the lower level agricultural schools and training centers. The Lycée also has a continuing education function. It gives two two-week courses for agricultural agents (in technical subjects) and for agricultural teachers (practical orientation). Both these courses are provided on an ad-hoc basis. In addition, the Lycée organizes one-month upgrading seminars to the technical staff of the Ministry of Agriculture on a regular basis.

The CETA's and the "Centre Professionel Agricole" in Mindouli accept students who have successfully completed two years of secondary school. The schools have a two to three year program which leads to the "Brévet d'Etudes Moyennes des Techniques Agricoles." Graduates mostly enter the public service as extension agents or in low-level management positions. Most of these schools are very poorly equipped or lack sufficient operating funds when they do have the equipment. The schools do have some land on which students are required to work as part of their practical training. All the work is usually done by hand, much to the resentment of the students. The school in Sibiti, with which the author is familiar, could only operate its farm thanks to donations of seeds and seedlings of the coffee and food crop marketing agencies. The three bags of fertilizer the school possessed were carefully guarded to

show to students; they could not be used to demonstrate the effect of fertilizer because future students might not be able to even see what fertilizer looks like. The teachers at the CETA's often are alumni of these schools that have had some work experience and are assigned as teachers to these schools for a few years as part of their career in the civil service.

The "Centres Professionel Agricole" (CPA) and the "Centre de Formation Agricole" (CFA) are primarily farmer training centers, whose purpose is to give farmers specialized training so they can function as leaders in the cooperatives and farm communities. The CFA in Boko for example was refurbished by the PDR project and used by the project for farmer training in fish culture, animal raising, plant production and cooperative development. The curriculum of the CFA's and CPA's is above all practical in nature and focuses directly on problems faced by the farmers. Although the CPA's prepare students for the entrance exam for the CETA, in reality, hardly any students are able to pass the exam because they lack the academic background required. It is also difficult to compete with the large number of students coming from the general education colleges.

Congolese youngsters consider agricultural schools a last (if-all-else-fails-to-stay-in-school) choice. Student populations in the agricultural schools are very low compared to those in general education. In 1982, less than one percent of the secondary school students attended an agricultural school. An additional difficulty for the agricultural schools is that employment possibilities upon completion are limited, and it is therefore hard to attract larger

numbers of students. As S  n  chal writes: "The main determinant is not the refusal of young people to work in agriculture, but the refusal to work in traditional agriculture."¹⁸ The Congolese governments therefore felt compelled to create salaried jobs in large, modern mechanized enterprises. Although a large number of school leavers were integrated in the public service during the last Five Year Plan between 1982-86 (over 19,000), a sharp drop in oil prices forced the government to institute a hiring freeze at the end of that year. Agricultural school graduates are especially hard hit since no other employment opportunities exist for them outside the public service or the traditional agricultural sector which they tried to escape by going to school.

The Agricultural System

Planning for Agricultural Development

The first development plan of the Congo after it gained Independence stressed the importance of economic independence. Through selective actions, the country planned to make rural development sustainable; the main criteria for rural assistance and "animation"¹⁹

¹⁸J. S  n  chal, "Notes sur le D  peuplement des Villages au Congo," in Ma  trise de l'Espace Agraire et D  veloppement en Afrique Tropicale: Logique Paysanne et Rationalit   Technique: Proceedings of a Symposium in Ouagadougou, Burkina Faso, December 4-8, 1978, by ORSTOM (Paris: Editions ORSTOM, 1979), 177.

¹⁹The term "animation" (or animation rurale) can roughly be translated as community development. It is an educational and political movement pioneered by the Catholic church and widely spread in Francophone Africa. Its purpose is to develop local, self-confident

was profitability. The objectives of the 1964-68 Plan for rural development were as follows:

- * To increase the volume of agricultural production while maintaining or improving its quality;
- * To orient the production according to regional production possibilities and markets;
- * To encourage a policy of intensification of agricultural activities;
- * To increase the coordination between production activities and marketing activities and policies in the framework of the regional organization of the Plan.²⁰

The Plan outlined agricultural extension, production of improved seeds and plant material, research, and training of extension personnel as the chief means to attain these objectives. The investment budget for this Plan allocated 4.9 billion F.CFA to the agriculture, forestry and fishing sector, representing 8% of the total investments planned for the five year period (see Appendix 2). The 1964-68 development plan was realized for 85%, but rural development investments lagged far behind with only 46% of the planned activities realized. The largest share of the primary production investment budget had gone to the development of agro-industrial complexes and the forestry sector. As a consequence, agriculture remained stagnant during this period.

leadership and to promote self-help development activities. Nowadays, the term is often used to indicate extension activities of a social (i.e. non-technical) nature (in the areas of health, literacy, housing, cooperative development, etc.).

²⁰République du Congo, Plan Intérimaire de Développement Economique et Social 1964-1968 (Brazzaville, 1964), 45.

The next seven years, the Congo worked on the basis of one year interim development plans. This period coincided with the change to a People's Republic and the adoption of scientific socialism as a guiding principle. A new multi-year plan, the 1975-77 Plan, was elaborated on the basis of very optimistic revenues from the oil and mining sector during this interim period. The guiding principles of this three year plan put socialism high on the agenda: socialization of the means of production in order to eliminate the foreign private sector, to increase and to consolidate the state's role in the economy, the modernization and the integration of the traditional (rural) sector into the economic process, "congolization" of the private sector, the participation of the population in the execution of the Plan.²¹ The Plan made agriculture "the priority of priorities;" agriculture was to serve as the basis of national development with industry as the determining factor. The goals for agriculture under this Plan were to supply the population with basic food stuffs at reasonable prices, to supply the national industry with raw inputs, and to procure hard currency for the government through export. The main thrust of this Plan to reach these goals was the promotion of the cooperative movement in order to modernize the agricultural sector through mechanization, the use of fertilizers, the strengthening of the ties between the working classes and the farming population, and the transformation of the "feudal conscience" of the farmers into a "socialist conscience." Planned outlays to reach these objectives were 11.6 billion F.CFA (15% of the total planned

²¹"Programme Triennal de Développement de la République Populaire du Congo 1975-77." Numéro Spéciale du Bulletin de l'Afrique Noire. (Paris: EdiAfric La Documentation Africaine, 1975), Congo 4.

investments, see Appendix 1). Only 811,6 million F.CFA was realized at the end of the three year plan, just 7% of the originally planned amount. Almost all of this money was spent on the development of large state farms and plantations throughout the country, involving the production of food and cash crops as well as animal production. This plan had to be abandoned in 1976 because of severe liquidity problems of the Congolese Treasury due to heavy borrowing abroad based on overly optimistic revenues from the mining and oil sector which did not occur.

The strengthening of the national economy became again a guiding principle in the 1982-86 Five Year Plan. As President Sassou-NGuesso declared at the presentation of the Plan: "Although political independence is a necessity and an absolute prerequisite for all national development, it is not enough. A country that is economically weak will never be really independent."²² The principal difficulties for the development of the agricultural sector are described in this plan as:

- * Material production factors are still very rudimentary, especially in the traditional farming sector;
- * The extraction of agricultural surpluses leads to unequal socio-economic development between the rural areas and the cities.
- * The lack of an adequate institutional support system for the agricultural sector: the research and development system is only rudimentary, the training system lacks sufficient schools and offers education of unsatisfactory quality, and there is only an embryonal structure of agricultural extension.

²²"Le Plan Quinquennal de Développement Economique et Social du Congo (1982-1986)," in Les Plans de Développement des Pays d'Afrique Noire (Paris: EdiAfric La Documentation Africaine, 1986), 95.

The objectives of the 1982-86 plan for the rural sector were: the quantitative and qualitative satisfaction of food needs of the population; the satisfaction of the needs for animal proteins; the development of export crops (coffee, cocoa, and tobacco); the supply of the national agro-industries with inputs (maize, peanuts, oil palm, sugar cane); the reduction of underemployment in the country and of the disparity between rural and urban incomes. The planned investments in agriculture under the 1,109 billion five year plan amount to 73.4 billion (6.6% of the total investment budget). Of this amount, 11.7 billion was earmarked for the stimulation of the small farm production and for agricultural extension. Most of the money was again to be spent on the state sector, both for its economic recovery and for the establishment of new state farms and plantations. 65% of this plan was realized. The investments in the agricultural sector were not able to slow the decline in this sector: cultivated area diminished from 168,629 hectares in 1981 to 136,304 hectares in 1986, while agricultural production did not change very much (cassava production remained at the same level as in 1981, rice production decreased 21%).²³ As Prime Minister Pongui declared:

"The state enterprises, although the beneficiary of 90% of the financial resources allocated to the agricultural sector, have delivered counter-performances. At the end of the five year plan, the problem of opening up the agricultural sector remains in its entirety. This is the reason that the objective of food self-sufficiency by the

²³"Vie Politique: Congo: La Déclaration du Gouvernement sur le Bilan de Clôture du Premier Plan Quinquennal 1982-1986." Bulletin de l'Afrique Noire No. 1369 (25 juin 1987), 5.

year 2000 remains the top priority of the Party and the Government."²³

Organization of the Agricultural System

The administrative responsibility for agriculture at the governmental level has known numerous changes since Independence, being either a Ministry by itself or part of a larger Ministry that had responsibility for several aspects of rural development.

The organization chart given in Figure 9 refers to the situation of the first half of the 1980's, and has changed twice since 1985. The situation of the early eighties will be used in this paper since most data available about the projects refer to this period. The Ministry of Agriculture and Animal Husbandry (MAE) was divided in six departments: agriculture, animal husbandry, planning and studies, "animation rurale" and cooperative action, agricultural engineering and mechanization, and administration and finance. Each region had a regional directorate in which these six departments are represented, as well as sector chiefs in each district and PCA. The sections in the organization chart represent the field agents, who each are responsible for extension work in a number of villages making up one section (mostly 5 to 15 depending on the size of the villages).

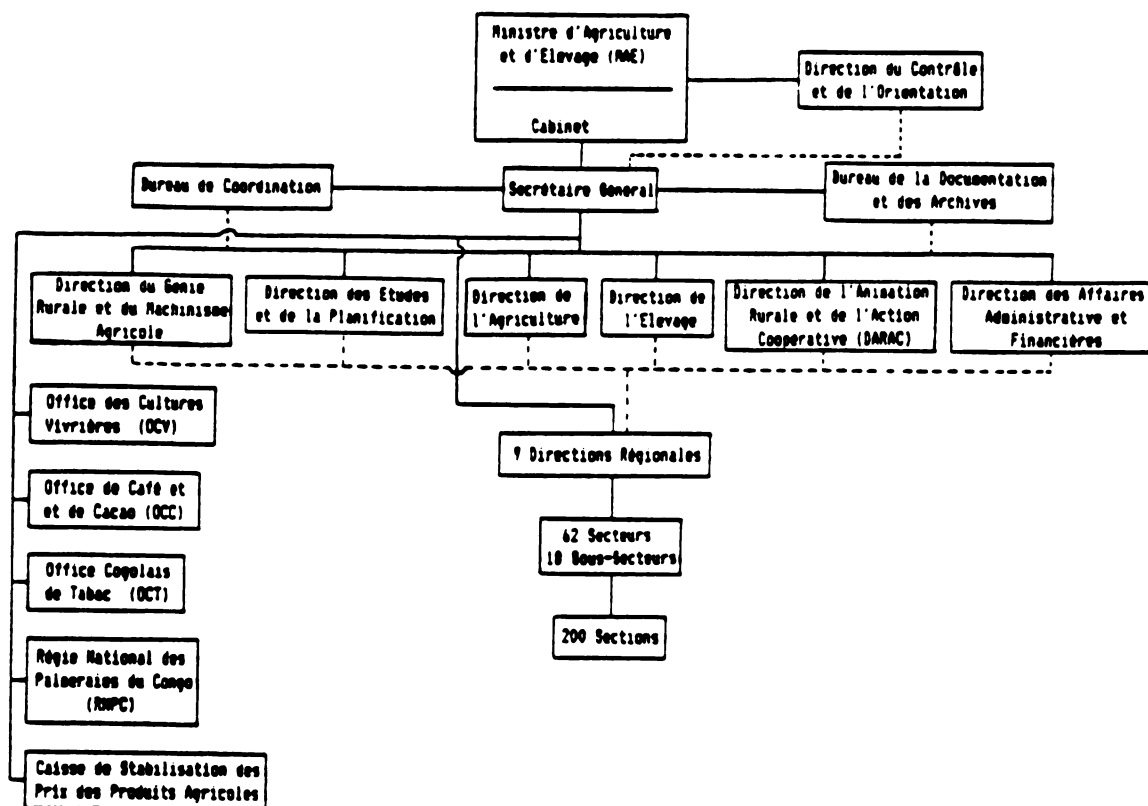
The various "Offices" (OCV, OCC, OCT, and RNPC) and the Caisse de Stabilisation are semi-autonomous agencies which are part of the Ministry; they are accountable to the Ministry for their actions but responsible for their own financing, planning and personnel policies (at least on paper). The role of the Offices is to promote their respective

crops (food crops, coffee and cocoa, tobacco, and oil palm), to provide technical assistance, inputs and extension services to the farmers, and to market the crops. As the MAE, the Offices also have regional directorates although only in those regions that are important for the crops they deal with. At the regional level, they are accountable to the regional director of the MAE. Each Office therefore employed its own extension personnel with representation at both the district and village level.

The role of the Caisse de Stabilisation is to guarantee the producers reasonable and stable prices for their products independent of the prices on the world market. It functions on the basis of compensation: when the world market prices are high, the traders and marketing boards pay a surcharge to the Caisse, which uses these reserves to subsidize the products when world market prices are low in order to keep producer prices stable.

Agricultural Development Policies

The government of the Congo has oriented its policies towards a self-centered economic system giving priority to the state sector. Agricultural development is considered the basis for the overall development of the country. The goal is to reach self-sufficiency in food by the year 2000, to produce sufficient raw inputs for the agro-industries, and to bring farm incomes at a level comparable to those in the non-agricultural sectors of the economy.



Source: Ministère d'Agriculture et d'Elevage, in Hung, op. cit., 203.

Figure 9: Organization chart of the Ministry of Agriculture and Animal Husbandry.

Agricultural land is not a scarce commodity in the Congo. It is estimated that eight to ten million hectares are potentially cultivable, with some estimates going as high as twenty million hectares. However, only 200 to 210,000 hectares are actually used for agricultural production, which is only about two percent of the available arable land

or 0.6% of the total land area of the Congo. Measured by the amount of cultivated land, the Pool region is the most important agricultural region, although most of the large state farms are located in the Bouenza and Niari. Table 10 gives a regional division of agricultural land, number of farms and average farm sizes.

The agricultural sector comprises three sub-sectors, i.e. the individual small farm sector, the cooperative sector, and the state farm sector. The small farmers are the most important producers of agricultural products, especially of food crops but also of the cash crops cocoa and coffee. Gakosso estimates the active population in the traditional agricultural sector at 410,000 persons (260,000 women and 150,000 men), who cultivate 68.5 percent of the used arable land.²⁴ There are approximately 130,000 small farms in the Congo with an average size of 1.3 hectare. Although the total contribution of the small farmers to agricultural production is high, yields are in general very low. No mechanization has taken place in this sector, and the hand tools used are very primitive, even in comparison with other African countries. The main tools used are the machete and the "daba," a short handled and short bladed knife used for weeding, planting and harvesting. A hoe is still a rarity in the rural areas of the Congo. Monetary revenue is small; estimates of Hung and FAO range from \$100 to

²⁴Gakosso, op. cit., 145.

Table 11: Cultivated agricultural land, number of farms and average farm sizes in the Congo.

Region	Cultivated Area (in hectares)	% of Total Land Area	Number of Farms	Average Farm Size (in hectares)
Kouilou	16,900	1.24	13,001	1.30
Niari	33,300	1.29	23,256	1.43
Lékoumou	13,800	0.7	10,452	1.32
Bouenza	27,090	2.2	18,012	1.50
Pool	44,250	1.3	34,698	1.28
Plateaux	20,600	0.5	15,088	1.37
Cuvette	20,000	0.3	16,726	1.20
Sangha	14,490	0.3	7,230	2.00
Likouala	6,310	0.1	5,022	1.26
Total	196,760	0.58	143,485	1.37

Source: P. Platon, op. cit., 1779; based on the results of the 1972-73 agricultural census.

\$150 per active agricultural worker.²⁵ Net revenue for an average farm was estimated at US\$ 600 in 1986.²⁶ The small farmers are also mainly subsistence producers, selling only small surpluses to buy clothes, medicine, and pay for their children's education (uniforms, insurance,

²⁵Hung, op. cit., 22-23; FAO Division of Human Resources, Institutions and Agricultural Reform, Organisation et Gestion des Services Agricoles et d'Approvisionnement des Petits Exploitants Ruraux dans les Pays Francophones d'Afrique: Etudes de Cas au Burkina Faso, Cameroun, République Populaire du Congo et Sénégal (Rome: FAO, 1985), 28.

²⁶Groupement BERETEC, SED & SEP/Développement, Agriculture: Mesures de Politique Economique, Rapport Principal. Brazzaville: Ministères du Développement Rural et du Plan et des Finances, 1988. This figure was compiled from various sources.

writing material etc). Cassignard's estimates of subsistence production range from 30% for maize to 72% for cassava in 1981.²⁷ The individual farmers are excluded from most agricultural services provided by the state, because of the importance the government gives to the cooperative sector. Another problem facing the small farmers is the unclear situation of land ownership. By law, all land belongs to the State, but in practice the access to land continues to be determined by the chiefs of the lineages.

The cooperative sector is of only minor importance for agricultural production, in spite of the importance the government accords this sector. There are about 800 cooperatives in the country, ranging in size from seven to 100 members. There are some 32,000 members nationwide. The cooperatives cultivate the land on a collective basis; they farm less than one percent of total cultivated land. Collective fields are rarely bigger than the average family farm plots, in spite of the higher labor availability.²⁸ They produce mainly crops that are very demanding in labor: potatoes (in the Plateaux region), rice (Pool

²⁷Y. Cassignard, Amélioration des Systèmes de Commercialisation en République Populaire du Congo (Rome: FAO, 1982), 20. Cassignard's figures include both auto-consumption and losses due to insects, rodents etc. It is this author's opinion that his figures are too low, especially for maize which was often completely lost due to insects, but also for beans. It is, however, difficult to separate home consumption and losses, since no statistics are available.

²⁸A survey in the Pool region in 1980 estimated the average cooperative farm size at 1.8 hectare, on which an average of 23 members worked 2 days per week. A. Matton & J. Chabasse, Rapport de Fin de Mission en République Populaire du Congo: Projet de Développement Rural du Pool et des Plateaux. (Brazzaville: Ministère de l'Équipement Rural et de l'Action Coopérative/ILO, 1985), 67.

and Lékoumou), and vegetables (around the cities of Brazzaville and Pointe Noire). A number of cooperatives in the Pool and Plateaux regions also engage in animal raising (pigs and poultry) and in fish-farming. Hung, citing figures of the Ministry of Rural Economy of 1977, put the cooperative production as being 79% for potatoes, 6% for rice, 31% for vegetables, and 30% for peanuts.²⁹ However, it is difficult to discern the exact contribution of the cooperatives to national production. The author observed in the Lékoumou region that farmers often regrouped individual production to sell it to OCV as "collectively produced" so they would receive the 6 F.CFA per kilogram premium paid to the cooperatives. Because the cooperative sector is considered to be the spearhead in the socialist development of the country and in the modernization efforts of the rural areas by the government, it is the main beneficiary of agricultural services such as extension, credit, special development programs, etc. In spite of this special treatment over the last 19 years, almost no progress has been made in making this sector an economically viable and socio-culturally acceptable alternative for farmers.

The state sector comprises a number of large, all mechanized farms, ranging in size from a few hundred to over 10,000 hectares. The state sector occupies 29% of the cultivated area, of which almost two-thirds is used by the national sugar company SUCO to grow sugarcane. The main commodities produced by the state farms are cash crops and meat: sugarcane, palm oil and kernels, beef, pork and chickens, maize (for animal feeds), and fruits and vegetables. An overview of the

²⁹Hung, op. cit., 98.

contribution of the different sectors to national agricultural production is given in Table 12. The production of the cooperative sector, which is rather small, is counted with that of the small farm sector.

Table 12: Agricultural production by sector in 1981.

Crop	State Farm Sector			Small Farm Sector		
	Area (hectares)	Production (metric tons)	Yield (T/ha)	Area (hectares)	Production (metric tons)	Yield (T/ha)
Cassava	1,021	10,892	10.6	94,054	648,750	6.9
Maize	2,281	3,185	1.4	9,518	7,377	0.8
Peanuts	-	-	-	19,470	14,404	0.7
Rice	1,816	1,838	1.0	1,182	1,001	0.9
Beans	-	-	-	3,776	1,351	0.4
Plantains	-	-	-	7,607	57,726	7.6
Bananas	-	-	-	2,910	30,662	10.5
Potatoes	-	-	-	207	1,816	8.8
Vegetables	-	100*	-	6,339	38,039	6.0
Yams, sweet potato	-	-	-	1,377	6,880	5.0
Fruit	111	444	4.0	8,255	41,274	5.0
Coffee	-	-	-	3,355	967	0.3
Cocoa	-	-	-	7,787	1,900	0.2
Oil palm	4,374	2,712	.6	-	-	-
Tobacco	-	-	-	1,403	421	0.3

*The Atlas Jeune Afrique: République Populaire du Congo put the annual production of the state farm at Kombé at 100 tons in the mid seventies. This is the only vegetable producing state farm and it is run with Chinese help.

Source: L'Economie Congolaise (First Edition). Paris: Ediafric/La Documentation Africaine, 1983, 42.

All state farms are money losing operations. Realizations of planned financial returns were only 53%, with expenses outweighing

revenues by an average of 186% for all the farms.³⁰ Atipo and Lemaire give the following reasons for the poor performance of the state farms:

1. Lack of financial resources which leads to frequent ruptures in the stocks of needed inputs (seeds, fertilizer, fuel , etc) and the inability to buy needed spare parts and maintain tractors, machineries and transport equipment. These factors often lead to delays in the execution of farm operations thereby reducing the yields.
2. The production costs are very high, since all inputs (except seeds) and machinery are imported. Prices are double of those in Europe and are also subject to a 15% annual inflation rate.
3. A heavy burden is placed on the farm budgets by an overabundance of personnel; salaries alone make up between 44 and 87% of total production costs (this percentage depends on the farm).
4. Yields are low due to varieties with low production potential and to adverse climatic conditions. The climate imposes very short working periods for some operations (land preparation, harvesting) which necessitates an over-equipment to execute all operations in time during peak periods.
5. The government imposes product prices which are too low and are fixed without taking production costs or market forces into account. Price increases do not follow the 15% inflation rate.
6. The state farms do not have their own capital, which aggravates the lack of good financial and economic management.
7. There is no clear government policy for the state farms, which are left on their own without any guidance. They receive heavy subsidies from the government to make up for the losses incurred, but the subsidies are often accorded without any ex ante studies on their necessity or on how best to use them.³¹

³⁰Daniel Atipo, "La Politique de Développement de l'Élevage au Congo," in Maxime Haubert et al., eds, Politiques Alimentaires et Structures Sociales en Afrique Noire (Paris: Presses Universitaires de France, 1985).

³¹Atipo, op. cit., 225-256; A. Lemaire, "Technique culturales Motorisées dans la Vallée du Niari en République Populaire du Congo (Soja, Arachide, Maïs, Riz)" Machinisme Agricole Tropical No. 83 (juillet-septembre 1983), 35-55.

The state farms have not been able to contribute much to the increasing demand for food in the ever growing cities. Although total agricultural production has been rising, production per capita is decreasing at an increasing rate: -0.5% between 1961-70, -0.3% between 1971-80, and -2.5% between 1981-85. In the latter period, total agricultural production rose only 0.1% per year, while food imports rose 19% a year in the same period.³² It is clear from these figures that the slogan "Agriculture is the priority of priorities," used by the Party and the government needs more attention than only words to attain the goal of food self-sufficiency by the year 2000 in view of the present performance of the agricultural sector.

Prices, Price Policies and Marketing

There are three main marketing channels in the Congo: the state marketing boards, the parallel market of "controlled" products, and a free market for all other products.

The state marketing channel is represented by five organizations: the Office des Cultures Vivrières (OCV) which is responsible for the marketing of food crops; the Office de Café et de Cacao (OCC) responsible for marketing the country's coffee and cocoa crops; the Office Congolais du Tabac (OCT) for tobacco; the Office Congolais du Bois responsible for the marketing of timber and wood products; and the Régie Nationale des Palmeraies du Congo which markets the Congo's oil

³²FAO Economic and Social Policy Department, 1987 Country Tables: Basic Data on the Agricultural Sector (Rome: FAO, 1987).

palm products. Both OCV and OCC were created at the end of the seventies, after the government dissolved the ONCPA because this latter organization was not able to fulfill its assigned marketing role as the government expected it to do. The marketing boards have the statutory authority to buy and sell agricultural and/or forestry products within their group of crops. They have a monopoly for this group of crops: the boards are the only organizations allowed to buy these products at the farms (both state, cooperative and small farms) and sell these products at the local and world markets, and to the agro-industries within the country.

The OCV has limited its marketing activities to those crops that have a relatively short marketing season (peanuts, maize, rice, beans and potatoes). The Office has stayed clear of engaging in the marketing of crops that are harvested year-round such as cassava and bananas, which would require much better management and infrastructure to execute successfully.

Although by law some agricultural products can only be traded by the state monopolies, in practice there exists a lively parallel market for a number of these products. Farmers often prefer to use this channel for the marketing of their products if they can move their produce faster, if it is paid cash, and if they can receive a higher price. Fromageot estimates the volume of products marketed via this channel at between 20 to 40% of total production, depending on the crop involved, time of the year and the region.³³ This "illegal" trade involves mostly

³³M. Fromageot, Prix et Politiques des Prix des Produits Vivriers en République Populaire du Congo. Technical Report, Project UTF/PRC/004/PRC. (Brazzaville: SEP-Développement/FAO, 1983), 12.

beans, peanuts and maize; it involves both the interior markets of the country (beans, maize and peanuts) and the import-export markets, especially along the borders with Zaïre and Gabon for peanuts and maize.

Non-controlled products can be sold freely on the country's markets. These products involve the main staple crops of the Congo (cassava and bananas) and a number of smaller crops (vegetables, fruits, meat, wet peanuts, etc).

Similarly, there also exist various pricing systems in the country depending on the marketing channel and the products involved. For the monopolized products the prices are fixed yearly by ministerial decree, signed jointly by the Ministers of Agriculture and Commerce. The price level is based on studies by the marketing boards on projected volumes and expected costs of collection; the studies use various scenarios based on the farm gate prices of the previous year and several levels of price increases (usually +5%, +10%, +12%). The Minister of Agriculture, after reviewing the studies, then determines the price for the coming year. Three prices are set: the farm gate price and the wholesale and retail selling prices. The latter two prices are, however, always identical except for rice. The margins that are thus set by the Ministry are too low for the OCV to profitably market the crops it is assigned. Cassignard, in his study of the food marketing system in the Congo, found that the OCV was losing money on all but the A quality potatoes in the 1980-81 campaign. Losses varied from 4.5 to 35 F.CFA per kilogram depending on the product. In addition, these losses did not include the

amortization of transport equipment, estimated at 20 F.CFA/kilogram. Including these amortization costs would have meant that the Office would lose money on all the crops.³⁴

A slightly modified version of this system is used for the cash crops. The Ministry determines the farm gate prices, but selling prices are subject to the fluctuations on the world markets.³⁵ The Caisse de Stabilisation tries to even out these fluctuations to keep the farm gate prices for the cash crops at a fixed level. The margins for the cash crops were much higher than those for food crops. Hung cited OCC statistics that put OCC margins for the 1978-79 season at 43.6% of the world market price for coffee and at 46.4% for cocoa.³⁶ However, the OCC apparently did not figure all the costs it incurred (such as the free coffee seedlings distributed to the farmers, free yearly pesticide applications provided to the small coffee growers, and the costs of the processing of the coffee) in its calculations of those margins. No data are available on these costs and how they would have affected OCC profit margins.

The prices on the parallel and free markets follow the laws of demand and supply. However, there exists an official market price list which determines retail prices. This list is fixed by the district

³⁴Yves Cassignard, Amélioration des Systèmes de Commercialisation en République Populaire du Congo. Technical Report, Project UTF/PRC/004/PRC. (Rome: FAO, 1982), 25.

³⁵Retail prices are set for some of the cash crops which are sold on the local markets, such as coffee and palm oil. However, the quantities involved are small.

³⁶Hung, op. cit., 118 and 122.

and/or municipal authorities and is updated yearly. However, these lists do not exist in all localities, and when they do exist they are often not observed or enforced. In many towns only the prices of the main staple foods are set and enforced (cassava, bread, and meat).

The Congolese government attached very much value to the use of price controls for stimulating agricultural production and for keeping urban living costs at a reasonable level. However, for the farmers it is not only the price that counts but also production costs and how soon after harvest he can market his crops. As Fromageot stated:

"One would be wrong to expect price fixing to be a wonder remedy for the situation of the food sector of the Congo. It is not enough to increase the farm gate prices to stimulate production: farmers will increase their production not only on the basis of a remunerative price, but above all if assured of a rapid sale after harvest that is paid cash. What counts for the farmer is to effectively receive the official price."³⁷

Cassignard and Fromageot made the following comments on the government's price policies in their studies of marketing, prices and price policies in the Congo:

- The official farm gate prices for OCV products are found to be low, although they have increased more than consumer prices for these products (prices increased in 1979, and every year between 1981 and 1985; see Appendix 2). The unequal price increases have led to lower margins for OCV.
- Farmers found prices for peanuts and beans acceptable, but those for maize (which the government actively promoted) and rice (which involves a lot of work) were considered too low.
- No competition was found between the prices for food and cash crops that would favor production of either one these. Cash crop prices

³⁷Fromageot, op. cit. 17.

were in general much higher per weight unit, but these crops demand much more labor to produce.

- The import prices of some agricultural products were lower than locally grown products, undercutting the profitable production of these products by the Congolese farmers.
- The prices are fixed without taking the inflation rate and actual incurred collection and transportation costs into account.
- There are large differences between the officially fixed prices and the real market prices.
- Price controls are inefficient or non-existent.
- The prices fixed for agricultural products by the Ministry are uniform throughout the country, without taking differences in collection transportation and distribution costs in the various regions into account.³⁸

The main obstacles in the marketing system were identified as 1) the lack of management, organization and infrastructure necessary for the collection, storage, conservation and distribution of agricultural products, and 2) the bad state of the national road network, the absence or inaccessibility of rural roads especially during the rainy season, and the inadequacy of transport equipment. The farmers consider the marketing system as it exists to be the main stumbling block for increasing agricultural production.

Agricultural Research

Agricultural research is not the responsibility of the Ministry of Agriculture. Scientific research was placed within the Ministry of Culture and Arts, and since 1987 is part of the Ministry of Scientific

³⁸Cassignard, op. cit., and Fromageot, op. cit.

Research and Environment. Research related to agriculture is carried out by several institutions: the ORSTOM center and the Veterinary Science Laboratory, both located in Brazzaville, the national agronomic research center (CRAL) and the fruit tree research center (STAFRUIT) both located in Loudima, in the center of the main agricultural zone of the country; and by the university within its Rural Development Institute.

ORSTOM employs 52 researchers of which 20 are expatriates. Its research focuses on local problems of hydrology, pedology, agriculture, botany, philology and social sciences. The agricultural research carried out is of a fundamental nature and not directly applicable to the farmers.

Applied and adaptive research is done by "Centre des Recherches Agronomiques de Loudima" (CRAL). The CRAL has 11 researchers of whom one is French. The Center, which was closed for 12 years, was reopened with help and funding of the FAC (Fonds d'Aide et de Coopération) in 1975. The research in CRAL is directed mainly at the large mechanized farms of the Niari region; very little research is carried out on traditional farming techniques or on varietal and technology development for the small farmers who also cultivate mostly under agro-ecological conditions that are different than those found at the station. Research programs of CRAL focus on maize (disease and insect resistance, high yielding varieties), cassava (selection programs on yields, disease resistance/tolerance, ecological adaptability), upland rice (phytotechnical problems and adaptability), peanuts (yields), soybeans (adaptability), fertilization and mechanization. No research is undertaken on storage and post-harvest conservation of crops. A soil

analysis laboratory was being put in place in 1984 as well as a cold room for seed storage. No research was carried out outside the station (i.e. multi-locational adaptive research and research in farmers' fields) because of lack of transportation. Funding was also too low to carry out all research programs. According to Fromageot, CRAL's budget allocation in 1983 amounted to nine million F.CFA (US\$ 24,377), only ten percent of the amount needed for its activities.³⁹ No effective dissemination of research results took place either because CRAL lacked the funds to print and publish reports. Links between research, extension and farmers have been on an ad-hoc basis via visits of personnel of various development projects. The absence of research results has a negative bearing on agricultural development and is one of the causes of the stagnation of the agricultural sector, both in the traditional small farm sector and in the mechanized state farms.

Agricultural Credit

There are three institutions which provide credit to the farmers. The *Projet de Développement Rural* (PDR, which will be described in the next Chapter) has created a credit system for the cooperatives in the Pool and Plateaux regions. It accords credit mainly for stock raising activities (poultry and pigs), with credit guarantees given by the Union of Cooperatives.

The *Caisse Nationale de Crédit Agricole* (CNCA) was created in 1981 with the objective to support the cooperatives and agricultural

³⁹M. Fromageot, *op. cit.*, 16.

extension. The CNCA provides interest free loans to the cooperatives for land preparation and crop cultivation. The loans have to be paid back in two years. The Caisse does have some representations in different regions, but they do not have the personnel and the means to follow up on loans and check on their repayments. The guarantees needed to obtain the loans are such that individual farmers not eligible for credit.

The third agency is the Banque Nationale de Développement du Congo (BNDC). Because of its rigid credit policies that are not adapted to the farmers' situation, the BNDC's interventions in the agricultural sector are very limited and directly primarily to the cooperatives.

The absence or inaccessibility of credit for the small individual farmers, although they are the main producers of agricultural products, is a major obstacle to increasing agricultural production. Farm incomes are too small and the expenses for children education, health care and clothing too high to permit any savings for productive investments. Without credit, however, improved tools and inputs such as fertilizers and pesticides are not affordable to the farmers, who continue to use their rather primitive tools and methods unattractive to the younger generations.

Agricultural Extension

The Congo officially has a Ministry of Agriculture type extension service. Since the early 1980's a number of changes have been made in this system that made it more diffused (and confused for the farmers). The specialized crop agencies established in 1979 (OCV, OCC and OCT)

were given the responsibility for extension related to the production of their respective group of crops. The Ministry itself continued to provide services in the area of agricultural engineering, cooperative action and agricultural credit. However, the number of agents in the field of all these organizations has been very small. An FAO case study stated that the number of agents in the Pool region employed by the Ministry was 140, covering 35,000 farms, but that actually only 14 agents were in direct contact with the farmers.⁴⁰ Most extension work in the rural areas is done by development projects or special centers created in the rural areas. The PDR project carries out farmer training in its training center in Boko (see section on agricultural education) and also does extension work. Its actions are concentrated mainly on the organization and management of cooperatives in the Pool and the Plateaux Koukouya; agricultural and animal production and credit are of secondary importance.

The Centre de Vulgarisation des Techniques Agricoles (CVTA) operates around Kombé in the Pool region. It gives assistance to 240 farmers (members of 15 cooperatives) in the production maize and rice. It also supplies the necessary inputs (seeds, fertilizer, and phytosanitary products). The Centre d'Appui Technique (CAT) carries out training and provides information to market gardeners in and around Brazzaville.

The Radio Rurale, which is attached to the Department of Rural Animation and Cooperative Action of the Ministry provides the rural communities with information on literacy training, nutrition, child

⁴⁰FAO, Organisation et Gestion des Services Agricoles, 31.

rearing, and agriculture via its daily broadcasts. Mobile field teams (part of a German financed project) provided training and support to village "animateurs" in the Lékoumou and Cuvette regions; the "animateurs" organized listening groups for the radio programs and trained fellow villagers using the programs as background material.

This dispersion of extension efforts has serious drawbacks, not the least of which is the lack of coordination of the various organizations. There is also very little complementarity between the actions of the different agencies, who often act as adversaries instead of working together for the benefit of the farmers and the development of the rural areas in general. The extension services also concentrate their efforts on the cooperative movement, neglecting 90% of the farmers who are not members of a cooperative. Because of the socialist orientation of the Congolese government, this is a conscious effort to promote collective forms of agricultural production and it will be difficult to change this policy.

CHAPTER V
DESCRIPTION AND ANALYSIS OF THE PROJECTS

Introduction

In this chapter, a description of the four projects will be given as outlined in objective one, i.e. the extent to which the following variables have contributed to the projects' effectiveness and impact: focus, function, organizational structure and internal linkages, external linkages, planning, means to achieve the objectives, participation of the target population, source and choice of technologies, extension methods used, and achievements of the projects.¹ The impact of the projects on food production will be dealt with in a separate section at the end of the chapter, since it will be easier to compare the effect of each project in a comprehensive table listing the production statistics per region as far as these were available.

Also, rather than making extensive use of footnotes, only direct quotations and figures taken from particular reports or other sources will be footnoted. A listing of data sources used for each project will be given in the bibliography.

¹There are five projects included in this study, but the two USAID/CARE projects are so similar that they will be described as if they were one. However, significant differences between the two projects will be pointed out to the reader.

The "Projet de Développement Rural du Pool et des Plateaux" (PDR).

The Creation of the PDR

The PDR emerged from the remnants of the Action de Renovation Rurale (ARR) movement. The government asked the UNDP for assistance to support the ARR in 1967, two years after the inception of the movement. A year later, a project for rural renovation in the Niari valley was agreed upon between the government and the UNDP, which was to be executed by the International Labor Organization (ILO). The project activities focused on:

- The training of rural artisans and the establishment of small cooperative mechanics and carpentry workshops;
- The establishment of a service garage for the maintenance and repair of vehicles, tractors and machinery used by the large farms of the region; and
- rural animation and agricultural extension.

A joint UNDP/ILO mission evaluated the project in early 1970 and recommended several new directions of action, the main change being the choice of a new project site. Other missions were also carried out at the end of the 1960's by the UNDP, FAO and ILO to study the problems of agricultural and rural development in the country. Many of the recommendations of all these missions were incorporated in the proposal for a new project, entitled "Projet de Développement Rural du Pool" (PDR). The project document for the PDR was signed in September 1970, and the project entered its implementation phase a month later.

The Pool region was chosen as the project area because of its large population, its importance as a supplier of food and fuel wood for Brazzaville, and the strong solidarity, community life and organization of the people. Forty percent of the adult population was already (or had been) a member of an association for collective work before the project even started. Examples of such associations are the Dibundu, Luyalu, and Kitemo. The Dibundu's had a religious base; their objective was to provide income for the church through cultivation of fields (in 55% of the associations) or construction of houses, churches, schools (33% of the associations). The Luyalu was organized on a similar basis, but the work was carried out for the Party. The Kitemo is organized for financial reasons: a group of people put a certain agreed upon amount of money together every month, which was then distributed to each member in turn. The association existed until everybody had his turn in receiving the collected money.

The failure of the ARR cooperatives and collective villages was, therefore, not due to the fact that people were unwilling or unable to work together in groups. Rather, the failure can be attributed to bypassing traditional structures and laws regarding access to land, and to the absence of consultation and involvement of the traditional farm communities regarding the establishment of cooperatives of young people. Also, a certain amount of resentment with cooperatives still existed with especially the older population because of forced "participation" in cooperatives societies during the colonial times. Thus, cooperatives and collective work structures were not new inventions of the government.

The Goals and Objectives of the PDR

The project's implementation can be divided in four phases, roughly covering the following time periods: 1970 to 1974, 1975 to 1979, 1980 to 1983, and 1984 to present. The goals of the PDR have remained basically the same since the conception of the project in 1970, but the objectives and activities of the project have been adjusted in each phase to fit the changing conditions, the progress made by the project and the different needs of the farm communities.

The first progress report of the project stated the goals of the PDR in its first phase as follows:

To help the government of the People's Republic of the Congo to:

- a. Improve the living conditions and the level of living of the rural population;
- b. Increase agricultural, livestock and fish production;
- c. Establish appropriate institutions necessary for rural development; and
- d. Contribute to an increase in rural employment opportunities.²

The outputs expected to be accomplished during this phase were given as 1) an increase in the production of rice, tobacco, maize and sorghum, and 2) the development of fish farming and livestock production (pigs, poultry, goats, and sheep). It was expected that at its

²ILO, Projet de Développement Rural dans la Région du Pool, Travaux Accomplis dans le Domaine des Constructions, de la Formation des Cadres Ruraux et de la Diffusion des Techniques Agricoles (Rapport Technique No. 1). (Geneva: ILO, Juin 1971), 1-2.

termination in 1973 one hundred million F.CFA³ additional revenue would be generated from increased outputs from these crops and distributed to the beneficiaries of the project. The report stated that other activities and crops could be added when necessary or demanded by the farmers. The increased agricultural production was to be accomplished within an appropriate institutional framework to be developed by the project. This institutional development not only concerned the creation of yet another government bureaucracy working in the rural areas, but above all the organization of the farmers. Because of the scientific socialist orientation of the government, and the government's wish to organize agricultural production on a collective basis, the project chose to support cooperatives in the villages and unions of cooperatives at the district and regional levels.

The project's primary location was in Kinkala, with secondary centers in Kindamba and Boko. The project served the four western districts of the Pool. A branch of the project was also installed on the plateau Koukouya in the district of Lékana (Plateaux region) (see Figure 10.A). Besides institutional development and training activities, the project was also charged with the management of a number of state farms, namely those in Kinkala, Mitada, Mankoussou, Moulenda, Mindouli and Vinza. The project used these farms as training and research centers for its agricultural and livestock extension activities.

³The CFA franc is a widely used currency in the former French colonies. The currency is tied to the French franc at a fixed exchange rate of 50 F.CFA for 1 FF. In 1973, one hundred million F.CFA was approximately 400,000 US\$.

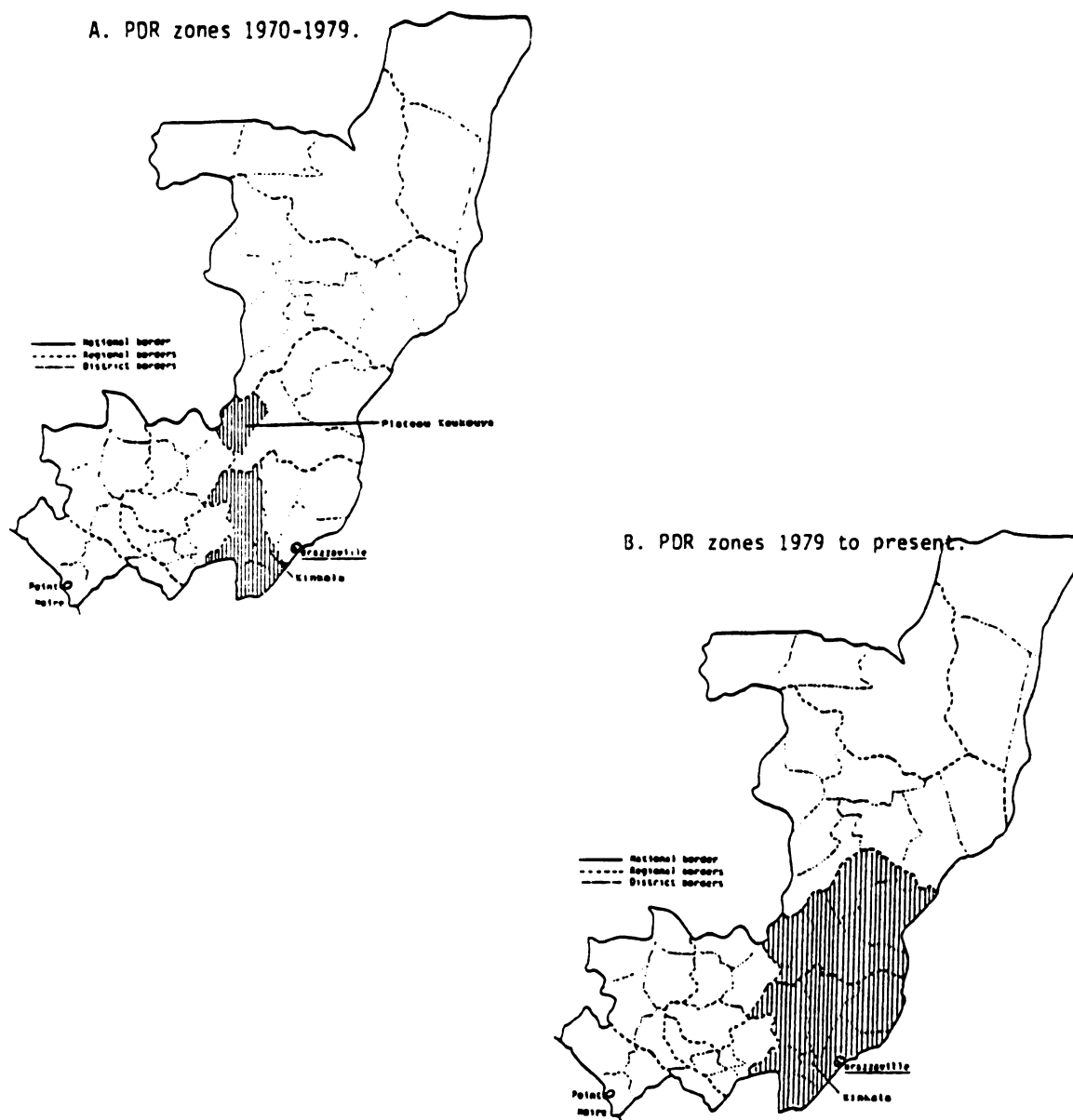


Figure 10: Location of the PDR project during the first two phases from 1970 to 1979 (A) and present project zone since the start of the third phase in 1980 (B).

Preliminary studies of the project zone showed that the agricultural sector remained stagnant in the Pool, despite several agricultural projects operating in the region. The principle obstacles to increasing agricultural production were found to be: the lack of motivation of the farmers because of deficient marketing structures, and the lack of training and extension. To ameliorate this situation, the PDR concentrated on a small number of simple, concrete, and practical activities:

- Training of rural development staff, extension agents and leader farmers.
- The diffusion of new agricultural technologies and the distribution of seeds, livestock (day-old chicks, piglets etc), and tools.
- The improvement of marketing structures and the installation of buying and selling points in so-called Groupements Pré-Coopératives (GPC's).
- The improvement of existing and the creation of new infrastructure in the project zone (roads, buildings such as offices and training centers etc).

The first phase of the project was extended to 1974, when it was followed by a second phase from 1974 to 1976 to coincide with the first UNDP country program period which covered the years 1972-76. This second phase was prolonged to 1979. The second phase was characterized by numerous difficulties related to economic decline in the country due to falling oil revenues, and financial problems of UNDP. The number of expatriates was reduced to 2-3 experts and two associate experts during this period. However, Congolese staff was maintained at the same level,

and, in spite of the country's financial difficulties, the government honored its financial commitments to the project.

The goals and objectives for this second phase remained the same as those specified in the original project document. The PDR concentrated on strengthening existing GPC's and on increasing their number within the existing project area through training and extension and the creation of support services and institutions (a revolving fund for credit established in 1974, a cooperative feed factory created in 1977, a Consultative Committee for Coordination which first met in October 1977, and a veterinary pharmacy).⁴ Links were also established with various national and international organizations to support the project.

An extensive project evaluation by members of the Institut de Développement Rural, UNDP, ILO and the government, as well as recommendations from the second Consultative Committee meeting and the second congress of the Congolese Workers Party led to a re-definition of PDR objectives and the recommendation to extend its activities to include all districts of the Pool and Plateaux regions (see Figure 10.B). The principal objectives for the third phase of the project were specified as follows by Matton and Chabasse:

- To elaborate an integrated rural development scheme which could serve as a planning tool to determine the needs of the population and the resources necessary for rural

⁴The Consultative Committee for Coordination was created in 1977. It is a discussion forum that brings together representatives of the GPC's, Unions of GPC's, PDR, regional authorities and various other rural development projects and organizations to discuss rural development policy, priorities for action and the means necessary to reach specified objectives.

development which could be applied to the other regions of the country in a later stage.

- To strengthen existing institutions and technical, social and economic structures to provide for a sustainable future at the end of external assistance to the project.
- To improve rural living conditions and the level of living of the rural populations by increasing and diversifying agricultural and livestock production, and by the creation of employment in the rural areas especially for young people.
- To contribute to the overall development of the agricultural sector in collaboration with the newly created agencies for marketing and production of various crops (the Office des Cultures Vivrières OCV handling food crops, Office du Café et du Cacao OCC for coffee and cocoa, Office Congolaise du Tabac OCT to stimulate tobacco production).⁵

The accent of the PDR activities in this third phase was placed on the improvement of management and accounting skills of junior and senior staff, the extension agents, staff of the feed factory UPAB and the Agricultural Credit Fund, and the leadership of the GPC's and Unions of GPC's. The activities in the Plateaux region concentrated on improving the technical skills of the extension agents which were perceived very weak, assistance to OCV's marketing operations in the region, and on putting in place a system of programming and follow-up for the investments in the GPC's by the credit fund. The third meeting of the CCC held in February 1980 also recommended putting an absolute priority on increasing rural revenues by increasing agricultural and livestock production, because the gap between urban and rural revenues continued

⁵A. Matton & J. Chabasse, Rapport de Fin de Mission en République Populaire du Congo: Projet de Développement Rural du Pool et des Plateaux. (Brazzaville: Ministère de l'Équipement Rural et de l'Action Coopérative et B.I.T., juin 1985), 30.

to increase and rural to urban migration reached alarming proportions.⁶ The third phase' activities are geared essentially to increasing and/or improving agricultural production, marketing and management.

A tri-partite evaluation mission of the government, UNDP and ILO in 1983 found that the revenues had substantially increased in the rural areas; the mission stated the project's major accomplishment to be the results obtained in the area of increasing awareness-participation-action of the farm population in the Pool and Plateaux regions, although the results in Plateaux were less spectacular than those in Pool. The mission therefore recommended that a fourth and final phase of the project concentrate on the organization of agricultural and rural development by:

- continuing and reinforcing the actions in the area of management, marketing and production started in the third phase, taking into account the difficulties and constraints of the marketing of agricultural products especially of food crops.
- paying more attention to the original goal for integrated rural development specified in the first project document, that is improving rural living conditions.
- developing a better integration with the Ministry of Agriculture and Livestock which "cannot solve all the problems by itself in spite of its efforts."
- proposing that the regional PDR directors also become the directors of the regional GPC Unions to assure continuity and to assure that the services provided will benefit of the small farmers.⁷

⁶Matton & Chabasse estimate the annual exodus from the Plateaux region to Brazzaville at between 1,800 and 2,000 people. Matton & Chabasse, op. cit., 16.

⁷Matton and Chabasse, op. cit., 33-35.

Because the large amount of money necessary to carry out the investments in social and economic infrastructure in the GPC's during this final phase and in view of the limited autonomous means the PDR possessed, the evaluation mission encouraged the PDR leadership to search for other funding sources (IBRD, IFAD, African Development Bank,...). It was also recommended that the project extend its activities to the Cuvette region. The objectives for this final phase were specified by the mission as follows:

- To strengthen the PDR with national experts recruited from the national project staff and from various Ministries.
- To give special attention to field personnel (training, technical support, incentives, work and transport equipment).
- To recruit an agro-economist as soon as possible, who is experienced in financing cooperative activities and agricultural credit.

Function of the PDR

The PDR is a very complex project integrating social, political, cultural and economic objectives. Because of this wide mandate, the project carries out a multitude of activities and services in the rural areas of the Pool and Plateaux regions. From the start of the project in 1970, institutional development has been a major focal point. The creation of and the support to the GPC's, zonal, district and regional unions of GPC's, and the Committee for Consultation and Coordination have been the most important part of PDR's operational plans and activities. These institutions were to provide both sustainability and

continuity to the project and its activities, especially for the future once outside assistance and funding is discontinued.

The project's function has therefore been wide ranging, and has included service, informational and educational tasks in a number of subject areas: agricultural and livestock production, crafts and trades (mechanics, construction, carpentry, tailoring, etc), fish farming, home economics, basic health education, literacy, farm mechanization and rural engineering.

The main service tasks of the PDR are:

- *The marketing and transportation of farmers' produce and the provision of inputs;
- *The establishment of a revolving fund in 1974, which was turned into an agricultural credit fund in 1980 (Crédit Agricole). It is entirely managed by the PDR but the fund receives money from several external sources (both national and international) for working capital.
- *The Unité de Production des Aliments de Bétail in Kinkala, a cooperatively owned and operated animal feeds factory which supplies both GPC and individual livestock producers.
- *The establishment of a veterinary pharmacy, located also in Kinkala.

For its educational task, the PDR has been providing training to junior and senior staff, field agents, farmers, primary school teachers, and health and social workers. Since its beginning, many people have benefitted from the training given by PDR. Training is given in various forms, such as seminars, study days, short courses, extension and rural animation depending on the topic. Initially, the training was given on the project run state farms, training centers or in local schools, but since 1982 farmers training sessions have increasingly taken place in the villages themselves.

The PDR's informational task has been both one of gathering information as well as disseminating information. The project has supported numerous studies of the Pool and Plateaux regions, as well as stimulated other research and the writing of many articles and documents about the cooperative movement and the functioning of the project, both by Congolese and expatriate scientists and students. The project publishes a journal (N'SEENGO) to support the literacy activities it carries out. However, the publication is not very regular because of lack of finances and personnel.

No data are available in the reports and articles the author used on whether the PDR publishes other informational materials, such as technical bulletins, training manuals, brochures etc. for the farmers and extension field agents.

Organizational Structure and Internal Linkages

It is difficult to draw an organizational chart of the PDR. The various documents do not give one, and, in addition, the structure of the project has changed several times reflecting the evolution of the project and the progress made. Also, changes in the governmental structure at the ministerial level have placed the PDR under the responsibility of different ministries three times since the beginning of the project. From 1970 to 1978, the PDR was placed under the tutelage of the Department of Rural Animation and Cooperative Action in the Ministry of Rural Economy. In 1978, this Ministry was disbanded and the Rural Animation Department was placed within the newly created Ministry

of Agriculture and Animal Husbandry (MAE). This department became a new Ministry of Rural Equipment and Cooperative Action in 1985 in a government reorganization aimed at the strengthening of rural development activities. But, because of declining oil revenues and worsening economic conditions, the government was forced to consolidate its structure and lay off many employees; in 1987, all ministries working in the areas of rural and agricultural development were therefore concentrated in one ministry, the Ministry of Rural Development.

The project has always sought to integrate itself within the existing administrative structures of the regions in which it was active. It was not the project's intention to create new structures that could not be sustained after termination of external assistance. During the first two phases of the project, the regional director of MAE in the Pool also assumed the co-directorship of the PDR project. The field extension agents of MAE and other technical services in the project zone were placed under the authority of the PDR co-director to coordinate and facilitate their activities. The different PDR activities (training, agricultural extension, crafts and trades, home economics and women affairs, literacy, fish farming, livestock and plant production) were headed by Congolese "chefs de service," who were the counterparts of the nine UN experts assigned to the project.

With the extension of the project during the third phase to include all districts of the Pool and Plateaux regions, the PDR decentralized its services. The chart given in Figure 11 based on the author's perception of the organizational structure of the PDR at

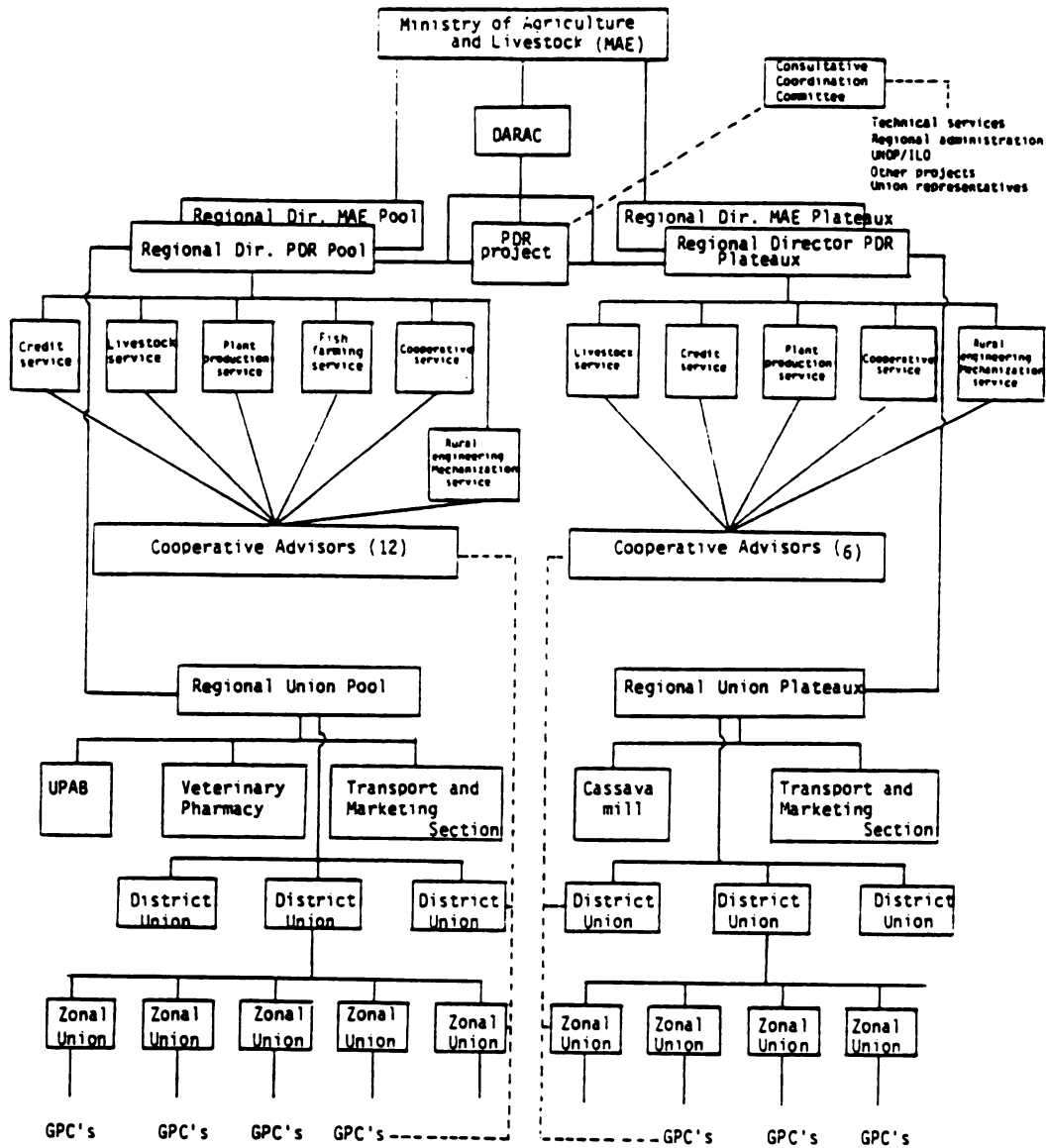


Figure 11: Organizational structure of the PDR since 1983.

present as described in the different reports. The project set up similar structures in each region, headed by a regional PDR director who assumed the posts of regional directors of MAE also. The technical services were reduced during this phase because the home economics and women affairs service was moved to another ministry (social affairs), while the literacy service within PDR was eliminated as a separate entity. However, the PDR still has small sections to coordinate its activities for women in the GPC's and Unions with the Ministry of Social Affairs field personnel. Also, the PDR still provides training and support to the literacy "animateurs" in the villages, who are unpaid volunteers. There are six technical services in the Pool (cooperation, credit, plant production, livestock, fish farming, and rural engineering and mechanization) and five in the Plateaux region (the same as in Pool except none for fish farming). Each technical service is headed by a chef de service.

On the district level, the PDR has extension agents, called Conseiller Coopératif (Cooperative Advisor), who assist the GPC's and the zonal and district unions. Agricultural extension continues to be done by agents of the various state agencies (OCV, OCC, OCT) and ministerial field personnel (for health, home economics and social affairs). The PDR coordinates their activities in the two project regions and provides training for these agents. There are one to three Cooperative Advisors in each district, depending on the number of GPC's. Matton and Chabasse proposed in their final mission report that the government also appoint a rural development engineer (B.S. or M.S. level graduates of the Institut de Développement Rural in agronomy, rural

economics, rural engineering etc) to each district to further decentralize and strengthen its services and make them easier accessible for the farmers.⁸

A small "national" team composed of four national UN experts coordinates all PDR activities in the Pool and Plateaux regions, and supervises the extension of PDR activities in the Cuvette. This team also assists the regional directors. Matton and Chabasse expressed the hope that this team would eventually lead to the establishment of a national center for cooperative development.

External assistance is slowly being phased out. For the last phased of the project, the UN team was composed of one senior technical advisor in charge of the execution of the project and the counterpart to the national PDR director, and six UN Volunteers as counterparts and advisors for the new district rural development specialists.

The establishment of autonomous institutions facilitating rural development has been an important part of PDR activities; the creation and support to appropriate institutions was an explicitly stated goal in the project documents of all four phases. Table 13 gives an impression of the evolution of the cooperative movement in the PDR zone.

The cooperative movement, however, is not limited to the Pool region, but has spread equally to the other regions of the Congo as well. In 1986, there were about 32,000 cooperative members in the Congo,

⁸Matton & Chabasse, op. cit., 153-159.

Table 13: The evolution of the cooperative movement in the Pool and Plateaux regions from 1971 to 1984.

Year	Number of GPC's	Number of Members	% Male	% Female
1971	9	211	62	38
1972	40	1,232	76	24
1973	49	1,442	73	27
1974	72	2,054	67	33
1975	110	2,699	70	30
1976	137	2,922	60	40
1977	151	3,260	55	45
1978	159	3,560	46	54
1979	168	3,909	48	52
1980	320	4,767*	50	50
1981	417	10,101	51	49
1982	451	10,330	51	49
1983	513	10,475	49	51
1984	366	7,491	47	53

* The figure for this year does not include the membership of the GPC's in the Plateaux, for which no information was given in the documents studied.

Source: Journées d'Etudes et de Réflexion sur le Développement Rural Intégré dans la 5ème Région Agricole (Pool). Kinkala, 18 au 22 décembre 1979. In Bernard N'Kaloulou, op. cit., 181; Matton and Chabasse, op. cit., 37-39; Milaire Babassana, Emploi, Production et Revenus dans les Groupements Précooperatifs et dans les Unités de Production Individuelles des Membres des Groupements, Vol. 1 Région des Plateaux (Brazzaville: Ministère d'Agriculture et d'Elevage, 1982), 36.

a little over 10% of the farming population.⁹

The size of the cooperatives varies from seven (the minimum necessary to obtain legal status) to 100 members. The average number of members per GPC in 1983 was 18.5 in the Pool region and 25.7 in the

⁹ This figure is stated in FAO Human Resources Division, op. cit., 30.

Plateaux.¹⁰ Each cooperative has an executive committee, elected by the members, consisting of a president, a secretary, and a treasurer. With the exception of the posts of treasurer, women are excluded from leadership positions in almost all cooperatives. The treasury post is entrusted to women because of their traditional role as managers of the household money.

The cooperatives are organized into Unions at the level of each administrative district and region and at a zonal level. The role of these unions are the following:

- To supply the GPC's with production inputs and consumer goods;
- To organize the marketing of agricultural products produced by the GPC's and by its members individually.
- To organize a agricultural machinery renting service.
- To serve as technical support centers for the GPC's.
- To provide financial support services to the GPC's by acting as intermediaries in obtaining credit.

The zonal level Unions group five to fifteen GPC's together. Presently, only the two regional unions, which were re-organized and legalized at the end of 1980, serve a real economic function. The status of the district and zonal unions is not very clear and in reality they do not serve any purpose; they do not possess any financial and material means of their own to be able to serve the individual GPC's. The farmers fail to recognize their importance since the Unions do not provide them

¹⁰Matton & Chabasse, op. cit., 40.

any direct benefits, so they do not contribute their dues to these Unions either, aggravating their inoperativeness.

Each union has an executive committee which is elected by the Union's assembly and consists of a president, a vice-president, a secretary and a treasurer. The assembly of the zonal Unions is made up of the members of the executive committees of each cooperative belonging to that zonal Union; the district assembly is composed of the zonal Unions' executive committees, and the committees of the district Unions form the Regional Union assembly. As stated before, the project proposed that the regional PDR directors would also assume the presidency of the regional Unions to assure continuity.

The cooperatives and the Unions acquire the necessary funds for their operations from money and in-kind contributions by the members and from the profits gained from the marketing of products and the machineries rental business. By statute, every cooperative also should have one collective field, the harvest of which is for the Union. However, in practice this is very often not the case.

To plan PDR policies and activities, the project established a Consultative Coordination Committee in which the regional political authorities, technical services present in the region, the regional Unions and project sponsors (UNDP, ILO, FAO and the government) are represented. The CCC meets only when important decisions or changes in future directions and activities of the project have to be made. The CCC has met five times since its creation in 1977 (October 1977, December 1978, February 1980, November 1982, with one meeting scheduled for the

second half of 1985). The CCC meetings are used to review and to discuss rural development policies and activities in the two PDR regions and to coordinate activities of all organizations, projects and services intervening in the rural areas of the Pool.

Linkages with Other Organizations - External Linkages

An organization cannot function by itself; to accomplish its goals, it needs to develop links with other, outside organizations and institutions. The PDR, as an integrated rural development project, would require far greater resources if it tried to carry out all rural development tasks by itself in isolation. Therefore, numerous links with other institutions, organizations and projects have been established. The following list identifies most of the external linkages established by the PDR:

- a. The Regional Direction of the Ministry of Agriculture and Animal Husbandry (MAE) coordinates agricultural and rural development activities and has under its tutelage all public services intervening in the rural areas of the region. The regional director of this service also assumes the post of regional PDR director.
- b. The Centre d'Appui Technique (CAT) provides training for market gardeners via informational campaigns, demonstrations and technical presentations. The CAT works primarily in and around Brazzaville.
- c. The Centre de Vulgarisation Technique Agricole (CVTA) provides extension services to 15 cooperatives around the town of Kombé in the area of improved rice and maize seeds, and improved cultivation methods for these crops.
- d. Radio Rurale is a part of the Department of Rural Animation and Cooperative Action of MAE, financed and given technical assistance by the German Association Friedrich Neumann. It broadcasts daily programs in local dialects dealing with literacy, agriculture, nutrition, health etc.

- e. The Caisse National de Crédit Agricole (CNCA) and the Banque Nationale de Développement du Congo (BNDC) channel funds for credit through the PDR Crédit Agricole. Other donations to the PDR Crédit Agricole have been received from the Canadian Embassy, the Swiss government, the Swiss Institut Universitaire d'Etudes de Développement (IUED), the OECD, the complementary investment program of the Congolese government, OXFAM Quebec, UNDP and ILO.
- f. Office des Cultures Vivrières, the Office du Café et du Cacao, and the Office Congolais du Tabac. These parastatal agencies provide extension and marketing services for the promotion of food crops, coffee and tobacco.
- g. Ministry of Social Affairs and the Union Revolutionnaire des Femmes Congolaises are both involved with PDR activities for women and family welfare.
- h. Centre Elementaire de Formation Professionnelle de Boko trains young people in one and two year courses in agriculture, crafts, home economics, farm management etc., with the objective to better prepare youth for a productive role in the rural areas of the Pool. The technical management of this center is carried out by the PDR, although the school is under the jurisdiction of the Ministry of Secondary Education.
- i. Opération de Petit Mécanisation Agricole (OPMA): collaboration in the area of setting up the machinery rental units within the Unions and for training in the use of these machineries (see Appendix 3 for a brief description of this project).
- j. The Régie National des Travaux Publics provides consultative services for and executes rural infrastructural works.
- k. UNDP as financing agency, ILO and FAO as executing agencies, and the UN Volunteer Program which has provided many volunteers to work in the project.
- l. The Institut de Développement Rural (IDR) of the Marien Ngouabi University in Brazzaville executes economic and statistical studies in the project zone and carries out the monitoring and evaluation of the project on a sub-contract with the ILO since 1976.
- m. The World Food Program donated food which was used for the training sessions of the farmers and cooperative members and as food for work to stimulate productive investments by the GPC's.
- n. The animal feeds factory was constructed and later expanded with the financial help of UNDP, the West German, Canadian and US Embassies, the Partie Congolais du Travail and contributions from the GPC's.

- o. Collaboration with two UNDP financed FAO projects in the PDR zone (fish farming and sheep production).
- p. The Italian government provided 26 scholarships for senior staff of the PDR to receive advanced training in Europe at FINAFRICA in Milan and the International Center for Professional and Technical Improvement of the ILO in Turin.
- q. Ministère d'Education Fondamentale et d'Alphabétisation for the training in agricultural subjects of the primary school teachers in the PDR regions and the training of literacy animators.
- r. The UNESCO expert on functional literacy already present in the region assisted the project with its efforts in this area.
- s. UNICEF and WHO collaboration took place for the PDR activities on primary health care, nutrition and hygiene education.

Means to Achieve the Objectives

Human Resources

The PDR has continued to grow since its inception in 1970. It has evolved from a small UNDP/ILO project into an institution of its own. At the end of the second phase in 1979, the PDR employed over 200 people, but no exact breakdown in the number of people and their functions could be found. Hung and N'Kaloulou provide conflicting information about PDR personnel. The list that follows is therefore not complete and only a rough guess extracted from the two sources.

N'Kaloulou mentions that 134 people were part of the government contribution to the resources of the first phase of the project.¹¹

¹¹N'Kaloulou, op. cit., 155.

During this first phase, ILO also had ten experts working in the project.¹² The government personnel was broken down as follows:

10	Extension-aides	
10	Fish Farming "Moniteurs"	
15	Chauffeurs-Mechanics	
12	Specialized Laborers	] unspecified tasks
65	Permanent Workers	

The difference between the 134 employees and the above list (22 people) is probably the central project staff, consisting of the national director, program leaders and secretaries. The ten ILO experts were assigned as counterparts to the national director and the seven program leaders. The first technical report of the project gave the following breakdown of the expatriate personnel:

	person/month
Project director	50
Management/Marketing expert	30
Cooperative Development expert	24
Extension/Animation expert	48
Extension/Training expert	30
Agricultural Extension expert (FAO)	30
Expert in Rural Crafts	48
Women in Development expert (FAO)	24
Rural Training expert (Boko)	12
Administrative agent	16

Hung gives a more detailed break down of the local project personnel for 1979 in Table 14.

The number of personnel given by Hung (i.e. 84) is very different from the more than 200 employees mentioned by N'Kaloulou as working in the project in the early 1980s. The number is even less than the 134

¹² ILO, Travaux Accomplis dans le Domaine des Constructions, de la Formation des Cadres Ruraux et de la Diffusion des Techniques Agricoles. Technical Report No. 1, project Con B-7. Geneva: ILO, 1971, i.

Table 14: National staff and personnel of the PDR project in 1979.

Administrative Staff	Field Personnel
1 National Director	20 Extension Agents
1 Assistant Director	6 Plant Production Agents
3 Warehouse Managers	10 Fish Farming "Moniteurs"
	3 Fruit Production "Moniteurs"
<u>Program Leaders:</u>	6 Livestock Agents
1 Extension/Animation Agent	6 Veterinary Nurses
1 Extension Trainer	6 Training "Moniteurs"
2 Rural Animation Agents	3 Assistant "Moniteurs"
2 Livestock Agents	
2 Fish Farming Agents	
2 Cooperative Development Agents	
3 Women in Development Agents	

Source: Institut de Développement Rural, 1979. In G. Nguyen Tien Hung, op. cit., 176 and 178.

personnel that began the project in 1970. No mention is made either of the literacy training staff or master craftsmen employed by PDR. Also, a number of PDR agents were reassigned to different Ministries in a major government reorganization in 1979: the fish farming agents were integrated into the Ministry of "Eaux et Forêts," and the home economics agents into the Ministry of Social Affairs. The PDR project kept 20 "monitrices" for the Women & Family Welfare section it started in 1979 in lieu of the women in development program, but these are also not mentioned in Hung's list.

The number and qualifications of the expatriate personnel of the project has changed over the lifetime of the project. The list given above is the original number of expatriates planned for the project. This number was reduced during the second phase to two to three experts

(project director, agricultural extension) and two associate experts.¹³ As from 1980, the external assistance team consisted of a project director, a rural development expert (until 1985), a livestock production expert (until 1982), and a varying number of UN Volunteers for agricultural extension, crop production and fish farming. Appendix 7 gives an overview of the provisions for personnel for the PDR during the final phase of the project.

Most PDR personnel had some form of formal schooling, with the exception being maybe the "laborers" and "workers" although no information is available about this. These two categories could refer to the "encadreurs de base," the lowest rank of extension agent. Many of these "encadreurs" are former ARR members and only have some technical on-the-job training beyond primary school. To become a moniteur(trice), the next grade, one needed to successfully complete a one year training course in a technical field given by a Ministry. Nowadays, these agents are being replaced with graduates of the CETA's, who are accorded the title "conducteur d'agriculture." Most of the senior managers of the PDR are trained at Institut de Développement Rural (IDR) of the national Marien NGouabi University or at universities in the USSR, Eastern Europe or Cuba. The project has also provided much on-the-job training for all its personnel on a continuous basis (see Appendix 4 for an overview of personnel training planned and executed by the project).

Hiring and firing of workers is difficult in the Congo, and the PDR, like all Congolese institutions, has very little control over these

¹³No information is available on their expertise or assignment duties.

procedures because its employees are part of the Congolese Public Service. The Service has the ultimate decision making power over hiring people. For lower level personnel, the PDR can make recommendations to the Public Service, but personnel at higher levels of the bureaucracy are assigned to PDR, often without consultation. The project also suffers from the frequent reassignments of personnel, which seriously affects the continuity and stability of the project and also necessitates a constant training of new personnel.

Transport Equipment

The transport and marketing sections of the two regional Unions each have two seven ton trucks for the transport of farmers' produce, as well as for the distribution of animal feeds produced by UPAB in Kinkala and other inputs. The Union of Pool also has a Toyota pickup truck for smaller quantities and other transport needs. These vehicles have been bought with UNDP funds. In general, the Unions do not possess the means to maintain the vehicles on a regular basis. The UNDP has also furnished some mopeds for the managers of the UPAB. The equipment is often out of service because of the absence of spare parts and the lack of funds necessary for their repair.

PDR personnel share vehicles with the expatriate project personnel; the project also assures their maintenance and repair. Field personnel do, in general, not have any transportation, and carry out their work either on foot or in their offices only. The absence of transport equipment seriously affects the effectiveness of PDR extension

efforts, which rely on frequent contact with the farming population. Because of the dispersion of the population, some form of transportation is indispensable. An additional factor is that the equipment does not last long (replacement is often necessary within five years), because of the bad state of the roads and the lack of maintenance and repair. However, no replacement funds are provided for in the project's budget, nor are amortization costs figured into the Unions' operating costs, which make future independent operation, that is operation of the project without external (financial) assistance, uncertain. PDR personnel have become used to rely on the experts and volunteers' vehicles for their transportation needs, but these are unlikely to be available in the future.

Financing the PDR.

The government has always attached great importance to the PDR project. This is expressed in the large amount of money the government has invested in the project. The other main financing source of the PDR is the UNDP with some of the specialized UN agencies (FAO, ILO and WFP). Starting in the late seventies, assistance has also been received from various sources for specific PDR program areas and activities of the GPC's and regional Unions. Examples of this are the project "Promotion Féminine et Familiale" assisted by the UNFPA from 1979 to 1983, a UNDP/FAO Fish Farming project started in 1981 in the Pool region, and a project to revitalize the agricultural extension component for food crops, started in 1984. Large contributions have also been made for

special investments within the GPC's and to PDR's agricultural credit fund by the Congolese government, a number of banks, and international governmental and non-governmental organizations, which are listed in Appendix 5. Table 15 gives an overview of the principal contributors to the PDR.

Table 15: Contributions to the PDR and sources of financing, 1968 to 1986 (amounts in million F.CFA).

Source	1968-69	1970-73	1974-78	1979-86	Total
Government	232.8	378.8	428.3 ¹	1,834.8	2,874.7
UNDP	--	346.5	386.9 ²	646.7	1,380.1
Average exchange rate (F.CFA/US\$)	256	259	233	341	

¹Author's estimate based on personnel costs given by the IDR Evaluation Report of 1979 as cited by Hung, and assuming an equal value of other governmental contributions.

²Based on a total contribution of \$ 2.99 million contributed to the project in the 1968-1978 period by UNDP, as stated in Afrique Agriculture 9 (May 1976), 33.

Source: N'Kaloulou, op. cit., 155 and 158; Hung, op. cit, 176, 178 and 225. "L'Agriculture Congolaise à l'Heure de la Radicalisation," Afrique Agriculture 9 (May 1976), 26-47.

During the 1970-73 period, 61.5 percent of the government contribution for that period was used for the salaries of the 134 people. In contrast, the UNDP/ILO spent 53.6 percent of their

contribution on eight experts.¹⁴ The rest of the UNDP budget (46.4%) was allocated for training, materials, miscellaneous, and overhead costs. Using average salaries in the first phase of PDR, 13 Congolese were employed for the budgeted amount of one UN expert.

Participation of the Target Population

The PDR project has been aimed since its inception at the promotion and creation of autonomous cooperative structures. The project has limited its activities almost exclusively to the GPC's and Unions it set up in the Pool and Plateaux areas and to their members. The number of people reached by the project is therefore roughly equivalent to the number of cooperative members (see Table 12). One can safely assume that more people have been reached because some farmers have abandoned the GPC's because of lack of economic or social benefit or moved out of the regions to Brazzaville while new members have joined the cooperatives.

The number of women that are GPC members and thus have been reached by the PDR has been almost the same as the number of men, particularly since 1978. The Pool region is in this aspect more advanced (52% of GPC members are women) than the Plateaux, where most GPC members are men (55% in 1982). However, women outnumber men in the cooperatives in the Plateaux region also since 1984 according to figures given by Matton and Chabasse.¹⁵

¹⁴Two project experts were assigned to the PDR and paid by FAO funds.

¹⁵Matton & Chabasse, op. cit., 43.

The percentage of the potential target population reached, that is the total populations of the Pool and Plateaux regions, is relatively low due to the concentration of activities on the cooperative movement. Matton and Chabasse estimated the population of the Pool at 215,000; the active agricultural population (the target group of the PDR) is about 45% of the total population or 96,750 people. Of this potential audience only 7,147 people or 7.4% was reached by PDR and benefitted from its services in 1982. In the Plateaux, which has a population of 91,028, 7.93% of the agriculturally active population was a member of a GPC in 1982 and thus benefitted from PDR services. Based on the total population of the two regions, the project reached about 3.4% of the population.¹⁶

The project has trained many farmers, both male and female, during its existence. During the 1970 to 1979 period, the project organized 305 farmer training sessions for a total of 5,280 days.¹⁷ From 1979 to 1984, the PDR organized 304 training sessions, totaling 28,547 trainee-days.¹⁸ An overview of the different farmer training sessions and subjects taught during the 1979-1984 period is given in Appendix 6. In addition to these more formal training sessions, the farming population has benefitted from information disseminated by the PDR extension personnel during village meetings, demonstrations, radio broadcasts via Radio Rurale, as well as from information received indirectly from the

¹⁶Matton and Chabasse, op. cit., 7-16.

¹⁷N'Kaloulou, op. cit., 157.

¹⁸Matton and Chabasse, op. cit., 95.

project through extension personnel from other agencies and primary school teachers that were trained by the PDR. The project has also sent three farmer/Union leaders to Cameroon to receive training in cooperative management.

Source and Choice of Technologies.

The project has managed six state farms which existed in the Pool region and used these for training, demonstration and research purposes. Applied research was carried out on these farms on improved varieties of peanuts, maize and rice, mechanization (both motorized and with animal traction), and animal production (sheep, pigs, poultry and cattle). The crops and animals involved as well as research themes were chosen mostly on the basis of political priorities as spelled in the country's development programs, which often stated specifically which crops would receive increased government attention and money in order to increase their production. The farms' activities were a continuation of existing research and extension programs already in place at the start of the project. Farmers' wishes and needs were rarely taken into account during the first years of the project. For example, no research was carried out on cassava, and this crop also did not receive any attention from PDR extension although it was (and is) the main staple crop of the population. Presently, it is the chief cash crop of the Pool region, fueled by a large demand by the urban population of Brazzaville. Cassava was added to PDR activities only after it became clear that more and more farmers were abandoning the production of other crops to

increase cassava plantings, in large part because of the market and price forces. Men also increasingly engaged in the production and processing of cassava, something which was unheard of only 10 years ago.

Animal traction was being promoted despite the fact that the Congolese were unfamiliar with cattle raising, and the fact that much of the Pool region is not really suitable for mechanized farming. Also, the presence of the tse-tse fly prohibited cattle raising in the Congo, and nowadays cattle can be raised only because of the more advanced veterinary products and cattle dips available. Still, the farmers are afraid of these large animals, which they find difficult to handle and untrustworthy. Animal traction therefore has never taken off as a new technology for improving the traditional farming systems in the Congo.

The PDR has also undertaken research on motorized mechanization. Since 1974, the research has been undertaken in collaboration with the OPMA project. A brief description of OPMA is given in Appendix 3. Research by PDR in the early 1970's showed that the use of tractors to substitute part or all of agricultural labor would not be profitable.¹⁹ Additional factors which lead to the failure of earlier mechanization efforts were the lack of integrating the new technology into the rural environment, the non-involvement of women, a disrespect of agronomic principles and recommendations, and lack of maintenance and management. Studies undertaken by Babassana in the early 1980's show that the use of tractors could be beneficial and profitable if the farmers carefully select their crops and land (soil type) for which the tractors are going

¹⁹Développement Rural dans la Région du Pool, Rapport Technique No. 1, 32.

to be used, and if the tractors are used a certain minimum number of hours each year.²⁰ Land use would also have to be much more intensive than the systems used presently. Babassana assumed the availability of improved seeds and fertilizers in his economic analysis, which are either not available or, if available, are often distributed too little too late and of doubtful quality. In addition, these inputs are also prohibitively expensive and rarely economical to use especially on small farms. However, Babassana recognized in the conclusion of his report that much more research needs to be done on mechanization before it can be diffused to the farmers on a wider scale. Farmers also have to be involved more in the research of this technology in order to evaluate its economic and financial viability, and its adaptability and technical feasibility. Technical, agronomic, economic and social consequences must also be studied before a decision on the introduction of mechanization in the small farm sector is made.²¹

The animal production schemes introduced by PDR are based on intensive production on small land areas such as those commonly found in Europe. The GPC's buy almost all the needed feeds for the animals from the UPAB. Little research has been undertaken by the project to improve traditional extensive livestock production systems with locally produced fodder. The FAO sheep production research and extension project in the Plateaux is the only project offering an alternative production system for the free roaming animals in the village, using locally available

²⁰H. Babassana, Coûts de Production, 99-116.

²¹H. Babassana, Coûts de Production, 195-196.

and/or producible fodder. A few GPC's within the Plateaux region have adopted sheep farming based on the results of this project.

A general conclusion on PDR's efforts on developing new technologies to increase farm production and incomes is that all technologies developed and extended to the farmers have been developed without much involvement of the farmers. They also have increased farmers' dependence on the external environment for input supply (feeds, seeds, fertilizer, fuel, lubricants, spare parts, etc.) and for output markets to sell the increased productions. The bottom-up approach used by the project in its other activities has not been followed in its agricultural activities which continued to use a top-down formula for developing and extending new technologies to the farmers. Although the farmers are in principal free to pick and choose from among the available and offered technologies (i.e. they are not forced to adopt the new technologies), in practice this is not really the case. For example, no credit will be given to GPC's wanting to raise pigs if they do not build a modern pig house and feed the animals with concentrated feeds of the UPAB, which is, in the author's opinion, a disguised form of forced adoption.

Extension Methods

The PDR has used a variety of methods to reach the rural populations of the Pool and Plateaux regions. Village meetings are used in the rural animation programs, which comprise general meetings and visits to explain and motivate the farmers on the necessity of

organizing in cooperatives, the necessity of men participating in agricultural production, and the necessity of increasing agricultural production. The state farms which the PDR managed formed the backbone of the project's extension activities. The farms were not only used for research on new technologies as described above, but also for demonstrations of new technologies during farmers' field days and for training of both field staff and farmers. Since 1983, many of the training activities have been decentralized to the districts and the villages themselves in order to increase participation by the farmers in a more familiar and realistic environment. Information on the number of farmers trained and the subjects of the various training sessions has already been given in the section of participation of the target population.

Because of the orientation of the project of developing cooperative structures at the village, district and regional levels, extension activities are limited to the GPC's and the Unions. The Cooperative Advisors and extension personnel of other agencies (OCV, OCC, and Eaux et Forêts) therefore limit their field work to the cooperative sector. No visits are made to individual farmers. Individuals are also excluded from receiving credit, which is given exclusively to the Unions and GPC's. The reasons given for this are that the cooperatives provide more continuity and stability. The extension agents can reach a large number of farmers at the same time, which makes the efforts more efficient and less time consuming than visiting the individual (often very dispersed) farms. By focusing attention on cooperatives, a more rapid adoption of new technologies might also take

place because innovations will probably not only be used on the collective fields but also on the individual fields of the cooperative members.

Not much information was found in the various reports studied on audio-visual means of animation and extension. The PDR does not have a separate unit for the production and development of audio-visual materials. However, Oulid Aïssa, who was the PDR project director in the mid 1970's, mentioned in an article that the literacy training manuals being used by the project served the dual purpose of extending information to the farmers and teaching them to read and write. The information in these manuals covered a wide range of subjects including agriculture, crafts, social, health and nutrition problems, etc.²² The PDR also published a newspaper, N'SEENGO, in support of the literacy training activities, although the publication has been very irregular. Other media produced and published by the PDR mentioned in the report of Matton and Chabasse are a series of posters on fish farming practices, and a manual on cooperative initiation for GPC members.

Achievements of the PDR Project

An article about the situation of the agricultural sector in the Congo in Afrique Agriculture mentioned five major innovations the PDR project introduced successfully in the Pool and the Plateau Koukouya in the first five years. The first and most fundamental accomplishment was

²²Y. Oulid Aïssa, "Les Groupements Précoopératifs de Production Agricole et Artisanale comme Moyen de Développement." International Development Review/Focus 19 No. 1 (1977), 23.

the full participation of the population in activities which were likely to produce some monetary revenue. The second innovation was the bringing together of men and women for collective agricultural work on land donated by or rented from one of the GPC members. The introduction of small loans through a revolving fund was the third major innovation. It permitted the farmers to increase the benefits of the new technologies which were being introduced by the project. The fourth innovation concerned the cultivation of formerly unused but relatively fertile valley bottoms. This reduced the pressures on the hills which were seriously eroding because of cassava cultivation. The fifth achievement of the PDR concerned the introduction of several new production activities with a high profit potential (pig and poultry production, fish farming, and market gardening). These products were chosen because of a favorable ratio between volume and price (low volume/high price), which was important in view of the marketing and transportation problems in the project zone.²³ During the 1975-1976 cropping season, cassava acreage tripled, maize acreage doubled while the area under peanuts stayed about the same. The number of fish ponds increased by 60%, doubling the surface of the ponds. The GPC's marketed 41 pigs, and the number of pigs increased by 32 units. The GPC's volume of sales for all products combined amounted to a respectable 20.7 million F.CFA.²⁴ However, calculated per cooperative member, the turnover was only 7,654 F.CFA (nearly \$36 at the 1975 exchange rate). The interest in the

²³"L'Agriculture Congolaise à l'Heure de la Radicalisation." Afrique Agriculture 9 (May 1976), 34.

²⁴Afrique Agriculture 9 (May 1976), 34.

cooperative movement could therefore hardly be attributed to any great financial gains.

A comprehensive project evaluation was undertaken by the Institut de Développement Rural, UNDP and the PDR in 1979. This evaluation appreciated both positive and negative results not in terms of success or failure but in terms of lessons learned and knowledge gained during the first nine years of the PDR experience. The report acknowledged that not much progress had been made in the economic activities of the PDR, notably in increasing rural employment and agricultural production. The greatest gains made in these nine years were in the project's socio-political agenda, the transformation of existing social structures:

- "progress in organization"
- a change in the mentality of the farmers due to an increased awareness of the necessity of organizing themselves in order to command and control their own development.
- a progressive modification of the social and sexual divisions of labor.
- a more active participation of women in decision making and leadership positions.²⁵

The increased participation of women in the GPC's and in PDR activities came about only after 1975. Until that time, the PDR had promoted chiefly economic activities which were considered male occupations: animal production and vegetable gardening. Also, the farmers were reluctant to let their wives participate because of the "newness" of the cooperative movement and its possible destabilizing

²⁵Babassana, Coûts de Production, 10-12.

effect on the society. They did not want to expose food production, traditionally a woman's task, and food security to any uncertainty and danger posed by the new innovation in the form of collective production units. Women's entry into the GPC's in 1975 coincided with the progressive abandonment of market gardening by the GPC's and a simultaneous increase of food crop production activities, especially of cassava but also of peanuts and maize. As already mentioned above, the amount of land planted with these crops increased substantially in 1975. This switch in crops was the major factor leading to an increase in women's participation in the GPC's, since these crops were traditionally all women's crops. Other speculations which the government had hoped to promote to increase locally grown food for the urban consumers and rural revenue never got from the ground (the case of sorghum), lost the interest of the farmers (tobacco), or were abandoned by the farmers (rice). The farmers did increase maize production, but only of traditional varieties planted in association with other crops and largely for home consumption.

The cooperative movement, which was considered to be the most important means of modernizing agricultural production and of socializing rural society, became nothing more as a reproduction of the traditional society in a new form. Because of this insertion of the GPC's into the traditional village structures, rules and regulations, the farmers also continued to use their traditional cultivation techniques. The farmers thus transformed the cooperative movement to fit into the existing socio-cultural system and used the movement to satisfy their needs, which were foremost related to communicating with the

outside world and as a means to gain political power and recognition.²⁶ Thus, modernization of agriculture and economic gains were subordinated by the population to socio-cultural needs and objectives to be accomplished via the cooperatives.

This politicalization or the "paysannisation"²⁷ of the cooperative movement and its institutions by the rural population was the major unexpected outcome of the 1979 project evaluation by the IDR/PDR/UNDP team. As N'Kaloulou writes:

The cooperative movement has revealed itself to be the single most precious instrument for the farmers to escape the darkness (meaning the gloom and isolation of the rural areas). Today, it is the favorite instrument of expression of Brazzaville's hinterland at the national level. The region identifies itself by the cooperative movement, which has become the symbol of modernity, the model of a society opening itself up to modernism.... The people are conscious of the attention they receive of the media, in official documents, etc. because of the cooperative movement. The original modalities of the PDR have been modified by farmers' logic. However, this "paysannisation" should be considered the best guarantee for continued participation by the rural population in the cooperative movement.²⁸

Matton and Chabasse, reporting on the third and fourth phase of the UNDP/ILO assistance to the PDR, mentioned the following accomplishments of the project between 1979 and 1985:

-Much progress has been made in the technical training of GPC members, which is evidenced by increased production not only on

²⁶N'Kaloulou, op. cit., 180-184.

²⁷N'Kaloulou uses the word paysannisation to indicate the politicalization of the cooperative movement by the farmers. The cooperatives are not considered to be a means to advance economically and socially, but above all as a means to make peasants concerns heard by the political authorities at the national and regional level.

²⁸N'Kaloulou, op. cit., 190-191. Translated from French; text in parentheses added.

the collective fields but also on the family fields of individual members.²⁹ However, the progress made as a result of management and accounting training was still insignificant in all but the GPC's composed and run primarily by young farmers.

- Eighteen pig and seventeen poultry houses were constructed and many fish ponds established, although these activities were limited to a small number of GPC's. Total production capacity amounted to 3,760 pigs and 67,800 chickens if all technical norms were being followed and if the buildings were used at full capacity.
- Because of the PDR's animation, promotion and sensitizing activities, many people organized themselves in both agricultural and crafts cooperatives. In 1985, there were 260 GPC's in Pool (4,450 members) and 106 in the Plateaux (3,041 members). The major accomplishment of the project has been the engagement of men in activities that were formerly exclusively reserved for women, particularly the production and the processing of cassava.³⁰
- The economic activities of the two regional Union were reinforced and expanded with the creation of transportation and marketing units in each of the Unions, the establishment of a veterinary pharmacy in Pool, and the enlargement of the UPAB.
- 71% of the GPC members have been trained by the project in 304 sessions since 1979. In addition, the PDR supported the GPC's and their members with intensive animation and extension activities in the field.
- The staff and personnel training focused chiefly on the senior managers of the PDR. Important efforts remain to be made for the lower staff, especially the Cooperative Advisors.³¹

²⁹The authors did not substantiate this claim with any figures. It is therefore difficult to judge the veracity of the statement.

³⁰The change in men's attitude towards producing and processing cassava was made possible by the introduction of a different processing technique and acceptance of the new product by the urban consumers of Brazzaville. Cassava is still in short supply on the urban markets and prices are high. The new technology does not involve any cooking, and, by consequence, no gathering of firewood, water and leaves (for packaging) are required. Since all these tasks are normally done by women, the fact that the new technology does not use these processes opened the cassava crop to production by male farmers.

³¹Matton & Chabasse, op. cit., 137-141.

A number of factors had a negative impact on the PDR's progress especially in increasing agricultural production. Matton and Chabasse identified the following negative factors:

- inadequate marketing structures.
- low, non-remunerative farm gate prices.
- lack of storage facilities (silo's, cool cells).
- insufficient rural road system and lack of maintenance on the existing roads, posing problems for timely evacuation of agricultural products.
- the advanced age of the cooperative members (between 50 and 60 years), and the lack of interest in farming and/or joining the GPC's.
- in spite of the literacy education efforts of the PDR, illiteracy among GPC members remains a problem.
- uncertainty in the land tenure situation because of conflicting regulations posed by the law of the country and traditional land ownership and access rules.
- quantitative and qualitative insufficiency of field agents. Also, the absence of incentives to stimulate the agents' motivation to work under difficult circumstances did not attract personnel. Many agents left after only a short time in the project, which thus lost both experienced people and the time and effort put in their training.³²

Not all of these factors were new. In fact, many of them were already limiting agricultural production at the start of the project. The PDR was unable to solve or eliminate these problems, which was one of the reasons of the precipitous drop in the number of GPC's and cooperative members in 1984. Economic difficulties related to the heavy indebtedness of some GPC's, the absence of adequate storage and marketing facilities, and the low prices for agricultural products

³²Matton & Chabasse, op. cit., 142-143.

forced many GPC's to fold their business. The farmers became discouraged with the cooperative movement after the initial euphoria created by the available credit and higher earning potentials wore off. The PDR was unable to solve the negative economic impacts of the Congolese marketing and pricing systems, which were determined by the government without taking rural realities into account and often in contradiction with policies set by the different ministries.

But, whatever the economic outcomes of the project, there has been no other experience or development program in the Congo that has been able to interest and mobilize as many farmers as the PDR has been able to do. Or, to use the words of Dominique Desjeux, "the PDR is the only important experience of animation and organization of the rural population whatever the conclusions one might draw about its accomplishments or its weaknesses."³³

³³Dominique Desjeux, "Historique du PDR: Le Processus de Décision de Création du PDR," in IDR/PDR/PNUD Fiche No. 1 du Rapport Préliminaire d'Evaluation du Projet (Brazzaville: Institut de Développement Rural, 1979). As quoted in N'Kaloulou, op. cit., 200.

The "Office des Cultures Vivrières" (OCV)

The Creation of OCV.

In the first years after the revolution, the government decided to socialize agriculture as a way to employ a large number of unemployed educated youths and to increase agricultural production. For this reason, the ONCPA and ARR were created in 1964 and 1965. As described in the previous section of this chapter, the ARR was the precursor to the PDR project. The ONCPA can be considered the predecessor of the OCV.

Contrary to the well developed small markets in West Africa, the Congo did not have a traditional market system. The people were living largely from subsistence agriculture, and hunting and gathering. Because of the self-sufficiency of the economy in the rural areas, there was no real need nor demand for trade until the arrival of the Europeans and the onset of urbanization.

Up to 1964, the marketing of agricultural products was very dispersed over numerous private traders and trading houses. But these merchants usually limited themselves to the marketing of export crops. They would also limit their marketing activities to those villages that were easy to reach. A large number of farmers were thus excluded from any market outlets and continued to produce for family subsistence only. However, the growing cities had an increasing need for food and the government also wanted to increase the export of agricultural products to earn foreign exchange needed for the development of the country. For

this reason, the "Office National pour la Commercialisation des Produits Agricoles" (ONCPA) was created in May 1964 and given a monopoly to market all agricultural commodities in the country. The ONCPA was placed under the tutelage of the Ministry of Commerce.

The ONCPA soon started behaving like the earlier colonial trading houses, buying and selling only profitable products from relatively easy accessible villages. Food crops were abandoned one by one. The reasons for this shift were: the requirement by the government for the ONCPA to have balanced accounts, the absence of control, and the lack of a coordinated rural development policy by the government. The ONCPA acted in its own best interest; because it was not part of the Ministry of Rural Economy it did not care about and coordinate activities with the latter Ministry. The absence of a solid marketing channel for food crops limited development and progress in the rural areas, which was counter-productive for government and foreign financed development projects such as the PDR. The farmers also resented more and more the payment in chits which were very difficult to convert to cash. Food imports continued to rise as a result of decreasing agricultural production, the inability and unwillingness of ONCPA to market the country's food crop production, and the rapid rate of urbanization.

Based on these experiences with the ONCPA, officials within the Ministry of Agriculture were able to convince the government that ONCPA should be broken up because the agency had been exploitative of the (small) farmers and had not been able to adequately market the country's agricultural production. Also, the government realized that the socialized enterprises and organizations (state farms, cooperatives,

etc.) were not conducive to stimulating agricultural production and were unable to contribute to the goal of food self-sufficiency. The third Party Congress in 1979, therefore, decided that the government should return to concentrating its rural development efforts on the promotion and modernization of the traditional farm sector. The ONCPA was broken up in late 1978 and its assets divided between two newly created organizations, the "Office de Café et de Cacao" (OCC) and the "Office des Cultures Vivrières" (OCV). The goals of these new agencies were to promote the production of their respective group of crops by providing extension services, supplying production inputs and small implements, and marketing the crops. The OCV was given the additional responsibility of managing five fully mechanized state farms that produced food crops on large tracts of land with large amounts of external inputs. Both agencies were given a monopoly for the marketing of their respective products.

The division of ONCPA assets was very unequal; most of the infrastructure and transportation equipment was allocated to the OCC, perhaps because coffee and cocoa are export crops and thus bring hard currency into the country. Because OCV received such a limited allocation of infrastructure, transport equipment and personnel, the agency limited its activities to peanuts, rice, maize, beans and potatoes, avoiding involvement with the main staple crops of cassava, yams and plantains.

The Goals and Objectives of OCV.

OCV is a public agency under the responsibility of the Ministry of Agriculture and Animal Husbandry (MAE). It is, one could say, the executing institution of MAE for extension, marketing and promotion of food crop production. The goals of OCV therefore are very similar to those which the government formulated for its agricultural and rural development policy and which were also found in the goals of the PDR project. OCV's goals are, however, less general than the national goals and more directed towards food crop production, as can be seen from the following list:

- a. To promote the harmonious economic and social development of the country in order to reduce the gap between rural and urban areas;
- b. To reduce the rural exodus through the creation of more remunerative jobs in the rural areas, including jobs in agriculture;
- c. To reinforce the agricultural sector as the basis for national development;
- d. To increase food crop production in order to realize a self-sufficiency in the basic food commodities and to supply sufficient inputs to the agro-industries;
- e. To increase the participation of the rural population in planning, decision making, implementation and evaluation of agriculture and rural development programs (so called "self-centered" development).³⁴

³⁴ Project document of UNDP/FAO project PRC/78-003, 1; Rapport de la Mission d'Evaluation, PRC/78-002 and PRC/78-003 (Rome: Food and Agriculture Organization, 1983), 5.

OCV's mandate was to cover the whole country. In practice, the agency has limited its activities to seven regions only. The two northern most regions of Sangha and Likouala are not covered because of the very low population densities (less than two people per km²), the virtual absence of any road infrastructure, and the very low quantities of food crops produced in these two regions. Also, the potential to increase food production in these regions is not very great.³⁵ The costs involved to engage in any activities for promoting food crop production and marketing the outputs would be too great with regard to potential benefits that could be gained from such activities in the Sangha and Likouala. Figure 12 shows the area presently covered by OCV activities.

Function of the OCV

OCV's statute, as fixed by the government, expects the agency to operate as a profit generating enterprise. At the same time, the government accorded the OCV rather contradictory roles, reflected in the goals stated above which made it difficult to be a profitable (or at least not a money-losing) enterprise. On the one hand, the government expected OCV to play the role of a public service agency carrying out a number of activities for the general benefit of the country and the

³⁵Likouala region consists mainly of inundated rain forest; its chief economic activity is fresh water fishery. The production of cocoa, oil palm and to a lesser extend coffee constitute the main economic activities of the Sangha region. The food crops grown are mainly for subsistence; the prices of food crops are too low and transportation costs too high to produce them economically in both these regions for export to the urban areas of the southern part of the Congo.

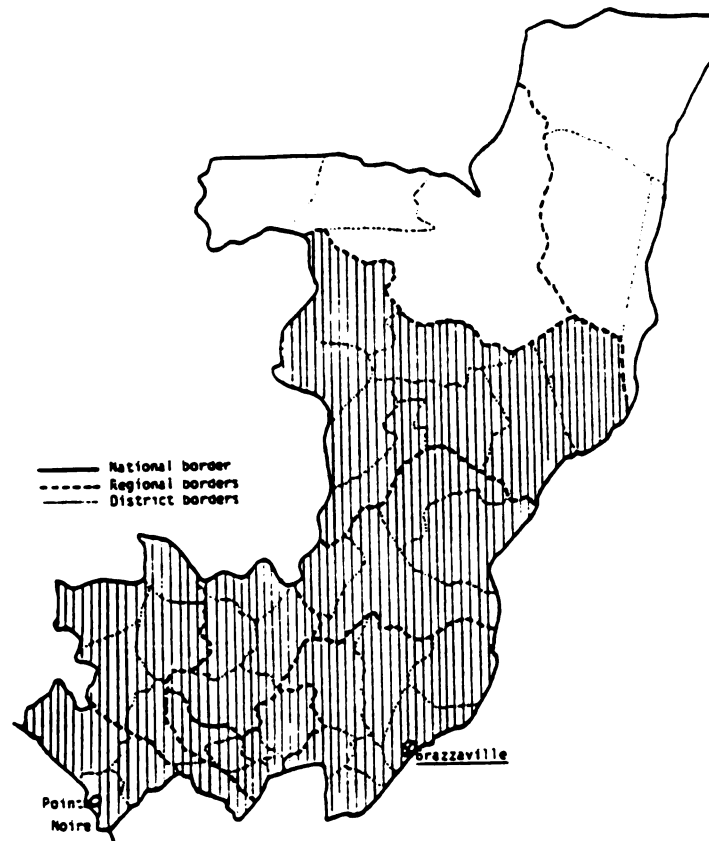


Figure 12: Map showing the regions covered by OCV activities.

rural population in particular. These service activities of OCV are:

- the organization of and assistance to the small farmers
- the promotion of food crop production
- diffusion of agricultural research results through the provision of extension services to the small farmers
- training of farmers in new production techniques
- distribution of seeds and inputs, free of charge.

Although these activities are certainly all necessary to attain the country's goal of food self-sufficiency and to increase rural living standards, they involve only outlays that do not provide any financial returns to the agency, at least not in the short term.

On the other hand, the OCV was expected to behave like a commercial enterprise with balanced accounts for its other activities (i.e. the marketing of agricultural products and the management of five state farms and three rice mills). The agency had to assure the collection and marketing of maize, rice, beans, peanuts and potatoes in the whole country, even in the most remote village and regardless of the collectible quantities and their quality.³⁶ It was expected by the government that these commercial activities would provide the OCV with enough profits to be able to finance its social activities. However, the state farms and rice mills had serious difficulties when handed over to OCV in 1979 (unpaid salaries, decrepit machinery and materiel, and absence of good storage facilities) and proved a large money drain for the agency. The expected profits never materialized. The OCV, therefore, had many problems carrying out its mandate and depended on the irregular subsidies of the government to accomplish its assigned tasks.

The extension and training functions of the OCV were very limited. The agency had field agents only in the Lékoumou region, while its

³⁶Until 1984, the OCV was obliged to buy all produce from the farmers, regardless of their quality. Because of the frequent delays in the marketing due to lack of funds, many products were often already spoiled when collected by OCV and thus could not be sold. No compensation was given to OCV for these losses. Maize was a particularly difficult crop suffering from insect attacks, but attacks in peanuts and beans were also on the increase.

central staff in Brazzaville to coordinate these activities was limited to three people only. The agents also were involved in the OCV marketing activities, often acting more as police men to prevent illegal sales and transport of the OCV controlled crops than as providers of technical information to the farmers.

OCV's main function in the rural areas was the marketing of the five above mentioned food crops, with service activities limited to infrequent distribution of seeds and some rudimentary extension and training activities in the Lékoumou. The CARE/USAID and UNDP/FAO projects, the other two project included in this study, both were set up to strengthen these functions of the OCV in various regions of the country.

Organizational Structure and Internal Linkages

The OCV is a semi-autonomous agency within the Ministry of Agriculture and Livestock (a so called para-statal organization). OCV, like the other para-statal agencies³⁷, is under the direct responsibility of the Minister of Agriculture, as was shown in the organizational chart of MAE in Figure 9.

Figure 9 illustrates how OCV and the other agencies fit within the Ministry's structure. All the agencies are on the same level as the various divisions of the Ministry; the Director General of OCV is

³⁷The other agencies are: Office du Café et du Cacao OCC, the Régie National des Palmeraies du Congo RNPC, the Office Congolaise du Tabac OCT, and the Caisse de Stabilisation des Prix des Produits Agricoles.

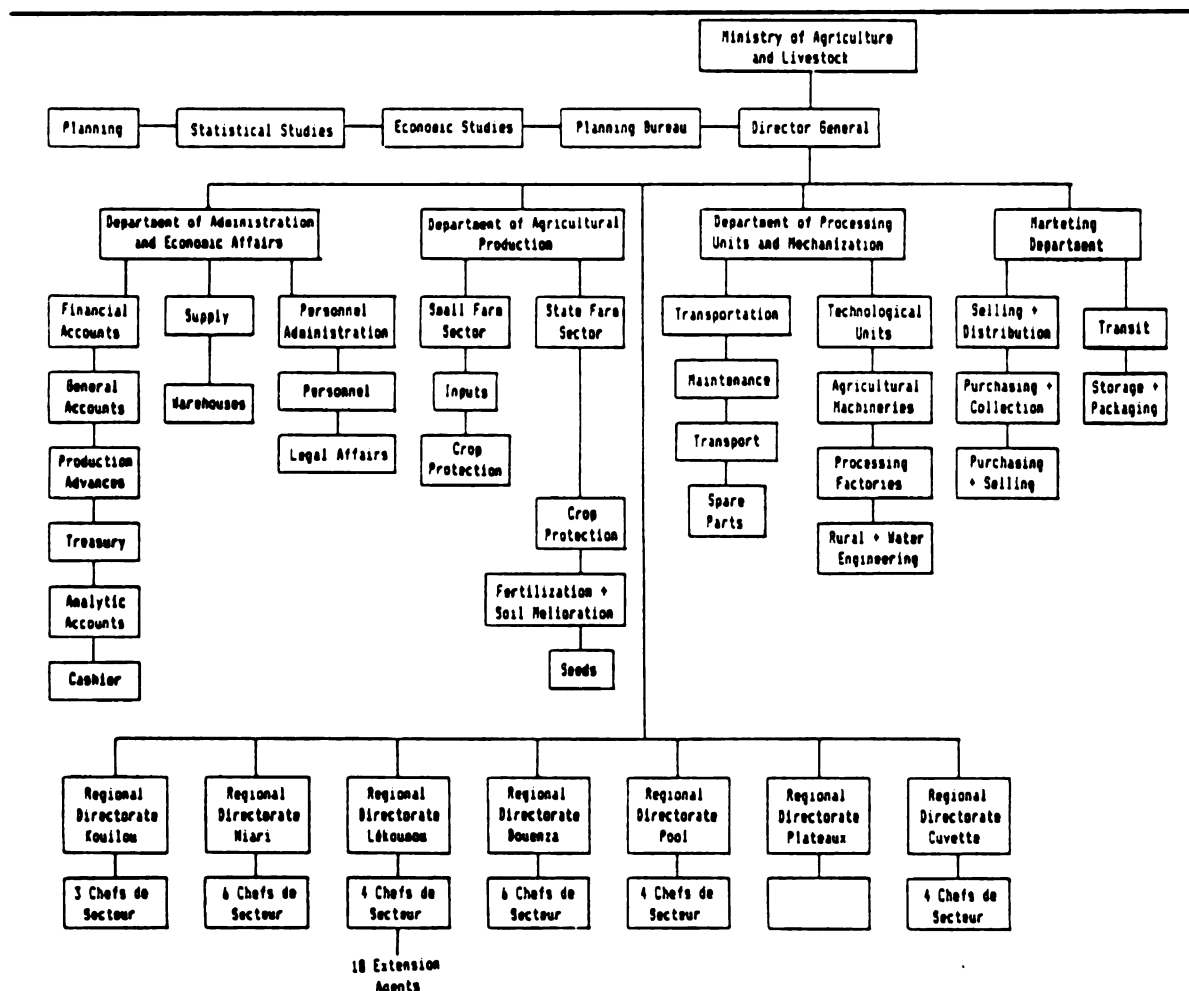
directly responsible to the Secretary General of MAE, who acts as the Deputy Minister of MAE.³⁸

This structure extends to the field level. MAE, OCC, OCV, OCT and RNPC have their own regional bureaus and field personnel, although not all the "Offices" are represented in every region because of the different production areas of their respective groups of crops. OCV has regional bureaus in seven of the Congo's nine regions; the two northern regions are not included in its working territory as explained above. The Regional Directors of OCV are responsible and report to both their Director General and the Regional Directors of MAE. As stated in the section on the PDR, the latter assume the tutelage of all institutions for rural development in their assigned regions, and coordinate all the field activities of these institutions.

The organizational chart of OCV is given in Figure 13. As can be seen in this figure, the structure of OCV is relatively simple. The lines of authority are straightforward from top to bottom, with little intermediary levels between the Director General and the extension agents in the field. However, the number of employees which some people supervised was sometimes very large, especially considering the limited means of transportation and money in OCV. The Director General directly supervised 11 persons (7 regional Directors and 4 department Directors); some extension agents cover up to 15 villages, with 750 to 1500 farm

³⁸Since the government reorganization in 1987, MAE was integrated into the Ministry of Rural Development along with other Ministries working in the rural areas of the Congo. The organization of this new Ministry is not known, although the marketing boards are still separate entities. However, there relation within the Ministry is not known, but it is assumed that it has stayed the same as under the old Ministry of Agriculture and Livestock.

families, which made the task of the sector chiefs (Chefs de Secteur) of controlling and supervising the work of the agents nearly impossible.



Source: Y. Cassignard, *Amélioration des Systèmes de Commercialisation en République Populaire du Congo*. Technical Report, project UTF/PRC/004/PRC. Rome: FAO, 1982.

Figure 13: Organizational chart of OCV.

OCV extension activities nationally were coordinated by the "Chef de Service" of the Small Farm Sector Service at the central office in Brazzaville. This Service consisted of four persons, and coordinated not only extension and training activities within the OCV but also the supply of inputs (such as fertilizer, seed dressing, and pesticides) and crop protection campaigns for the small farmers.

The regional directorates' linkages with the marketing and transportation departments are limited mainly to the periods of the marketing campaigns.

OCV manages five state farms, which are controlled by the State Farm Sector Service within the Agricultural Production Department. The state farms are large, heavily mechanized units of hundred of hectares. Crops produced are cassava, rice, maize and peanuts. There are no formal linkages between these state farms and the (extension) activities directed at the small farmers and village cooperatives.

Linkages with Other Organizations - External Linkages.

In contrast to the PDR, which was created and molded with the help of UNDP/ILO (although built on the remnants of the ARR), OCV is a purely Congolese evolved institution. However, after the first two years of operation, its shortcomings (lack of qualified management and personnel, transport and other equipment, and finances) became increasingly clear and were seen as hampering the attainment of its objectives. For this reason, requests for assistance to improve OCV's operations were addressed to numerous bilateral and international aid agencies.

According to Hung, the assistance has been concentrated on three main areas: 1. institutional development and reinforcement of OCV's administrative structure, 2. support to OCV's major rural development programs, and 3. improvement of rural road conditions.³⁹ Most of OCV's external linkages are, therefore, with projects helping the agency to improve its operations. These projects are narrow in scope, and deal with some particular aspect of OCV, including extension, marketing and promotion of food crops, and food production. A list of projects and organizations linked with OCV follows:

- a. FAO has executed several projects in the area of food crops and assistance to OCV, such as the development of the OCV extension service (in the Lékoumou and Cuvette), post harvest food losses (in the Bouenza), cassava production, and promotion of fertilizers.
- b. The African Development Bank financed a program to strengthen OCV's management capacity at the central office, to provide the necessary infrastructure for its marketing operations, and also financed a rural roads program in the Bouenza region to facilitate the collection of agricultural products in the remote villages of the region.
- c. IFAD financed a number of activities in the Plateaux region, the major potato producing region in the Congo (activities are not specified).
- d. USAID/CARE provided technical expertise and machineries to set up a seed farm, to build village storage facilities in the Niari and Lékoumou regions, and to set up a revolving fund for the marketing of food crops in these two regions.
- e. The PDR project in the Pool and Plateaux regions included extension activities for food crops; OCV's extension messages were transmitted via PDR extension personnel. This project is described in more detail in the first section of this chapter.
- f. The West German foundation Friedrich Neumann provided assistance for the training of personnel, the weekly broadcasts of Radio Rurale, and transport and training materials for the field teams. Information on the production of food crops and on

³⁹Hung, op. cit., 180.

the marketing campaigns prepared by OCV staff was broadcast by the rural radio project.

- h. Rumania provided training for the OCV mechanics in maintenance of farm machinery and transport equipment on a bilateral assistance agreement with the Congolese government and OCV.
- i. Centre des Recherches Agricoles de Loudima (CRAL). The research carried out by CRAL has mostly been concerned with the state farm sector. Very little information is available or exchanged with OCV concerning the subsistence farm sector. The FAO extension projects in Cuvette and Lékoumou, as well as the CARE project set up their own adaptive research units to alleviate this short coming.
- j. In the Pool and Plateaux regions, there is some collaboration with OPMA, BNDC, CNCA and CVTA (see section on the PDR project).
- k. The bulk of products OCV bought from the farmers was sold to the agro-industries HUILKA (peanut oil factory), MAB, UAB and UPAB (flour mill and/or animal feeds factories).
- l. OCV was obliged to sell all the rice it milled at its factories in Mossendlo, Ewo, and Madingou to OFNACOM, a state cooperative store which had a monopoly for the selling of rice in the country through its nationwide network of small stores.
- m. OCV's Planning Bureau received assistance for the collection of agricultural statistics and information on the small farm sector from a FAC financed project executed by the French consultant firm SODETECH.
- n. The West German Embassy donated several six-ton Mercedes trucks and two-ton four wheel drive Unimogs to strengthen OCV's transportation capability in order to facilitate its marketing activities.

Means to Achieve the Objectives

Human Resources.

The lowest level of personnel in the field are the extension agents, called "encadreurs de base". Many of these agents are former ARR

cooperative members, having either the rank of "permanent workers" or "moniteurs," the latter having completed a one year course in agricultural techniques given by the MAE. Since the early 1980s, these relatively unschooled extension agents (but not necessarily bad extension agents) are being replaced and supplemented increasingly with graduates from the "Collèges d'Etudes des Techniques Agricoles" (CETA), a 2-year agricultural school leading to the Brevet d'Etudes Moyennes des Techniques Agricoles. These graduates have the professional title of "Conducteur d'Agriculture" and many of them also assumed the posts of "Chefs de Secteur."⁴⁰ Since 1983, graduates from the "Lycée Agricole," called "Conducteur Principal d'Agriculture," were taking over these posts. Graduates of the Lycée Agricole have a diploma equivalent to a French Baccalauréat. The CPA's were specialized in some aspect of agriculture, contrary to the more generalist education the CA's had had (see section on agricultural education in Chapter 4).

Quantitatively, the number of extension personnel was very low. The Lékoumou region was the only region to which MAE had assigned extension agents, although their number was still insufficient to effectively reach all farmers of the region. According to a report of Cassignard, in 1982 MAE had assigned only ten extension agents to the OCV (in the Lékoumou) of the 300 it had promised the agency.⁴¹ This number increased somewhat in the following years when new agents, just

⁴⁰A Chef de Secteur is in charge of all OCV activities in an area usually equivalent to the administrative districts. He supervises a number of extension agents, plans the marketing activities in the district, and advises the district presidents on matters concerning food production in the district.

⁴¹Cassignard, op. cit., 23.

graduating from the CETA's, were assigned to the OCV. Except for the Plateaux region, all posts of chef de secteur were filled in 1982. During the marketing period, both extension agents and sector chiefs were engaged almost full time in the marketing of OCV crops, leaving little time for extension activities.

All senior staff of OCV (director general, department and regional directors, and the "chefs de service" positions at the central level) were university graduates. These top level administrators had completed either the five year program at various institutes of the Marien NGaoubi University or at universities abroad, many in the USSR, Bulgaria or Romania, or the two year program leading to the diploma of "Ingénieur de Travaux Agricoles" at the IDR in Brazzaville. Although there were some exceptions, most of these positions also required membership in the Congolese Workers Party.

Table 16 gives a listing of the staff positions and the numerical strength of OCV personnel. OCV is a rather top-heavy organization with a concentration of qualified personnel in the central office in Brazzaville. Of the 21 agronomists in OCV, ten are working in Brazzaville, and the author suspects that the other 11 are assigned as regional directors (of which there are 7) and as directors of the state farms operated by OCV.⁴² All these posts were mainly administrative, so very little of their technical expertise was being used by the organization, especially in the extension service. As can be seen from

⁴²FAO Human Resources Division, Organisation et Gestion des Services Agricoles et d'Approvisionnement des Petits Exploitations Ruraux en Burkina Faso, Sénégal, Congo et Cameroun (Rome: FAO, 1985), 31.

the chart in Figure 13, there are no subject matter specialists nor crop or problem specific program leaders within the agency, compounding the problem of the lack of technical backstopping of the agents and their lack of training.

Table 16: OCV personnel and its assignment to the various divisions of OCV.

	Senior Staff	Junior Staff	Others
General Directorate	9	9	21
Regional Directorates	6	69	15
Production Units	8	9	82
Total	23	87	118

Note: The "moniteurs d'agriculture" are included in the junior staff, although they are not professionally classified in this categorie. The category "other" includes both administrative personnel as well as drivers, mechanics, tractor drivers, warehouse managers, and the "ouvriers agricoles" working as extension agents.

Source: PNUD, Document de Projet PRC/78-003 du 15 février 1983, 7.

OCV can exert little influence over staffing policies. Because of its financial difficulties, the agency has not been able to function as a semi-autonomous agency as it was designed to be. For this reason all its employees are governmental employees on the payroll of Public Service. Therefore, OCV must adhere to government hiring practices and the Public Service largely determines OCV personnel policies. OCV's

regional directors are assigned by presidential decree, while all other staff, including extension agents, zone chiefs, marketing agents etc., are assigned by ministerial decree. The direct power of the Director General of OCV over personnel is limited to the hiring and firing of the secretaries, drivers and bookkeepers.

The OCV Regional Directors' authority over personnel is limited to moving people to different posts within the region, although approval is still required of the regional MAE Director and the political authorities, representing the Party. Transfer between regions or to different units of the MAE must be approved by the central OCV office and the Public Service; final approval and the assignment to a new post is given by the Minister of Agriculture and Livestock in a decree signed by the latter.

All personnel is usually assigned to a post for a period of three years, with a possibility for renewal.⁴³ Vacation periods are not allowed during these three years, but is all taken at the end in one block of three to four months. People often request a new assignment after their leave, which can take as much as three to four month to materialize. During this period, no other personnel are assigned in lieu of the absentee, which is especially damaging for ongoing extension programs but also for the other OCV activities both in the field and the central office. The relatively short duration appointments of three years to any one post is also very disrupting in providing some continuity and stability in service activities to the farmers. Personnel

⁴³This is not a OCV policy, but is the general personnel policy set by the Congolese Public Service.

is also not pressed in seeking good relations with the farmers, because they know they will be assigned somewhere else after three years. A good relation with the supervisor and cultivating connections with the MAE personnel department was therefore more important than good work to get a desired posting in the future (which hopefully would be in the capital city).

Transport Equipment

None of the field agents or the sector chiefs had any means of transportation, which limited their activities to the villages where they were posted and the immediate surroundings. Supervision of the agents by the sector chiefs was therefore something unheard of. In the Lékoumou, this situation was improved in 1984 when the OCV agreed with the FAC/SODETECH project that upon the completion of the agricultural survey of the region the agents involved with it could buy the mopeds used for the survey on credit. OCV guaranteed the provision of fuel and some spare parts. The mopeds would become the property of the agents so that the equipment would be maintained better. The same procedure would also be used for the other two regions where the FAC/SODETECH had planned to carry out a survey (Pool and Niari). However, field personnel in the other OCV regions were expected to continue their work on foot. The regional OCV directors had Landrovers, but these were all old and more often in repair than on the road. By consequence, the directors did not visit their personnel very often in the field.

For the marketing campaigns and the transportation of inputs, the OCV disposed of a number of two and six ton trucks. The older vehicles, inherited from the ONCPA and frequently in disrepair, were being replaced by new Mercedes trucks donated by the West German Embassy. This new equipment greatly improved OCV's transport ability and made for smoother marketing campaigns with less interruptions because of breakdowns of equipment. All vehicles were based in Brazzaville and the Processing and Mechanization Department of OCV would assign a number of trucks to the various regions during the marketing periods according to expected quantities and state of the roads.

Personnel at the central OCV office did not have any transport equipment. For their sorties to the field they relied on vehicles of various projects assisting OCV with which they would hitch a ride to visit regional offices, field agents, and farmers.

Financing of OCV

Little information about the financing of the OCV was found in the reports studied. As mentioned above in the paragraph about staffing, all OCV personnel were paid by the Congolese Public Service. As the OCV was designed in 1979, however, all personnel were supposed to be on the OCV payroll, and paid with the profits made on the state farms and through the marketing operations. However, the small profits made from the marketing of agricultural produce from the small farm sector were far

outweighed by the losses of the state farms, and by the non-payment of deliveries by the state agro-industries.

OCV founding capital was 1,412,235,000 F.CFA, but, according to Cassignard, this capital was never completely released by the government.⁴⁴ This exacerbated the financial difficulties of the agency, which did not have sufficient funds and collateral to obtain credit without the release in full of the starting capital. The advance funds necessary to carry out the marketing campaigns had thus to be obtained from extra-budgetary government funds after long deliberations with the planning and finance ministries, leading to long delays and interruptions in the marketing and large losses of produce due to insect and fungal attacks on the farms.

The absence of its own working capital, its firm integration within the Public Service which pays the salaries of all OCV personnel and the fact that OCV budgets are not published make it difficult to obtain information on the financing of the agency.⁴⁵ The numbers stated below are therefore "guesstimates" based on salary costs given as counterpart contribution to the UNDP/FAO project and the amounts of products marketed by OCV.

The government sets agricultural buying and selling prices annually to which OCV must adhere. These prices are uniform throughout the country, and do not take into account differences in collection and

⁴⁴Cassignard, op. cit., 23.

⁴⁵The government's investment budgets are published, but not its annual operating budgets. Also, the investment budgets do not include allocations to individual agencies within the government, but only give information on total allocation per sector (agriculture and forestry, building and public works, etc).

transport costs in the various regions of the country. Table 17 below gives a rough indication of the marketing volume of the food crops controlled by OCV.

Table 17: Total amount of products marketed by OCV and payments made to farmers between 1980 and 1986.

	1980	1981	1982	1983	1984	1985	1986
Total volume, 1000 tons	5.8	4.2	6.8	5.4	6.2	2.4	3.9
Payments to farmers and state farms, million CFA	149.9	546.2	531.3	494.5	667.7	245.3	676.1

Source: Bulletin d'Afrique Noire, No. 1299 of December 19, 1985; and OCV figures cited in Groupement BERETEC, SED/SEP-Développement, Agriculture: Mesures de Politique Economique, Rapport Principal.

The following figures for the state farm operations are indicative for their financial health. In 1979, revenues amounted to a total of 51,370,000 CFA against operating expenses of 229,645,000 CFA, a deficit of 178.3 million CFA before taxes.⁴⁶ Although these figures date from before OCV took over the management of the state farms, their operations

⁴⁶ The source of these figures is a UNDP report, as cited in Tien Hung, op. cit., 202.

have not improved much since. The farms continue to be money losing enterprises.

The OCV is, therefore, an agency continuously in debt, having many difficulties in obtaining credit from banks to finance its marketing operation. The very slow remittance of the OCV national budget share by the Ministry of Finance further compromises the agency's operation and seriously affects its reputation with the small farmers. Even with the relatively adequate planning of marketing operations and forecasting of marketable amounts of produce, delays in marketing are endemic because of the lack of timely funds.

Based upon the above figures and taking farm price and salary increases and inflation into account, one can estimate OCV's yearly budget to be between four and five billion CFA. This figure does not include financial aid received from the numerous projects assisting OCV.

The Higher Stages of Bennett's Evaluation Model

The higher stages of evaluation criteria will be dealt with in one section for this project. Because of the undeveloped extension component of the OCV, it will not be possible to describe these criteria in much detail. Extension activities for the agency have been limited to external assistance projects financed by various development banks and aid organizations. Two of these aid projects will be described later in this chapter. Since OCV's extension activities were almost exclusively done within the framework of these projects, the higher level evaluation criteria will be dealt with in the descriptions of these projects.

OCV's activities in the rural areas of the Congo have been limited almost exclusively to the marketing of the five food crops for which the organization had a monopoly. Many farmers sold their produce through OCV, but this was more by default than by choice and cannot really be called "participation." The marketing monopoly was abolished in 1986 due to the poor performance of the agency in this area.

OCV extension activities have been very rudimentary, and were limited to haphazard distribution of improved peanut and rice seeds and manual corn shellers. Extension staff was in place only in the Lékoumou region, but even in this region extension and farmer training activities were minimal before the arrival of the UNDP/FAO "Assistance to the OCV" project in 1982. Extension agents and sector chiefs were more involved in policing the region to prevent "illegal" sales of monopolized products than in educating and organizing the farm community. The agents thought that extension was limited to announcing the dates of the marketing campaigns, and to sensitizing farmers at the beginning of the planting season to plant more of the OCV controlled crops but without giving much technical advice on improving production methods, prevention of plant diseases, etc. Because of the lack of any means of transportation, the agents usually limited their activities to the village in which they were posted and/or to the "groupements précoopératifs" (GPC's) in their zones.⁴⁷ Supervision and reporting was

⁴⁷The GPC's have not limited themselves to the PDR project areas, but can be found in other regions of the Congo as well. However, they do not receive much assistance in these other regions as in the Pool and Plateaux. The GPC's are the primary extension target of all organizations working in the rural areas because of the government's socialist orientation which stresses socialization of the agricultural sector and collective production units.

nonexistent before the arrival of the projects, and no statistics were kept on the numbers of farmers reached, meetings held, training sessions or demonstrations carried out, etc.

However, in spite of the problems OCV had (and has) carrying out its mandate, the USAID/CARE project document duly notes that it would be a mistake to dismiss the program as an outright failure. As the document states:

"Local farmers note that prior to OCV they had problems marketing crops such as rice and corn. Private traders apparently had (and have) little interest in the sparsely populated areas that make up much of the Congo. ONCPA's old systems of chits has been done away with and payments are made in cash at the time of crop collection. A certain amount of seed (corn, rice and peanuts) has been distributed, but this effort has not been adequate. In summary, OCV has generally been well received by farmers because of their experience with even worse systems."⁴⁸

The relative newness of the OCV and the government's apparent lack of commitment to supporting the agency (expressed in difficulties in obtaining sufficient advances for the marketing campaigns, assignment of field personnel, and the non-release of all its founding capital) have contributed to OCV's rather dismal performance. However, OCV is the only organization working in the rural areas dealing with the production and marketing of food crops on almost two-thirds of the Congo's territory and touching all farm families in some way or other. It is also the chief organization potentially able to provide economic and financial benefits to rural women, the chief producers of food crops in the

⁴⁸USAID, Congo Smallholder Agricultural Development I : Project Paper (Kinshasa, Zaïre: USAID, 1981), 3.

country. Consequently, rural women should be the main target of any OCV activities in the rural areas, although in practice just as many (or maybe even more) men were reached mainly because all field personnel were men. The importance of OCV is recognized by all parties involved, but they also recognize the difficulties and many changes necessary within the agency to make it viable and beneficial to the farmers as a rural development organization trying to increase and improve rural incomes and living conditions.

THE UNDP/FAO PROJECT "ASSISTANCE A L'OFFICE
DES CULTURES VIVRIERES"

Creation of the Project

The creation of the "Assistance to OCV" project is narrowly connected with the creation of the OCV itself. A description of the Office is given in the previous section of this chapter; therefore, only a brief reminder will be given here on the OCV as it relates to the history behind the project.

The state interventions in agricultural sector, such as the creation of state farms and farmers' pre-cooperatives, were not able to increase agricultural production significantly. The government, therefore, made the decision in 1978 to abolish the state marketing agency, ONCPA, and to follow a more commodity focused approach to agricultural development. Two new agencies charged with the marketing, training and extension, and the input supply for a limited number of crops were created to promote and strengthen the traditional agricultural sector. The Congolese government asked the FAO for two missions to identify possible assistance of the UNDP and FAO to these newly created state agencies in line with the new agricultural policies aimed at the small farmers and the amelioration of small farm production. These missions identified the following areas of intervention necessary to carry out these new policies:

- agricultural extension
- applied research to define extension themes and to determine the inputs necessary to increase the production
- a marketing network supporting and remunerating the farmers for their efforts.

Based on the results of these two missions, a preparatory phase for a UNDP/FAO project called "Assistance à l'OCV" was formulated; this phase lasted 12 months from June 1980 to June 1981. At the same time though, the government also solicited support from other donor and development agencies to strengthen the OCV and to stimulate food crop production, such as the African Development Bank, CARE, IFAD, UNDP/ILO, FAC, FAO, the Friedrich Neumann Foundation, and bilateral aid from China and Romania.⁴⁹ In view of these various other sources and areas of assistance, it was decided at the end of the preparatory phase that UNDP/FAO project assistance to OCV was needed in two areas, namely the establishment of an agricultural extension service within the Agricultural Production Department at the Direction Générale in Brazzaville, and the organization and support of OCV activities in the regions.

Two pilot regions were chosen for the project, the Lékoumou in the southern part of the Congo, and the Cuvette in the North (see map in Figure 14). After a delay because of disagreements by the government over the project document which demanded another FAO mission and reformulation of project objectives by UNDP, a project agreement was

⁴⁹AfDB assistance to OCV was in the area of management and marketing infrastructure, and activities in the Bouenza region; CARE activities took place in the Niari and later also in Lékoumou and are described in this chapter; IFAD executed a project in the Plateaux; UNDP/ILO assistance concerned the integrated rural development of Pool and Plateaux (see first section of this chapter); FAC financed the assistance provided by IRAT and ORSTOM to the national agricultural research center; FAO executed projects in cassava production, post-harvest food losses, and fertilizers; the Friedrich Neumann foundation supported literacy training and the Rural Radio program; Chinese aid was given to vegetable farmers around Brazzaville and to the CVTA center in Pool; Romanian aid was in state farm management and technical assistance to the mechanization department of OCV.

finally signed on October 26, 1981. The project, which had an initial length of three years, became operational in May of 1982 in the Lékoumou, but only much later (November) in the Cuvette because of problems in recruiting personnel.

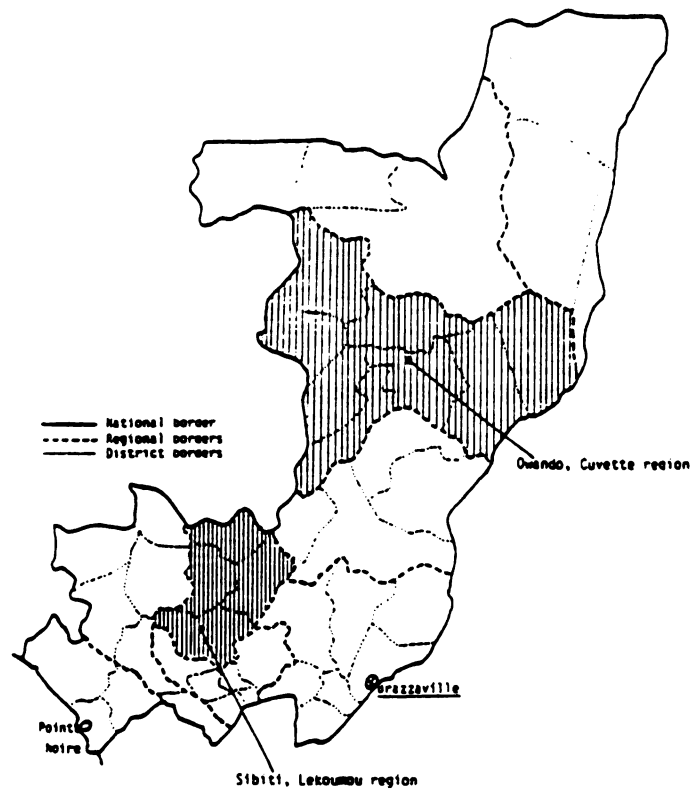


Figure 14: The Assistance to OCV project zones: the Lékoumou and Cuvette regions.

Goals and Objectives of the Assistance
to OCV Project

The goals of the project as defined in the project document were as follows:

1. To set up an extension unit within the Agricultural Production Department of OCV with the tasks of creating an extension system covering all the regions in which OCV is active, and of directing, supporting, and controlling all extension activities in the field;
2. To organize and manage OCV's interventions in the rural areas in two pilot regions, Lékoumou and Cuvette, both in the field of agricultural extension and in related fields that have an influence on the effectiveness of extension activities;
3. To design a system of supervision, monitoring and evaluation of the various extension activities carried out in the field.

The objectives to be accomplished by the project based on the above goals were fourfold:

1. The establishment of an extension system in each of the two pilot regions, comprising the definition of assignment areas for each extension agent, the organization of technical, economic and educational support necessary to carry out the mission, and the execution of cost/benefit analysis to determine the efficiency and effectiveness of extension.
2. The execution of base-line agronomic studies in the two regions to determine the needs for extension, the constraints, and possibilities for helping the farm population.
3. The establishment of a system of on-farm testing and research to develop and test the value of extension messages under actual conditions of the small farmers. Trials to be carried out were to take both research recommendations and input availability into account.
4. The training of extension personnel at all levels (23 senior staff, 78 medium level cadre, and 118 other employees) in the central office in Brazzaville, in the regions (particularly in Sibiti and Owando), and at the village level (selection and training of village extension workers).

These goals and objectives were rather specific in what was expected to be accomplished during the implementation. In addition, the project also had to take into account the mission statement of OCV itself and of the rural development policies spelled out in the national development plans of the Congo (see sections on the agricultural system in Chapter 4 and on OCV goals in Chapter 5), especially as they related to diminishing rural to urban migration, rural un- and underemployment, and food self-sufficiency by the year 2000.

Function of the Assistance to OCV Project

The main function of the project was institutional development: the design and establishment of an agricultural extension service for food crops within the Office des Cultures Vivrières. The activities were all directed at building and strengthening the extension unit of OCV, especially at the field level, and were chiefly in the areas of information gathering (through base-line studies and applied multi-locational trials) and dissemination via extension programs and training of extension personnel and farmers. The project also provided some service activities related to building an effective extension service such as: program planning, technical back-stopping of personnel, development of training manuals and informational materials, organization of input supply, monitoring and evaluation of the extension programs in the villages. However, these service activities also had an educational aspect in so far as project personnel were to train

Congolese counterparts to take over these activities at the end of the project.

Organizational Structure and Internal Linkages

The organizational setup of the project is given in Figure 15. At the national level, the project was integrated into the Agricultural Production Department of OCV. On paper, its director functioned as counterpart of the project senior technical advisor, but in practice the counterpart function was filled by the chief of the small farm production service (CS-SPP). The CS-SPP was assisted by three employees, and was not only in charge of agricultural extension but also of input supply and plant protection activities for the small farmers.

The senior technical advisor post for this project was filled for only five months during the first year-and-half of the project's life because of the difficulties FAO had in recruiting a suitable person for the job. After only five months in this post, the STA resigned to accept a better position elsewhere. During the other months, the STA of a similar project within the OCC was in charge of the project as interim project manager. After the mid-term evaluation of both projects in July, 1983, the interim STA was put in charge of both projects and was to be assisted by two national experts as adjunct project managers (one for each Office). The post of national expert for the OCV project was filled by the CS-SPP between May 1985 and December 1986.

At the field level, there was a team of one FAO extension agronomist and one UNV assistant extension agronomist in each of the two

pilot regions. The original project document had not specifically assigned any counterparts to the expatriate personnel but designated the regional directors as coordinators of the field activities of the project. It soon became clear that, due to the multiple functions that the regional directors already fulfilled, they were unable to take on the additional responsibilities of training, supervision, and monitoring of the extension activities in the regions. The evaluation mission therefore recommended the recruitment of counterparts to the project team; they arrived at their post in December, 1983 in the function of extension trainers (see the organizational chart in Figure 15).

The UNV's tasks were to assist the project experts and regional directors with the implementation of the extension service in the region, and to animate and supervise the village extension workers. In practice, they ³were involved in all project activities and no differentiation was made between the tasks of the experts and volunteers.

Only weak internal linkages existed with other departments of OCV such as the Marketing Department, the Department of Mechanization and Processing Units, and the supply service within the Administration Department. Also, the linkage between project personnel in the two regions was very limited with almost no cooperation and coordination of activities. The project therefore developed very differently and independently in each region.

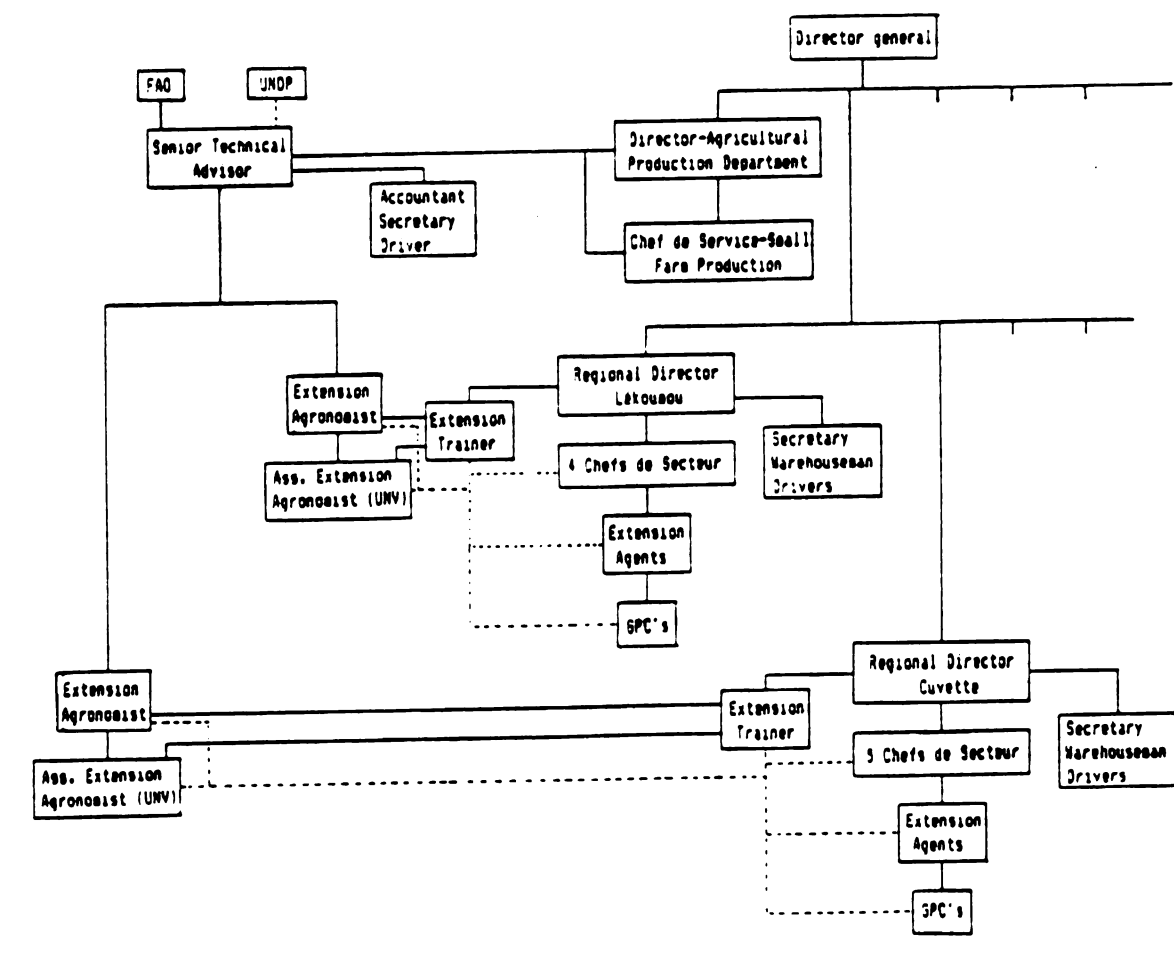


Figure 15: Organizational chart of the Assistance to OCV project and its integration into the OCV structure.

External Linkages

The main linkages established with other organizations and agencies by the project were with the OCC project which covered the same regions and with the national research center CRAL. Relations with CRAL

were established to obtain improved seeds for further testing to determine their value in the project zones, and to discuss research recommendations and future areas of research.

Linkages were also established with the Radio Rurale program for the production of audio-visual extension aids. The project included some support personnel and materiel for the production of especially visual aids (slides, video, posters), but it did not envisage the establishment of a separate workshop for producing audio-visual extension materials. Instead, the services were to be provided through a collaborative agreement with the Radio Rurale which already had the personnel and means to produce such material.

Other linkages were few and mostly on an ad-hoc and/or personal basis rather than on a professional, sustainable basis. This was partly caused by the interim character of the project manager position. These links include:

- the USAID/CARE projects in the Niari and Lékoumou by the project personnel in the Lékoumou project zone to discuss storage problems and seed production, and the possible cooperation in extension efforts to promote improved seeds produced on the CARE farm in Mossendjo and improved storage techniques at the village level.
- the World Food Program for small food-for-work projects in the two project zones and for partial payment of the new village level extension workers recruited and trained by the project.
- the FAO/Congolese government project "Assistance à MAE pour le Développement de la Production Vivrière et de l'Élevage en Milieu Paysan."
- the SODETECH agricultural census project carried out in the Assistance to OCV project zones.

The mid-term evaluation mission recommended that the project should make an effort to formalize some of these more informal connections, and also to seek collaboration with other programs and agencies of relevance to the project's activities such as the FAO fertilizer program and the FAO executed soil fertility and post harvest food loss projects.

Planning

Planning within the project was undertaken at the regional level for the most part in order to reflect the differences in local conditions (growing seasons, soil, water and vegetation differences, tribal preferences and traditions, etc.). General guidelines were given by the senior technical advisor on the number of training programs, training content, and research and demonstrations to be carried out in each project zone. In additions, the OCV general directorate put forth directives on special topics to be promoted during the cropping season, such as the promotion of particular varieties of peanuts suitable for export or of rice with better milling qualities. However, especially the OCV directives were difficult to accomplish because of a lack of seeds or of sufficient adaptive research to make the messages acceptable to the farmers. The necessity of adapting the extension programs to the local level and the planning of programs to suit the local conditions also reinforced the independent development of the project in the Lékoumou and Cuvette regions.

Means to Achieve the Objectives

Human Resources

The Assistance to OCV's human resources comprised both expatriate and Congolese personnel. The expatriate project staff consisted of one senior technical advisor (based in Brazzaville), two FAO extension agronomists and two UN Volunteers/assistant extension agronomists who were working in teams in the field in each region. Both the interim and temporary STA had MS degrees in agronomy from a French university with many years experience in agricultural extension and rural development in Africa, serving in high administrative posts in their respective countries of origin (Benin and Cameroon). The two FAO experts also had master's degrees in agronomy and had many years experience in various countries and regions of the world in rural development, agricultural and/or extension education. The Volunteers had generally less experience (a minimum of two years was required), but had to have at least a BS degree in agriculture or agronomy.

Many problems were encountered in the recruitment of the expatriates. The interim STA was already in the country serving as STA for the OCC project and had also served as the consultant during the preliminary phase of the project. The STA who served as the project manager finally arrived in January, 1983, but stayed only five months in this position before resigning. The previous interim STA was then assigned as the permanent project manager, in charge of both the OCV and OCC projects. The first FAO expert arrived in the Lékoumou in May, 1982;

the expert for the Cuvette arrived in October of that year. The UNV's arrived in September 1982 and July 1983, four to seven months later than the experts. This contributed also to the slow start of the project, because the regions were too large for the experts to effectively carry out all activities related to the project implementation by themselves. The experts did not have full time counterparts until the end of 1983. The regional OCV directors who were acting as counterparts before that time did have too many other occupations to be able to help the experts much in the execution of their tasks. A replacement for the UNV in Lékoumou who finished his tour of duty in September 1984 arrived in February 1985, while a replacement for the Cuvette UNV arrived in December 1985. An additional UNV was assigned to the project in April 1985, but it is not clear to which region he was assigned. Both expert positions were eliminated at the end of 1984, and the project continued with only volunteers in the field under the guidance of the STA until January 1987. The Volunteers continued their work until the end of 1987 when the Assistance to OCV project was terminated.

The Congolese personnel assigned to work in/with the project consisted mainly of field personnel in the two project zones. At the national level, counterpart personnel was very limited and included only the director of the agricultural production department of OCV and the chief of the small farm production service with his three or four co-workers. In practice, it was especially the chief of service that was in charge of extension activities, and, in addition, also was charged with organizing the input supply and crop protection activities for the small

farm sector. Based on the recommendation of the mid-term evaluation mission, the government appointed two "ingénieurs de travaux agricoles," recent graduates of the two year program at the IDR, to the project to serve as counterparts of the FAO experts in the regions. They arrived at their posts in December 1983 in Lékoumou and in February of the following year in the Cuvette.

The OCV personnel situation at the field level was very different in the two regions. In the Cuvette region, the only field personnel present were five "chefs de secteur"; these personnel were based in the administrative district and oversaw all OCV activities in the district. No extension agents were present in the region at the arrival of the FAO expert. Thirty village extension workers were selected and trained by the project in early 1983, but no money was available to hire them. They executed limited extension activities on a voluntary basis until June 1984. A system of payment for performance based on five evaluation criteria was instituted and accepted by 25 of the agents. The five criteria were: personal/family field of the agent, demonstration fields, intensity of extension activities, productivity increases realized, and maintenance of transport equipment on loan from the project. During the first year, the agents also received some food from the World Food Program that sustained them during the first cropping season until the first payments after the harvests. The payment for performance system worked well in its test phase and the agents were pleased with it, but there were still some unresolved questions related to providing social security and health insurance for the agents. Because of its success and to replace some of the trained agents that did not accept to work under

the new payment system, an additional 17 agents were trained and hired in July 1986.

In the Lékoumou, the regional MAE directorate had transferred eight of its "agricultural laborers" and three of its "moniteurs agricoles" to the OCV to work as extension agents. In addition to these personnel, the OCV had four "conducteurs d'agriculture" who worked as chefs de secteur. In 1983, MAE assigned four more CA's and two CPA's to the Lékoumou region to strengthen the extension staff of the region. All these staff members were public servants and subject to the rules and regulations of Public Service. In 1983, the project also selected and trained 13 young villagers to serve as extension agents in their villages; but, as was the case in Cuvette, these people were not used for nearly two years because of the budgetary problems of the government that prevented them to be integrated into the public service. Starting with the 1986-87 cropping season, the system of paying the agents on the basis of production increases realized as was done in the Cuvette was also implemented in this region. However, by that time only seven of the originally trained eleven new agents did join the OCV field staff and agreed to work under the new conditions. An additional 15 agents to work under the system were trained in September 1986 and started to work upon completion of the training. It is not known what role of the old Public Service extension agents trained and used by the project (conducteurs, moniteurs, and ouvriers agricoles) was when the new system was implemented. According to the project completion report of FAO, only 22 agents were working in the Lékoumou at the end of the project. However,

many more should have been working in the region if the older agents continued their service also.

Regular refresher training courses were given to all field personnel of OCV by the project staff at the beginning and halfway during each of the two yearly planting seasons. The mid-season sessions included a number of leader-farmers as of the 1984-85 crop season. An overview of the training sessions carried out by the project and the content of the new agent training sessions is given in Appendix 8.

Transport Equipment

Project personnel were given four-wheel drive vehicles for their work. The experts had station wagons; the volunteers had pickup trucks which could also be used for transportation of seeds and other inputs used for demonstration fields, and for the transportation of farmers during farmer field days. Most extension personnel did not have any form of transportation and were required to either go on foot or in a rare case use a personal bicycle. Mostly though, they stayed at home or limited their activities to a few neighboring villages. None of the chefs de secteur had any transportation; monitoring and supervision was carried out only in joint field trips with the project personnel. The situation improved in the Lékoumou in 1984; the SODETECH census project agreed to sell the mopeds used during the census to the agents and chefs de secteur on credit. Payments would be automatically deducted from their salaries, while OCV agreed to supply fuel, some spare parts, and reimburse some repair costs due to normal wear and tear. However, the

agents were the owners and responsible for maintenance and proper operation.

All the new agents that were engaged on the payment-for-performance system were given bikes on loan. Maintenance was to be done by the agents and was included as a criterion in the performance evaluation.

The regional OCV directors had Landrovers assigned to them, but these vehicles were very old and more in repair than on the road. It was also difficult to find spare parts for these vehicles, because there was no dealer for this brand in the country. The two counterparts and the chief of the small farm production service did not have any means of transportation and were almost exclusively dependent on the vehicles of the expatriate personnel to make field trips.

All operating expenses for the project's transport equipment (insurance, fuel, maintenance) was to be provided by OCV according to the project agreement. In reality, very few expenses were born by the agency, which did not have any funds of its own outside the marketing periods. Most of the costs were therefore provided by the UNDP, in the beginning as a cash advance on the government's cost sharing budget for the project and, after a budgetary revision, as regular operating costs written in the UNDP budget for the project.

Audio-visual Equipment

The project purchased some audio-visual equipment for use in the training and extension programs. The project document⁵⁰ included two 35 mm cameras, two slide projectors with screens, two 16 mm film projectors, three cassette tape recorders, and one complete video unit including tv monitor, video recorder and camera. However, none of the expatriates or national personnel was skilled in producing educational audio-visuals, and no training was provided in this area either. The 16 mm film projectors and the tape recorders were later replaced with two sets of video playback equipment to show video tapes that were produced by a short term consultant hired by the project for this purpose. However, the video equipment was too fragile to be used for extension work in the villages, and could not withstand transportation on the rough rural roads of the Congo. Also, because of the adverse climatic conditions in the two regions, especially the high humidity, the equipment broke down only a few months after its arrival at the training centers in Sibiti and Cuvette.

In general, none of the equipment was used very much other than for the training programs of the extension personnel. Some filmstrips produced by FAO which depicted extension programs in other countries were used, but the situations in the films were not very appropriate for the Congo. Collaboration with the Radio Rurale program to produce audio-

⁵⁰"Project document" is term used by the UN system. It is the initial agreement between the parties involved in the project outlining goals and objectives, and also includes an implementation schedule. USAID uses the term project paper instead of project document.

visual and educational material for the project also never really materialized. Thus, the extension staff and personnel were limited to the use of specimens (if available), blackboards (which could be found in almost all villages), and locally available materials such as sticks to draw pictures in the dirt.

Training Facilities

In both regions the project had a training facility at its disposal, which was shared with the OCC project. In Owando, the training center was established in an old, abandoned farm belonging to the MAE. A class room was created in one of the buildings, while the surrounding land was used for practical training, demonstration and research fields.

In Sibiti, a class room was temporarily installed in part of a large storage hangar used jointly by OCC and OCV during their marketing campaigns. This was a tall building with large ventilation openings under its roofing but no windows. An 18 hectares plot of land was acquired in 1983 from the local authorities after reimbursing the owners of all economic trees on the land. The land was being used mainly for adaptive research, but farm days were also organized at the site to demonstrate new varieties and farming techniques. Extension agents and supervisors were also involved in the implementation of the research plots as part of their practical training in laying out and executing similar demonstration fields in their zones. A proposed training center comprising a classroom, offices and dormitory to be build at the teaching/research farm was never realized. The center was to be build

with the funds from the government's counterpart budget, but, as mentioned before, the funds were never (or only in limited amounts) turned over to the project. The limited funds received for the center's construction were used to improve the central access road through the site, the production of the bricks necessary for the buildings, and construction of a catchment basin around a nearby water source. No further construction was ever undertaken.

Financing

The Assistance to OCV project was executed with joint financing of UNDP and the Congolese government. A breakdown of the expenses for the first three years is given in Table 19. The UN Development Programme's share of the operating budget included the expatriate personnel, vehicles, audio-visual and office equipment, expenses for the production of educational materials, and some training and vehicle maintenance cost. The government share of the budget included senior and junior staff of OCV assigned to work with the project, support personnel (secretaries, drivers, a photographer, and a graphic designer), the training centers and offices with necessary furniture, costs for the training sessions and follow-up visits in the field, and part of the operating expenses (fuel, vehicle insurance, office supplies). Due to the government's financial difficulties related to the falling oil prices in the mid-nineteen eighties, hardly any of the operating expenses and equipment was disbursed and none of the 60 additional

extension agents were recruited,⁵¹ which made project implementation as envisaged very difficult. Later budget revisions decreased the government's share of the budget for these purposes. No information was available to the author to verify the division of responsibilities under these new budgets, except that salaries were removed from the new OCV budget.

Participation of the Target Population

In accordance with the government's policy of stimulating collective production, the project also focused its main attention on the "groupements précoopératives" (GPC's). This was also a more cost-effective way of reaching the rather scattered rural population of the two project zones, especially in the Cuvette where the villages were very small. Collective fields were also in general located closer to the village, and were thus easier accessible for visits, demonstrations, and farmer field days, etc. From a farmers' point of view, innovations introduced on the collective fields were more acceptable since none of the individual family's livelihood depended entirely on the output from the collective field. The project assumption was that innovations would be adopted and used by the farmers on their individual fields also if they were found worthwhile and profitable.

⁵¹As mentioned in the previous paragraph on human resources, the project was finally able to convince the government to engage 32 of the trained but idle agents under a payment-for-performance plan. Money for this purpose was diverted partially from the premiums paid to the GPC's for collective production efforts. Salaries were therefore not calculated as part of OCV's operating expenses and counterpart cost-sharing contributions to the project.

Table 18: Budget and budget allocations of the Assistance to OCV project during the first three years.

UNDP contribution:	Amount in US\$:
Long term Personnel	571,490
Short term consultants	15,919
National consultants	11,640
Training	28,100
Equipment	181,668
Miscellaneous	38,367
Total	845,768
Total disbursed at project completion	1,140,887
Government contribution:*	Amount in F.CFA
Senior OCV staff	75,570,483
Junior staff (60 extension agents and 11 chefs de secteur)	142,271,190
Support personnel	12,772,476
Equipment	96,503,152
Training	11,353,312
Operating expenses	15,965,595
Total	354,791,000
Total disbursed at project completion	100,000,000 excluding salaries

*The budget was revised upwards in 1983 to include the higher wages that were not used in the original budget. The numbers given are therefore estimates using the same percentage distribution of resources as the original 1981 budget.

Source: Programme des Nations Unies pour le Développement, Document du Projet PRC/78-003 du 15 février 1983.

In the Lékoumou, GPC's in 19 villages were selected as pilot areas for intensive, regular extension contact by the project personnel. These 19 GPC's were chosen after an initial reconnaissance of the region with visits to 85 villages and meetings with around 3,000 farmers. The total population of the 19 pilot villages was 9,501 persons; the GPC membership was 1,076 or 11.3% of the population. There were 430 men and 453 women in these GPC's (note: no sex division was given for two GPC's). During the first year of the project, 79 visits were made to these 19 GPC's, reaching 2,390 farmers (1,111 women and 1,279 men).⁵² During the second year of operation, the number of pilot GPC's decreased to 13 due to a lack of interest in growing OCV controlled crops caused by the marketing problems. Between June of 1983 and June of 1984, 114 visits were made to the pilot villages, reaching 1,820 male and 1,521 female farmers. The visits were made together with the chef de secteur of the respective district and the extension agent. The higher number of visits was made possible with the reinforcement of the project staff with a counterpart at the end of 1983. The extension activities in the other villages of the region were done by the extension agents themselves. A considerable spread effect of project activities could thus be reached. At the end of the project, the 22 extension agents covered 75 villages. The agents were supervised by four "chefs de secteur," who in turn were responsible to two zone chiefs.

In the Cuvette region, the project identified 30 extension perimeters after an initial survey of the region. In 15 of these

⁵²Figures are based on progress reports of the project staff based in Lékoumou and the end of mission report of the author.

perimeters, comprising 93 villages, the project expert aided by the five sector chiefs provided some basic extension and "animation" services. A total number of 19,000 people were reached this way in the period November 1982 to July 1983.⁵³ After the arrival of the UN Volunteer at this post, the extension activities were extended to include all 30 extension perimeters. No information was found on the number of farmers in these 30 perimeters and the number of GPC's and GPC members reached by the project. The integration of the 25 agents trained in 1983 at the start of the cropping season in October 1985 and another group in July 1986 did, however, substantially increase the number of farmers reached by the extension service. At the end of the project, 38 extension perimeters comprising 85 villages were operational. The region was divided into seven sectors (each headed by a "chef de secteur") and two zones.

Starting with the 1984-85 crop year, the project trained a number of village "animateurs" or leader farmers in improved farming techniques and some basic extension methods.⁵⁴ The training was given together with the mid-season training of the extension personnel which focused on harvest, crop protection and storage techniques, and field visits to the research and demonstration fields. The "animateurs" would serve as

⁵³FAO, Rapport de la Mission d'Evaluation (Rome: FAO, 1983), 15.

⁵⁴The initial plan of the Lékoumou project staff was to train 125 village "animateurs"; this was found a little over-ambitious in view of the availability of personnel and funds, and the number was subsequently cut in half. No data was found on the final number of persons trained.

contact farmers in the villages as a liaison between the extension agents and the farmers.

Source and Choice of Technologies

One of the greatest limiting factors affecting the functioning of the project was the absence of any technologies ready for dissemination to the farmers. The agro-ecological conditions around the agricultural research station CRAL, located in the Bouenza region, were very different from the conditions of the two project regions. Both Lékoumou and Cuvette are covered with dense forest; the soils in a large part of the Cuvette are also mostly sandy and have a very low fertility. The eastern part of the region is almost completely covered by inundated rain forest. CRAL on the contrary is located in a savanna area of rich soils but is much lower in rainfall (one half to one third of the amounts received in the Lékoumou and Cuvette). To alleviate the absence of suitable technologies, the project undertook some applied and adaptive research on the fields at the training centers in collaboration with CRAL. Varietal trials were done using both varieties developed at CRAL and varieties imported from other countries via the FAO seed service and through sharing with other projects. In addition, research was undertaken on improved farming techniques in order to determine the best cultivation techniques for the varieties chosen. This research comprised tests on fertilizer use and liming, planting dates, effects of weeding, and storage techniques. Some farmer managed research-cum-

demonstration plots were also established in the collective fields of the GPC's in several villages.

Although the trials should have been repeated over several years before any dissemination of results was made to the farmers, the technologies were already being introduced to the farmers after one year. The project staff was aware of the risks involved with this practice, but had no choice if it was to accomplish anything worthwhile in the area of extension in the short period planned for its existence. The main mission of the project was to establish an extension service for food crops in the Congo, not to replace or to strengthen the country's national research capacity. The research which was supposed to be only a secondary, supplementary activity.

The choice of the technologies to be developed was made by the project personnel in collaboration with the CRAL researchers. However, the many comments received during the field visits and farmers field days were taken into account in the elaboration of the research plans.

Extension Methods Used

Because the project staff had chosen to work principally with the GPC's, all extension activities used the group method. Most visits done by both expatriates and extension agents were meetings in the village and/or in the field. A relatively large number of people could thus be reached in a small amount of time. Visual aids were not available, although a blackboard could be found in almost all villages, while in the field one would use a stick to draw pictures in the dirt.

After the first harvest of the research plots and numerous visits to farmers fields, a number of demonstrations were laid out in the collective fields of the GPC's. Initially, these plots were implemented and supervised by project staff, but later the responsibility was shifted to the extension agents. Also, some of the GPC's initiated demonstration plots themselves for which the extension and project personnel provided some guidance. However, the idea, setup implementation and execution were done completely by GPC members. Field days were organized at all demonstration plots for both members and non-members of the GPC which implemented the demonstration as well as for farmers of neighboring villages. In the Lékoumou, 384 farmers participated in the field days organized during the first and second cropping cycle of the 1983-84 cropping season.

As mentioned before in the section of participation, farmers training was undertaken in a later stage of the project. Training was given to the "animateurs" of the GPC's so they could function as contact farmers and liaisons between the extension agents and villagers, both GPC members and non GPC members. No formal training was given to any other farmers.

The project developed a linkage with the Radio Rurale program to study the possible use of air time on the weekly broadcasts for the rural regions of the Congo for the dissemination of extension messages aimed at stimulating food production and the promotion of new varieties and farming techniques. No information was found in the reports studied whether this medium was actually put in use to reinforce the project's extension activities in the field.

Achievements of the Assistance to OCV Project

The achievements of the project have mostly been in the area of setting up an extension service in the two project regions, training the extension personnel, implementing a monitoring system, and of developing an on-station and on-farm system of adaptive research. These accomplishments are remarkable in view of the short time period that the project was operational, about five and a half years. The achievements could have been much greater if the project had not had to start from zero, that is if in- and output markets existed and some extendable technologies had been available.

The farmers were in general pleased with the project and the attention that was given to food crop production, something which had not occurred in either of the two project zones before. However, the presence of a project also raised expectations with the farmers that could not be fulfilled by the project, such as the improvement of the marketing, input and credit supply systems for which the project was still dependent on OCV and other Congolese institutions. The awareness of the project's presence was great in both regions, also because of the frequent field trips by the project staff which increased the project's visibility not only in the pilot villages but also in neighboring villages. However, the absence of any readily available technologies to disseminate during the first years of operation of the project make measurement of KASA change and adoption of new practices at the village level more difficult. The extension of technologies took place only in the last three years of the project starting with the 1984-85 cropping

season, after three to four cropping cycles of experiments. The marketing problems encountered by the farmers proved to be a big barrier in convincing the farmers of accepting new output boosting technologies for which only one very uncertain monopolized market outlet existed: OCV. This was one of the reasons a number of pilot GPC's were dropped in the Lékoumou in the second year; the farmers did not appreciate the project's assistance if it could not solve the marketing problems before coming up with new production technologies.

In view of the absence of inputs, the technologies extended during the first years were mainly in the area of improved farming techniques that did not require new or large amounts of new inputs, such as earlier planting dates, weeding, seed selection, possibilities for two cropping cycles per season, etc. The demonstration fields laid out in the villages helped convince the farmers on the potential of improving production with low input methods, and many farmers expressed an interest in putting these improved techniques into practice in the future. However, the women were concerned with the applicability of the new practices on their own (family) fields. They stated that the practices would be difficult to apply when they would have to do all the work themselves. In their opinion, the new technologies were only good for the GPC's in their collective fields.

More difficulties were encountered convincing farmers of the use of new improved seed varieties. Experiences in the past with CRAL-developed peanut and maize varieties had not been too good, although rice seeds were more acceptable because farmers themselves would not consume much of the crop. Also, several years would have been necessary

for the farmers themselves to evaluate the varieties in their own fields on performance and disease resistance, as well as on cooking qualities, taste and texture. No large scale adoption of new seeds therefore took place as a results of the extension activities of the project and OCV extension personnel.

In general, farmers' knowledge of and skills in applying the technologies promoted by the project had increased as a results of their participation in laying-out the demonstration plots and method demonstrations given by the extension agents. However, the attitude of the farmers remained one of "wait and see." This reluctance was due to the uncertainty of being able to market one's production as soon as possible after the harvest. The expatriate personnel, therefore, questioned their own presence in the Congo and felt that the development of an extension service without solving the many problems affecting its effectiveness was like putting the cart before the horse. Both farmers and project field staff felt that solving the marketing problems would have had a far greater effect on increasing production than agricultural extension, and the project's contribution to helping the farmers increase production and incomes must therefore be doubted. The project's real contribution has been in the areas mentioned above especially the training of personnel, research on locally adapted agricultural technologies, and the organization of a rudimentary extension service for food crops.

The USAID/CARE Projects "Small Holder Agricultural
Development I and II" (PAPAN and PAPAL)⁵⁵

Creation of the PAPAN and PAPAL Projects

The radicalization of the Congolese regime in the 1960's and its increasing pro-socialist (and, by consequence anti-capitalist and imperialist) policies led to a break in diplomatic relations between the United States and the Congo in 1968. Diplomatic relations were restored in 1977 and, as part of these renewed relations, it was decided that there was to be a low level USAID program in the country that would keep the U.S. government in the background. A group of consultants of Development Associates Inc. sponsored by USAID visited the country in 1980 to assess the rural development situation, and put forward a number of recommendations for possible AID interventions. Dr. Gregory Hung, who headed this mission, later published a book based on the findings of the mission and additional research carried out in the country in subsequent years. The book, Agricultural and Rural Development in the People's Republic of the Congo, has been used extensively throughout this thesis.

In the 1980 Pre-project Assessment of the Agricultural and Rural Sector, Hung et al. emphasized several aspects of the rural economy that imposed significant constraints on the small farmers. These included inadequate farm-to-market roads that exacerbated a lack of basic agricultural inputs such as seeds and tools among the sparse, scattered

⁵⁵PAPAN and PAPAL stand for Projets d'Assistance aux Petits Agriculteurs du Niari and Lékoumou respectively.

population; large post-harvest losses; no strong farmer's organizations; and no supporting extension service.⁵⁶ Based on these findings, a project was designed that would concentrate its efforts on improving the marketing of agricultural crops as the most cost effective way of assisting the small farmers in raising their incomes. The project would also carry out additional research on possible future undertakings in the Congo by AID and CARE. This first AID rural development program in the Congo was to be operated by a private voluntary organization (PVO) under an agreement between the PVO and the Congolese government. AID funds were provided directly to the PVO and not to the government. CARE was chosen to execute the project because the organization was already present in the country and had some experience dealing with the Congolese government through work under an AID-assisted nutrition education project. The project, entitled Congo Small Holder Agricultural Development I was started in October 1981 (to coincide with the Federal Year 1982) and its duration was initially estimated to be two years. It was located in the Niari region and its activities were concentrated in the two northernmost districts of this region, namely Mossendjo and Mayoko.

A project evaluation in 1983 gave the project a favorable review in spite of some difficulties and disagreements over operations between AID and CARE. It was decided to extend the project with a second phase until 1986, to expand project activities to the neighbouring Lékoumou region in a second project (Small Holder Agricultural Development II),

⁵⁶USAID, Congo Small Holder Agricultural Development: Project Paper (Kinshasa, Zaïre: USAID, 1981), 3-4.

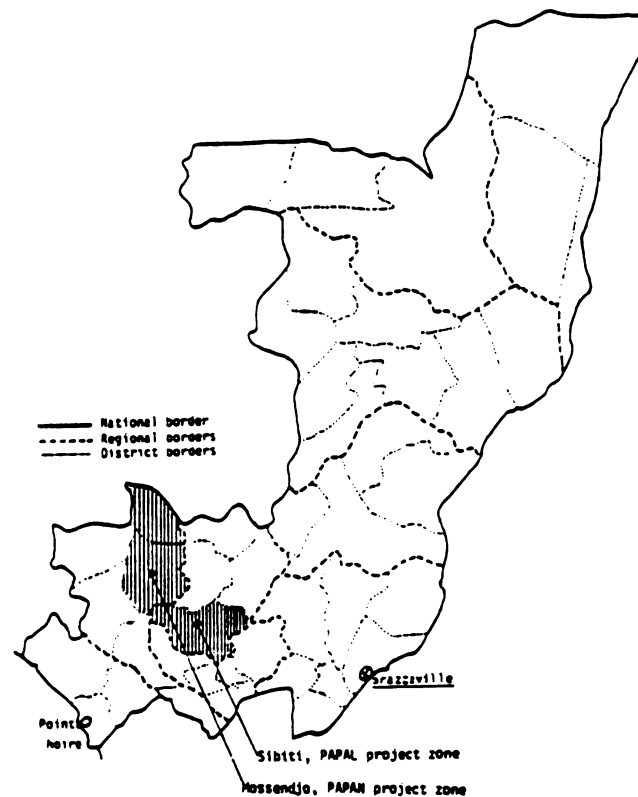


Figure 16: Location of the two USAID/CARE projects PAPAN and PAPAL.

and to establish a seed farm at the project site in Mossendjo which would provide improved, quality seeds to the farmers of both regions. Activities in the Lékoumou region started in 1983. A map showing the location of the projects is given in Figure 16. Activities in the Lékoumou, which were originally planned to cover the three districts of Sibiti, Bambama and Zanaga, have been limited to Sibiti only because of the bad road conditions in the other two districts. The district of

Komono was not included in the project because of a planned FAO integrated agricultural development project in that district.

The projects set up local organizations to function as counterpart institutions in the project zones. These organizations were called PAPAN and PAPAL respectively. These organizations were attached to the "Direction de l'Animation Rurale et d'Action Coopérative" (DARAC) of the Ministry of Agriculture.

The Goals and Objectives of PAPAN and PAPAL

The projects' goal was to improve the quality of rural life in the Congo by increasing the productivity and incomes of small holders in the Upper Niari and Lékoumou regions. For the second project in the Lékoumou region, the increase of the total supply of internally produced food stuffs was added to the goals of the project. The inefficient marketing system and inadequate storage facilities were considered the major constraints to increasing farm incomes. The OCV, the agency responsible for the marketing of food crops, was usually three to six months late for crop collection because of a dearth of purchasing funds, unavailability of sacks to distribute to farmers, and local shortage of transportation. This wait resulted in serious spoilage and loss of crops with a consequent loss of income for the farmers. A BDPA executed project had built a few warehouses in the Niari project zone in the 1960's, but these were in bad need of repair. Their storage capacity was also inadequate for all crops expected to be collected in the area. The BDPA had also organized a number of farmer groups in the Niari that

marketed individually grown crops on a cooperative basis. When the BDPA withdrew from the area, the warehouses fell in disrepair and the cooperatives were left on their own, although a number of them were found to be still functioning, even without any outside support, during the project preparation phase.

The increased attention by the government to small farms production and the cooperative movement since 1979 also revived the old BDPA cooperatives. The government encouraged the formation of a district "Union Locale des Paysans" (similar to the PDR Unions) to provide better communication and coordination between the cooperatives (GPC's) and the government agricultural agencies.

The objectives of the CARE/USAID project in the Niari were:

- to help alleviate the marketing and storage constraints in order to improve farmer productivity and income;
- to refurbish eleven existing and build nine new warehouses in the project area;
- to strengthen the GPC's to gradually assume increased responsibilities for the marketing of area crops; and
- to analyze the nature and extent of possible further constraints such as roads, unimproved seeds, and lack of appropriate farm tools and rural technology.

The objectives for the project in the Lékoumou region were almost identical to those for the Niari. However, this project was started later and thus benefitted from the experiences learned from the first project. A number of negative attributes of the first project were therefore corrected in the Lékoumou project. These improvements included the decentralization of management at the crop collection stage,

producer-directed incentives, and village participation. The objectives for the second project were:

- to construct warehouses providing a total of 1,000 tons of absolute capacity;⁵⁷
- to establish a revolving fund for purchasing crops for resale to OCV;
- to increase farmer involvement in warehouse site selection, construction and management; and
- to increase cooperative development activities and training of farmers to develop and strengthen local management systems able to survive after the end of the project.⁵⁸

Function of the Projects

It was the design team's opinion that no increases in agricultural production could be realized in the Congo without first solving the problem of providing adequate storage and market outlets for the country's food crops. As the 1985 project evaluation mission stated: "While many factors affect production, available, efficient, and fair marketing practices provide a major incentive to producers."⁵⁹ The projects therefore proposed to build or refurbish a number of storage facilities that would be owned and managed by village cooperatives. The

⁵⁷The were no existing warehouses in the Lékoumou region, so all warehouses needed to be constructed from scratch.

⁵⁸USAID, Congo Small Holder Agricultural Development II: Project Evaluation Summary (Brazzaville, Congo: USAID, 1985), 5; USAID, Congo Small Holder Agricultural Development II: Amplified Project Description (Kinshasa, Zaïre: USAID, 1983).

⁵⁹USAID, Project Evaluation Summary, Small Holder Agricultural Development I (Brazzaville: USAID, 1985), 11.

projects' function in the Niari and Lékoumou regions was to build on existing GPC's and to strengthen their abilities to maintain and manage these warehouses. To accomplish this task, the GPC's would buy the crops from the farmers (both members and non-members), store them in the warehouses using modern storage techniques, and sell the crops to OCV. Eventually, it was hoped that the GPC's would carry out all the marketing aspects of the crops themselves, from farm to urban consumer market, without the intervention of OCV.

The crops would be treated before storage in the warehouses. One GPC member would be chosen as a warehouse manager for each of the twenty warehouses to be build by the project in the Niari. No chemicals were placed in the hands of the warehouse staff before completion of a required training course. Initially, applications of pesticides and the management of the storage facilities would be supervised by project staff and the zone chiefs of the counterpart organizations PAPAN and PAPAL. The warehouse managers were paid by the project with funds channeled through the GPC's. Eventually their salaries would be paid for by the GPC's themselves from premiums received from OCV on top of the regular buying prices for the services rendered to OCV (bagging, weighing and storage). Both members and non-members of the GPC's could store their produce in the warehouses, although the latter had to pay for the services. This was not considered an obstacle by the farmers since selling products to the GPC warehouses eliminated the uncertainty of selling illegally on the parallel market and possible crop losses from storing crops under bad conditions in the home. In addition, payment for these services by individual farmers was to lead to

increased membership in the GPC's, which was not a direct goal of the project but considered highly desirable by the government.

The zone chiefs had the dual function of coordinating project activities in the villages and providing extension services in the area of crop storage and marketing. They were also engaged in the gathering of additional data on farming practices, rural roads, labor allocations, etc. to study possible extensions of the project in different areas of rural development in the project zones. After the marketing season, both zone chiefs and warehouse managers were active as agents for cooperative development and agricultural extension.

Once the confidence of the farmers was established through the improvements in the marketing system, it was felt that additional steps towards attaining the projects' goal of increased productivity and farm incomes could be made by increasing total farm production. Farmers were using only local seed varieties with low potential. Improvements in yields of 20 percent were deemed possible by using improved varieties. The project therefore established a seed farm in Mossendjo for the multiplication of rice, maize and peanut seeds. The introduction of the seeds to the farmers and guidance on additional improved farming techniques for these new varieties would also provide the warehouse managers and zone chiefs with some definite messages for their off-marketing period extension efforts.

The project built a training center in Mossendjo which included classrooms, dormitory and kitchen facilities as well as offices for the project and the district Union Locale. The primary function of the

center was to provide facilities for the training of the personnel in improved crop storage and marketing techniques. The center also served as a general meeting place. In addition to training the zone chiefs and the warehouse managers, the project also trained the district agricultural and cooperative personnel of MAE, the sector chiefs of OCV and the officials of the Union Locale. The training was carried out by the long-term technical assistance team executing the project, as well as by short-term consultants employed for training and advice on specialized technical subjects such as grain storage, data gathering, training of trainers, crop improvement and rural technology. Management training of project personnel was done by means of on-the-job training in the form of apprenticeships to the project manager and technical staff.

Organizational Structure and Internal Linkages

The CARE projects have a rather simple structure. They fall directly under the Ministry of Agriculture's Department of Rural Animation and Cooperative Development. This Department was given ministerial status in 1984 (Ministère d'Équipement Rural et d'Action Coopérative or MERAC), but, as was explained in the section on the PDR, this lasted only a short time. In 1987, all ministries working in the field of agriculture and rural development were united in one Ministry of Rural Development (MDR). This latter change only affected the second small holder project in Lékoumou, which was terminated in 1988. At the regional level, the projects cooperated with the regional directorates

of the Ministry of Agriculture, especially with its regional rural engineering service for the construction of the storage warehouses (see organizational chart of the Ministry of Agriculture in Figure 9).

In each region, CARE set up a counterpart organization, the "Projet d'Assistance aux Petits Agriculteurs du Niari/de la Lékoumou" respectively (PAPAN and PAPAL). These local institutions served as the executing agencies of the project within the Ministry. CARE personnel and government employees were assigned to these local institutions; locally hired personnel such as the warehouse managers and project support staff were employees of PAPAN/PAPAL and not of CARE or the government. The zone chiefs in the Niari were also employees of PAPAN, although recruited by the Public Service and on the government payroll. However, this construction was abandoned in the Lékoumou project, where the zone chiefs were MERAC employees working for PAPAL. This change relieved PAPAL of any responsibility of extension work, and made the government accountable for this activity. The work of the zone chiefs in both PAPAN and PAPAL remained the same, but the projects name would not suffer if extension failed to live up to its expectations and if there were problems with the marketing (late payments, late collection by OCV of produce at the warehouses etc.).

The organizational chart of the USAID/CARE projects is given in Figure 17. The local organizations set up by CARE have a very flat structure with short lines of communication between the project management and the field personnel, i.e. the warehouse managers and zone chiefs. The sector chiefs of OCV, agriculture and cooperation appear in the organizational chart, but these people were not in the direct chain

of command of the project. However, project activities had to be cleared with them insofar as the activities intervened in their domain (cooperative development, food crop marketing and production). The agriculture and cooperation sector chiefs are the district representatives of the regional directorate of MAE.

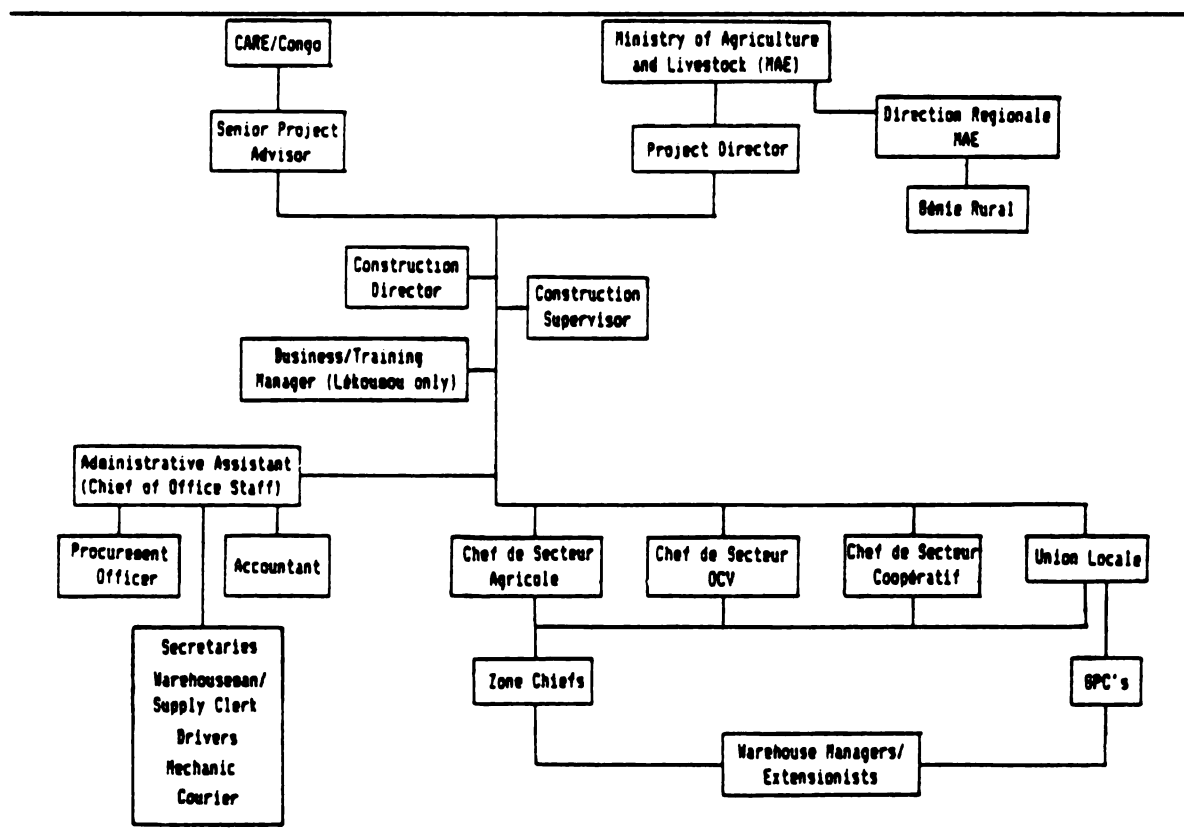


Figure 17: Organizational chart of the USAID/CARE projects Small Holder Agricultural Development I and II.

The Union Locale was part of the project structure because this institution would assume the ownership of the warehouses at the end of the project, and would also have control over the revolving fund set up to market the farmers' produce. The Union Locale regroups all the GPC's in a district and is similar in structure and function as the PDR district unions. The PAPAN and PAPAL institutions would remain as advising and extension structures after the end of the project, while the management and operation of the warehouses and the buying of products from the farmers would completely be done by the cooperative institutions (Union and GPC's). A Union Locale board of directors was selected from the GPC membership, the district chiefs of OCV, MAE and/or MERAC (later MDR), and a representative of the district administration.

The farm storage system would be managed by an executive committee appointed by the board of directors and included a president and secretary elected from the GPC membership and a district party representative. The primary function of the executive committee was to manage the revolving fund, including all questions of expenditure and revenue, crop collection, purchases, transportation, collection of payments from OCV etc. No full time support staff was programmed to help the committee with these tasks, since it was considered to be only part-time work which should be done on a voluntary basis.

Linkages with Other Organizations - External Linkages

Collaboration with other agencies by the CARE projects has been rather limited, especially in the area of extension and cooperative

development. The projects coordinated activities mainly with ongoing research in the prevention of storage losses carried out by ORSTOM, the national agricultural research center CRAL in Loudima, and a FAO project for research on causes and controls of storage losses and extension of improved storage techniques. CRAL's efforts concentrated on the storage problems of corn, while the FAO project was aimed at peanuts.

A railhead storage warehouse was build with Canadian funding that was administered by CARE. MAE personnel provided the engineering supervision and also coordinated community participation for its construction (materials and labor for brick making). This warehouse was to be integrated into the smaller cooperative run warehouse system put in place by the CARE project in the Niari.

No mention is made of any linkages with other projects in the country such as the PDR (in the area of cooperative development), the FAC financed agricultural survey carried out by SODETECH, or the UNDP/FAO Assistance to OCV project which aimed to strengthen the agricultural extension activities of OCV (in the area of training and extension). There were some informal linkages between the personnel of CARE and the latter project, but no formal ties were established and the existence of the Assistance to OCV project in the Lékoumou region was not even acknowledged by USAID in their project evaluation.

The 1985 Project Evaluation Summary of the PAPAL project stated in its economic summary that "in the Sibiti district, a continuous increase in marketed peanuts was noted for the 1981-82 through 1983-84 seasons even though project activities only began there after the 1983-84 cropping season." The Assistance to OCV project became operational in

May 1982 and was therefore already firmly engaged in extension activities by the time CARE began its activities and it would have been logical for CARE to use the experience of the project. Also, the project document of the PAPAL project called for the external assistance team to carry out a base line survey in the Lékoumou, although an extensive agricultural survey for OCV was carried out in the region between April and May 1984 by SODETECH, just before the arrival of the first CARE personnel in the region. No mention is made in the documents studied that the data collected by this survey were used by CARE.

It is apparent that the CARE projects were not seeking cooperation and/or advice from rural development efforts by other agencies and projects to learn from their experiences and make use of their results. The projects were content to function in relative isolation and seek contacts only in areas of direct relevance to its main activity, the storage of agricultural products.

Means to Achieve the Objectives

Human Resources

Project personnel consisted of long and short term expatriate advisors, and Congolese government and nongovernment personnel. All expatriate advisors were recruited and hired by CARE subject to USAID approval. These personnel were employed by CARE and paid by project funds. In the Niari project, the long term assistance team included two persons: a senior project advisor responsible for all non-construction

commodities and accounting, and the planning and implementation of the training programs and marketing campaigns, and a director of construction responsible for all project construction activities (warehouses, training center, and housing for the expatriates). In the Lékoumou project, a business/training manager was added to the long term assistance team to help with the planning and administration of the project's financial, accounting, and procurement system and for general support functions. This person was also responsible for the training of all project personnel in business management, planning and programming.

Short term technical assistance included consultants in rural road upgrading, crop improvement, rural technology, crop storage, and cooperative development in the Niari project, and a data gathering specialist, training consultant, and animal husbandry consultant in the Lékoumou. The latter was dropped later because no formal animal husbandry is practiced in the villages of Lékoumou and there were no opportunities to expand into commercial size operations due to transport and feed difficulties.

Congolese government personnel consisted of a project director, a construction supervisor (PAPAN only), and a number of zone chiefs (five for PAPAN; no information was found on the number of zone chiefs in PAPAL). These personnel were recruited (or re-assigned) and paid by the Congolese government. All of the personnel had to have extensive experience in their respective fields. The project director was a university trained technician, while the zone chiefs were graduates of the IDR in Brazzaville (holders of the "Ingenieurs de Travaux Agricoles" diploma). The zone chiefs were specifically recruited for the PAPAN

project, but in the PAPAL project in Lékoumou the zone chiefs were employees of MERAC and assigned to work for the PAPAL.

Congolese non-government personnel included the village warehouse managers/extensionists and support personnel. The warehouse managers were chosen from the village cooperatives participating in the project and paid from project funds channeled through the GPC's. All support and office staff was recruited by CARE and paid from project funds. They were engaged only for the life of the project. They included: an administrative assistant/chief of office staff, a procurement officer (office clerk), an accountant, warehouseman/supply clerk, courier, three (two) secretaries, two (six) drivers, a mechanic, one (two) construction supervisors.⁶⁰ No courier was engaged in PAPAL, but an assistant mechanic was added to the list of personnel. These changes in personnel in the second small holder project were a consequence of the experiences with the first project in the Niari.

Twenty warehouse managers were trained and engaged in the PAPAN project; no information was given on the number to be included in PAPAL because no fixed number of warehouses was planned to be constructed (total capacity planned was to be 1,000 tons, with each warehouse having a capacity between 10 and 40 tons). However, the 1985 evaluation mission report stated that 14 warehouses of a capacity of 200 tons were in various states of progression.⁶¹ This would mean that fourteen persons would be needed to manage these warehouses. The warehouse managers were

⁶⁰Numbers and functions in parentheses refer to the personnel of the PAPAL project.

⁶¹USAID, Small Holder Agricultural Development II: Project Evaluation Summary (Brazzaville, Congo: USAID, 1985), 7.

provided by the local GPC and paid out of operating expenses, but it is not clear whether these operating expenses were those of PAPAL or of the village warehouses themselves.

The seed farm, which was added to the PAPAN project afterwards, had many problems with personnel. Two long term advisors were envisaged for the farm: a seed farm manager in charge of the day to day operation of the farm, and a seed production specialist. The latter was to have had a PhD in plant breeding or an MS with much experience, but the person finally recruited had only a BS in agriculture. The seed production specialist's tasks were to conduct on-station and on-farm cultivar adaptability trials, and to advise CRAL on quality control of breeder seed production. The two positions of the seed farm were filled only 66% of the time which seriously affected the performance of the farm. The competency of the personnel that finally filled the positions was also questioned by the evaluation mission, which found "serious errors in seed farm management."⁶²

Training was provided for all personnel of the projects. The zone chiefs were given a four week training including both general and technical subjects. The village warehousemen received a two-week training course centering on crop storage and fumigation techniques, and warehouse management. An outline of the proposed training subjects of the field personnel is given in Appendix 9. Training in extension

⁶²USAID, Congo Small Holder Agricultural Development I: Project Evaluation Summary (Brazzaville, Congo: USAID, 1985), 7.

methods and cooperative development was never undertaken, although the latter was to have been the basis of sustaining project activities.

Training was planned for the senior staff and office/support personnel (both formal, informal and on-the-job training) on project management, administration, cooperative development and marketing. USAID's evaluation in 1985 found the training of these personnel "totally inadequate," labeling it "one of the greatest shortcoming of the project."⁶³

Transport Equipment

The PAPAN project provided transportation for nearly all its personnel. The sector chiefs of OCV, agriculture and cooperatives, and the project courier and administrative assistant were all given mopeds to facilitate their work. The project provided the warehouse managers with bicycles to facilitate their extension work in the off-marketing periods. The zone chiefs were assigned motorcycles for their work. Training in basic service and maintenance was given to all users to insure proper and uninterrupted operation of the equipment.

A two ton four-wheel drive pickup truck was assigned to the Congolese construction supervisor. The senior project advisor, construction director and the project director were provided with three passenger four wheel drive vehicles (Suzuki Samurai). One six passenger all-terrain station wagon was acquired for joint fields trips of

⁶³Small Holder Agricultural Development I: Project Evaluation Summary, 3 and 51.

agricultural, cooperative and OCV personnel with project personnel. This vehicle was also used for missions of the short term technical advisors, and for missions of government, USAID and CARE evaluation and observation teams.

One heavy four-wheel drive truck with a capacity of 11 tons was acquired for the transportation of construction materials and personnel. The truck was also used for supplemental crop transportation from storage warehouses to railheads and/or urban markets when needed. After completion of the warehouse construction, the vehicle was to be used solely for crop transportation and marketing activities.

No mention was made in the project documents of PAPAL on transportation equipment provided to project personnel in the Lékoumou. However, the author assumes that similar equipment was acquired to meet the transportation needs of PAPAL personnel and activities.

All operating expenses for the vehicles were provided by project funds; none of the documents studied included information on who was to be given ownership and on provisions for continued operation of the means of transportation (such as for fuel, spare parts etc.) after the termination of external assistance.

Financing of the PAPAN and PAPAL Projects.

Both projects have been financed jointly by USAID, CARE and the Congolese government. The contributions of the government were mostly in-kind contributions in the form of land, personnel and their salaries, buildings, and some construction costs and unspecified commodities.

Planned outlays of the initial PAPAN project were projected at \$2,990,000, of which \$2,000,000 was to be funded by USAID. The addition of the seed farm component to the project raised the total budget of PAPAN to \$4.6 million, of which \$3.0 million was contributed by USAID. The planned and actual distribution of funding sources and budget allocations for the PAPAN project is given in Table 19.

Table 19: Planned and actual budgets of the PAPAN project and distribution over the various funding sources.

	USAID	CARE	Government	Total
Initially planned	2,033,700	NA	NA	2,990,000
Revised budget for phase II ¹	3,000,000	300,000	1,300,000	4,600,000
Actual distribution at project completion	3,475,000	750,000	450,000	4,675,000
<u>Destination of USAID's funding of the initial budget:</u>				
Personnel				\$689,000
Commodities (materials, equipment and construction)				\$524,000
Other (revolving fund, contingency, CARE overhead)				\$ 86,100
Administrative, extension, office and support staff, construction of staff housing				\$510,900
Vehicles, national personnel				\$222,800

¹After adding the seed farm component.

Sources: USAID, Congo Small Holder Agricultural Development I: Project Paper, Project Evaluation Summary, and Audit Report.

The Lékoumou project, which was started in 1984, had a much larger budget to start out with. The PAPAL project was budgeted at \$4,278,000; the USAID-funded portion of this budget was planned for \$3,000,000. The Congolese government's contribution amounted to about one-third of the planned outlays and included staff personnel (salaries), some construction costs, and the value of in-kind contributions (land). Approximately 40% of the total budget was for the provision of long-term and short-term technical assistance, while 25% was projected for the construction of warehouses, training center and staff housing. The budget also included a \$250,000 revolving fund for the marketing of agricultural products.⁶⁴ A breakdown of the contributions to the PAPAL budget is given in Table 20. Because of the under-usage of the training center in Mossendjo, the planned training center in the Lékoumou was eliminated by a 1985 evaluation mission. No information was found on whether the funds thus freed were used to finance other project activities.

Participation of the Target Population

The participation of the population has varied in the two regions. In the Niari, the locations of the warehouses was predetermined, without involving the farmers in choosing the sites. In part this was due to the

⁶⁴The revolving fund in the PAPAL project in the Niari was only \$40,000. Because of the large increase in the amount of produce collected in the first years of the PAPAL project, a larger revolving fund was included in the PAPAL budget. (Source: Personal visit by the author to the CARE-Congo project in Mossendjo, September 15 and 16, 1983).

Table 20: Contributing sources of the PAPAL budget.

(amounts in US\$)	First Year	All Years
USAID	996,500	3,000,000
CARE	60,000	223,000
Congolese Government	203,000	1,055,000
Total	1,259,500	4,278,000

Source: USAID, Congo Small Holder Agricultural Development II: Amplified Project Description (Kinshasa, Zaïre: USAID, 1984).

fact that a number of existing warehouses were being refurbished by the project. In the Lékoumou region, no warehouses existed, and PAPAL personnel engaged in extensive pre-construction meetings with the farmers to determine storage needs, warehouse size, and suitable locations, and to solicit contributions of the population (labor and/or materials). The engagement of farmers in project planning was almost non-existent in the Niari project, and the PAPAN personnel therefore had many difficulties convincing the farmers of the (potential) benefits they would derive of storage hangars of which they (through the GPC's) would become the owners. By consequence, the Niari farmers were very reluctant to contribute to the construction of the warehouses. A turn for the better was made when the farmers learned about the results of the first marketing campaign by the project in 1983.

Both PAPAN and PAPAL have focused their activities entirely on the pre-cooperatives, although individual farmers could market their products through the GPC's and store their produce in the cooperative

warehouses for a fee. In the Niari project zone, there were about 58 GPC's with a total membership of 1,320 persons.⁶⁵ The GPC membership represents almost 4% of the population of the Mossendjo and Mayoko districts which make up the project zone. It was expected that GPC membership would increase as a result of project success, but no numbers were provided in any project evaluations. Training provided by PAPAN has been limited to the 20 warehouse managers/extensionists.

Activities in the Lékoumou region have been limited to the district of Sibiti only, because the PAPAL doubted successful operation of the storage facilities with the high transportation costs and bad road conditions in the districts of Zanaga and Bambama in which activities had also been planned originally. Nearly all villages of the Sibiti district had a cooperative, although not all of them were officially recognized. In total, there were 55 GPC's in 1983, with a membership of 2,206. Of the 33 GPC's of which gender division was available, there were 644 men and 684 women. GPC membership in Sibiti is about 7.5% of the total population of the district. The number of warehouses to be build was not fixed in Lékoumou, but was determined by the baseline survey to be carried out by the technical assistance team. The survey results indicated that larger warehouses (200 ton capacity) would be more useful for the region; the 1985 evaluation mission did not foresee any problems with finishing 14 such warehouses by project completion date. In 1985, PAPAL personnel provided training in 30 villages on bookkeeping skills, and weighing and bagging produce

⁶⁵None of the documents gave a breakdown of male/female membership in the GPC's of the Niari region.

although no warehouses had been finished at that time. It is not clear from the report whether this training was given only to the warehouse managers or whether all GPC members of these 30 villages were beneficiaries of the training.

Farmers also participated indirectly in the management of the revolving fund and the planning of marketing and other activities via representatives on the Union Locale board of directors and the executive committee. The representatives were elected from among the GPC membership. The ownership of the farm storage system was transferred to the Union Locale at termination of the external assistance.

Source and Choice of Technologies

The crops were all to be treated before storage. The warehouse managers were provided training to carry out the fumigation of the produce, and the spraying of the bags and inside walls to prevent further infestation. The choice of pesticides was based on previous research by FAO, ORSTOM and the project design team on the kind of insects prevalent in the area. Phostoxin fumigant and malathion sprays and dust were finally chosen because of their low price, and low toxicity and residual effect. It is not known whether these chemicals will continue to be made available to the GPC's or can be purchased by them. The dependence on these external inputs might therefore limit the future sustainability of the system. Storing large amounts of untreated produce in these warehouses could even increase losses because insects will proliferate with the abundance of food stored. Traditional methods,

such as storing produce above the kitchen fires to smoke out the insects, cannot be used in these large hangars.

Non-chemical pest control was adopted for other storage pests such as mice and rats. Better home storage methods not using chemicals were also advocated by the warehouse managers and zone chiefs in their extension campaigns.

Other technologies in the area of crop production to be disseminated by the extension personnel of the projects, such as improved farming techniques and seeds, were adopted almost blindly from the national agricultural research center CRAL in Loudima. The seed farm was set up before any research was undertaken by PAPAN on the suitability of these technologies for the Niari and Lékoumou forest zones, which was one of the reasons why the seed farm had so many problems and, after large investments had already been made, had to be abandoned. The planned distribution of improved seeds thus never materialized. Both PAPAN and PAPAL had hoped to build their extension work on the availability of improved seeds and better farming techniques to accompany the introduction of these seeds. Due to the lack of available and proven technologies the extension activities of the zone chief and warehouse managers were very minimal. However, increased involvement of the farmers in technology development and cooperation with other projects and agencies to learn from their experiences could have averted many of the problems the CARE projects encountered.

Extension Methods

The extension methods used by PAPAN and PAPAL have been limited chiefly to village meetings and training. Village meetings were used extensively to explain the project to the farmers and to solicit their participation in the construction of the warehouses. GPC members were trained in the management of the warehouses and in executing the necessary marketing operations (weighing, bagging, and bookkeeping). Demonstrations were also given to promote better crop storage practices.

Some teaching materials in crop storage were developed, but none were in cooperative development. The position of an agricultural consultant, who was to work with the project to train both PAPAN personnel and farmers and to develop curriculum materials on techniques of planting, harvesting and storing improved seeds, was never filled. By consequence, none of the training was given and none of these materials was developed.

Achievements of the PAPAN and PAPAL Projects

The accomplishments of the two USAID/CARE projects have been rather mixed. All planned construction activities were achieved, but not all training that was planned was given; the seed farm component was abandoned because continued support could not be justified on economic and technical grounds.

All planned warehouses were constructed and/or refurbished. However, in both regions the responsibilities for maintenance and

management of the warehouses had not yet been fully transferred to the GPC's in 1985. The failure of the project to focus effectively on cooperative development and cooperative development training was partly to blame for this. A great need existed for such training at all levels, including at the ministerial level.

The training carried out by the projects has been limited to the village level warehousemen, zone chiefs and, in PAPAL, to the villages managing the warehouses. The training was concentrated on grain storage techniques and warehouse management; no attention has been given to agricultural extension and, as mentioned before, on cooperative development. The training was considered effective, and farmers were pleased with the project and its potential to increase farm incomes.

In both regions, the project did not provide sufficient management training and did not focus on developing local management capability. The counterpart organizations apparently also took little initiative in this regard.

The seed farm has been the most controversial aspect of the CARE project in the Niari. Certain crucial assumptions for the success of the farm were proven false (such as the availability of foundation seed of improved varieties from CRAL, and the assumption that farmers would be willing to pay for good seeds), but could have been avoided with more careful research and coordination with other projects during the design phase of the project. Also, start-up and management of the farm had been poor, and CARE had much difficulty in finding competent people to staff the two positions at the farm. The production of improved seeds was to be the foundation of PAPAN and PAPAL's extension work aimed at

increasing agricultural production and farm incomes after the establishment of the warehouse systems. However, the farm was never able to supply sufficient quantities and, by consequence, hardly any extension work was carried out by the zone chiefs and warehouse managers.

Marketing was perceived by the farmers as the major obstacle to increasing agricultural production. Product prices, which had remained stagnant for almost 15 years, were slowly being increased by the government since 1979. However, these higher prices did not provide sufficient incentive for the farmers. The underlying principle of the CARE projects in Niari and Lékoumou of first solving the marketing problem before introducing new production technologies via extension work was therefore a sound principle. The farmers, after some initial reluctance on participating in yet another project, were very enthusiastic once the warehouses were build and marketing was started with a revolving fund independently of the vagaries of the OCV. The training provided and the fact that they themselves were managing the warehouses increased their awareness on their role in village development, simultaneously decreasing at least some dependence on outside organizations for the marketing of their produce. The projects increased farmers' skills and knowledge of improved storage practices, book keeping, and collective management. The amount of produce marketed by the warehouse system increased dramatically in the first two years of its operation in the Niari project zone(53% for peanuts, 335% for maize, and 86% for rice). Due to lack of good statistics, it is not known

whether this increase in amount of marketed produce was caused by an increase in plantings, an increase in per hectare yields, or was caused by the prompt payments and, by consequence, less illegal diversion of produce on the parallel market.

It would be difficult to say how many farmers have adopted or tried the new practices promoted by these projects. The only innovations introduced were the improvement in storage facilities and marketing practices. The total amount of produce marketed (more than 800 tons in 1984), however, cannot solely be attributed to the 1320 GPC members of the Niari project zone. Therefore, one can assume that many individual farmers also used the CARE/PAPAN storage and marketing network, and that the payments of small fees for the services rendered did not pose an obstacle for the farmers. In conclusion, in spite of the non-accomplishment of some of the projects' goals, CARE has made an important contribution in solving some of the Congo agricultural problems, especially as they relate to the marketing of agricultural products. Or, to use the words of the Project Assistance Completion Report, "What has been achieved towards the purpose is that farmers now know what they can expect if they use the training and facilities of the project to help them increase production and incomes."⁶⁶ The Congolese government also appreciated the work of the project, and believed increases in marketed production were due to the project. The non-stated objective of the CARE projects, i.e. to establish a positive American presence in the Congo, was one of the reasons for USAID to fund these

⁶⁶USAID, Project Assistance Completion Report, Congo Small Holder Agricultural Development I (Kinshasa, Zaïre: USAID, 1987), 3.

projects. The accomplishment of this objective, expressed in the government's appreciation of CARE undertakings in the Congo, will insure continued American presence and interest in funding future development projects in the country.

The Impact of the Projects as Measured by Production Statistics

The object of this study is to determine the impact of agricultural extension activities undertaken by five rural development projects on food crop production. Table 21 below gives an overview of the production by region of those crops that are marketed by OCV. The figures cover only a few years and are also not complete for each region. Agricultural statistics collection in the Congo is rudimentary and on an irregular basis. Production statistics and statistics on yields are therefore hard to find. In addition, the production statistics that are available of the Congo are in fact not production figures but marketing figures. The figures of Table 21 represent the amounts marketed by OCV since its creation in 1978 and are only part of the Congo's agricultural production. The marketed amounts do not take subsistence production and consumption, losses due to spoilage, or produce marketed outside OCV into account. In Table 21, the amounts marketed since 1979 are compared with the amounts marketed in 1960 to be better able to put the sorry state of Congolese food crop production in perspective.

The amounts used for subsistence by the farmers and their families range from about 25% for rice to almost 75-80% for cassava. There is no food shortage in the Congo, although some malnutrition exist in the rural areas especially in children. This is due more to the quality of food than to the quantities available. Because the rural population of the Congo grows only at a rather slow rate principally caused by the out-migration of its youth to the urban areas, one can assume that all

rural food needs are being met and that any surpluses produced will be marketed by the farmers in some way or other. In spite of the existence of the marketing monopoly of OCV and the heavy fines imposed on anyone found selling and transporting crops illegally, a lively uncontrolled parallel market exist for food crops. But none of these subsistence and "illegally" marketed amounts show up in the country's food production data. The figures given in Table 21 are therefore very incomplete, although they are useful to give some indication of the impact of the projects. Additional statistics on the quantities of food crops marketed between 1954 and 1985 is given in Appendix 10.

As can be seen from the table, production of food crops has been an up and down affair in the Congo, what can be attributed not only to climatic conditions but mainly to the vagaries of the marketing system. When crops were bought in time, the volume collected by OCV increased although this did not necessarily mean that the production had increased. The production figures therefore have to be read carefully in order to determine the exact effect of the various projects. For instance, the PAPAN project managed to dramatically increase the amount of food crops collected between 1982 and 1984. But it was unclear whether this increase was due, as the USAID evaluation mission stated, to the project or only to the prompt payment for the crops and thus a diminished use of the uncertain parallel market by the farmers.

A similar increase in production took place in the neighboring Lékoumou region in the same time period, especially in 1984. The Assistance to OCV project staff in that region attributed this not so much to their work as to the very early start of the marketing campaign

by OCV in 1984 driven by the elections for district and regional councils and the national assembly that were held that year. However, the complaints about the uncertain marketing situation and the pressure on OCV by project staff to improve its operation might also have contributed to the early start.

Only the PDR project in the Pool region has been in existence for a long enough time to determine any pay-off of extension activities undertaken by the project. But, as can be seen from Table 21, no significant production increases have taken place, at least not for the OCV controlled crops. Cassava production did increase according to the reports of the PDR project team, but no statistics were kept on this crop. Cassava marketing is done completely by private traders, who do not (want to) keep track of exact amounts bought and sold. Also, many people from Brazzaville had fields for subsistence production in the Pool region around the city (mainly for cassava, peanut and maize), and the amounts produced and/or sold by these city-farmers also did not enter in any statistics.

The only remarkable increase has been in potato production in the Plateaux. This crop was almost unknown in the early 1970's. Potato production has been heavily promoted by both OCV since its creation in 1978 and by PDR. The latter agency set up tractor rent services and extended credit for fertilizer and pesticides to potato producing GPC's. The Plateaux is the only region in the country that is suitable for potato production having well drained light soils and a relatively cool rainy season because of its high elevation. It is considered a cash crop in the region since the decline of the tobacco production. Bean

Table 21: Regional agricultural production of food crops and the total production of the Congo between 1979 and 1984 compared with the production figures of 1960 (in metric tons).

Crop	1960	1979	1980	1981	1982	1983	1984
<u>Plateaux region</u>							
Maize	nd	61.9	68.9	29.1	93.9	53.4	nd
Peanuts	2.9	-	-	-	0.2	-	nd
Beans	na	32.0	23.2	69.1	17.4	36.4	nd
Rice	1	-	-	0.5	1.1	-	nd
Potatoes	na	169.0	159.4	162.2	267.0	429.4	nd
<u>Pool region</u>							
Maize	nd	600.1	776.3	1,275.9	1,119.2	nd	nd
Peanuts	237	-	-	1.7	107.9	nd	nd
Beans	na	-	-	0.6	11.5	nd	nd
Rice	1,206	380.5	219.5	247.5	314.9	nd	nd
Potatoes	not grown in the Pool region before 1982				1.9		
<u>Lékoumou region</u>							
Maize	nd	42.1	66.2	170.5	155.7	60.9 ¹	88.7 ¹
Peanuts	2,546	392.0	693.5	474.1	708.7	361.5 ¹	664.5 ¹
Beans	not grown in the Lékoumou region						
Rice	62	277.3	184.1	198.7	155.7	nd	nd
Potatoes	not grown in the Lékoumou region						
<u>Niari region</u>							
Maize	nd	335.9	146.7	241.8	324.8	17.6 ²	76.4 ²
Peanuts	1,836.1	457.0	677.9	400.2	803.9	436.2 ²	665.4 ²
Beans	na	8.3	24.7	22.3	13.1	nd	nd
Rice	116	305.2	216.0	137.7	118.9	40.8 ²	75.8 ²
Potatoes	not grown in the Niari region						
<u>Cuvette region</u>							
Maize	nd	151.4	115.3	112.8	99.0		
Peanuts	4	-	-	3.9	4.7		
Beans	not grown in the Cuvette				-	no data found on these years	
Rice	58	303.2	209.4	137.7	210.1		
Potatoes	not grown in the Cuvette						

Continued

Table 21, continued.

Crop	1960	1979	1980	1981	1982	1983	1984
<u>Total food crop production marketed by OCV³</u>							
Maize	622		2,870.8	2,360.3	3,695.5	2,310.6	1,825.3
Peanuts	8,346.7		1,863.3	1,352.9	1,743.3	1,403.5	3,355.1
Beans	na		177.7	77.6	90.8	235.7	64.5
Rice	1,625		827.3	349.4	1,137.2	1,074.4	575.8
Potatoes	na		187.4	185.4	289.1	428.4	499.2

¹ These are figures of Sibiti district only.

² These are figures of the CARE project zone in the Niari, which includes the districts of Mossendjo and Mayoko.

³ These totals are based on OCV figures cited in the Groupement BERETEC report.

na= not applicable nd= no data

Sources: Vennetier, Géographie de la République du Congo, 138; USAID, Small Holder Agricultural Development I and II: Project Evaluation Summary; Matton & Chabasse, Rapport de Fin de Mission en République Populaire du Congo: Projet de Développement Rural du Pool et des Plateaux; Bulletin de l'Afrique Noire No. 1299 (19 décembre 1985); Groupement BERETEC-SED-SEP/Développement, Agriculture: Mesures de Politique Economique: Rapport Principal (Brazzaville: Ministère du Développement Rural et Ministère du Plan et des Finances, 1988), Tableaux 24; and data collected by the author between 1982 and 1984.

production is also been promoted in this region, but with mixed success so far.

In general, the impact on food production of the projects studied is rather dubious. Data on the years since 1983-84 would be necessary to determine with greater accuracy what each project's contribution has been, especially because the life of two of the projects has been too short to have had a significant impact (PAPAN, Assistance to OCV), while the PAPAL project only started in 1984. However, it will be very difficult to find any reliable statistics, be it on produced or marketed quantities, of these later years since OCV has lost its marketing monopoly since 1986. Because of the large number of private traders that jumped in the marketing gap thus created, it is therefore doubtful that

any precise statistics are being kept nowadays on regional and national quantities of food crops produced and/or marketed.

CHAPTER VI

COMPARISON OF THE PROJECTS AND INFLUENCES OF THE
CONGOLESE SOCIETY ON THE PROJECTS' EFFECTIVENESS

In the previous two chapters, descriptions were given of the country and of each of the five projects considered in this study. These five projects are:

1. The "Projet de Développement Rural du Pool et des Plateaux," a rural development project financed by UNDP and implemented by the ILO between 1970 and 1987. The purpose of this project was integrated rural development of which increasing crop, animal and fish production was one component. Its main objective was institutional (cooperative) development.
2. The "Office des Cultures Vivrières," the national food crop marketing board instituted in 1978 and almost exclusively financed by the Congolese government. In addition to marketing the country's food crops, the agency's mandate was to manage five food crop producing state farms and to provide extension services and inputs to the small farmers of the Congo.
3. The "Projet Assistance à l'Office des Cultures Vivrières," an UNDP financed and FAO executed project helping the agency to set up its extension service, to train its extension personnel, and to organize its input supply and adaptive research activities in order to increase small farm production of food crops.

4 and 5. The "Projet d'Assistance aux Petits Agriculteurs du Niari" and the "Projet d'Assistance aux Petits Agriculteurs de la Lékoumou", two CARE projects that were financed by USAID. The two projects were very similar in their design and objectives and have therefore been described in one section in Chapter 5. However, many of the mistakes in implementation in the first project were corrected in the second and these differences have been pointed out in Chapter 5 as well as in the rating scales in Table 22.

This chapter will compare these five projects to determine their impact on food production, how well they have been able to meet the needs of the people, and possible positive and/or negative influences posed by the Congolese society on their outcome and effectiveness in reaching their goals. The chapter will follow the various points used in describing the projects in the previous chapter. To facilitate the comparison of the projects, Table 22 at the end of this chapter gives a comparative rating scale of some of the variables used. The table can be folded out so that it is easier to get an overview of the projects when reading the text. The numbers used in this comparative scale are not absolute numbers and high scores do not necessarily mean that one project has been more successful overall but only in comparison with the other projects. The table is only provided to help the reader understand the differences between the projects and clarify the information provided; it is not intended to stand alone, but rather must be used in the context of the accompanying text.

Articulation of the Projects

The Congolese people were by nature not agriculturally oriented. The sparsely populated territory was rich in natural resources that permitted a lifestyle of hunting and gathering as the main supplier of food, although a few crops were cultivated on a small scale by the women. Much of the land is covered by rain forest, and where savanna exists the soils are often very poor. Also, the presence of trypanosomiasis prevented the raising of cattle. During the colonial times, agricultural development efforts were therefore not so much oriented towards production agriculture but limited mainly to the forced delivery of forest products by the rural population. This practice was not very remunerative and the exploitation of the resources remained firmly in control of the traditional tribal systems. The colonial administration thought the traditional systems to be the main obstacles to increasing outputs of raw materials from the forests and for introducing Western-style production methods of crops and animals, and tried many ways to break the system. When they could not succeed, they discovered that the largely underemployed rural population could also serve as a source of cheap labor for the colonial administration and industries as another means of making the colony profitable. By luring the young men to the cities as laborers at small salaries they sought to drive a wedge between the elder and the younger generations that might eventually destroy the tribal social system. The ensuing rural-to-urban migration since the mid-1930's is one of the primary reasons for the slow growth in agricultural production. Agriculture is at present an

almost exclusive occupation of the older generations, with the majority of the labor force consisting of women (about two-third of the agricultural labor force). None of the Congolese governments since Independence has been able to stop or at least slow this migration. It has continued to increase at an ever faster pace fueled by the free compulsory education for all children between six and sixteen and by an under-investment in agriculture and rural development relative to investments in the urban areas and in industrial development. The development policies of the French during the colonial times and their continuation after Independence (in spite of a different rhetoric under the socialist system) have created nearly unsurmountable socio-psychological barriers and distrust of the rural population in any intervention in the rural areas aimed at changing the agricultural production system. These have been the major hurdles to be overcome by the projects studied in trying to work successfully with the population.

The historically developed imbalances between the urban and rural areas of the country have been a concern of all governments since 1960. Efforts to combat these imbalances can be seen in the goals of the national development plans and of the individual projects studied in this investigation.

The major goals of rural development programs as specified in the national development plans of the country have been the reversal of the rural-to-urban migration pattern and a revitalization of the rural areas. These goals can be found in all five of the projects studied, together with the goal of promoting a more balanced development between

the rural and urban areas. Another goal the projects had in common was the stimulation of food production in order to attain food self-sufficiency by the year 2000. However, each project used different paths to reach the goals as could be seen in the varying objectives and functions of the projects.

Objectives of the Projects

There is a considerable similarity in the goals of the five projects reviewed; these similarities are a reflection of the national goals for the development of the country. The goals that the projects had in common are the improvement of the rural living conditions, the improvement of the level of living of the rural population, and the reduction of the rural exodus by increasing rural employment opportunities. The increase in agricultural production was also an implicit goal of all the projects, but in the PDR this goal was more or less moved to the background after the first phase of this project. In the second and subsequent phases of PDR agricultural production was made subordinate to improving living conditions. In these later phases, institutional and integrated rural development became much more pronounced in PDR as a result of progress made by the project and of changes in the country's national goals for agriculture and rural development. In the last phase of the PDR, personnel development became the primary objective as a preparation for the handing over of the institutions created by the project to Congolese control.

The objectives of OCV and the UNDP/FAO project Assistance to OCV were to increase food crop production in order to realize a self-sufficiency in the basic food commodities by the year 2000 and to increase participation of the rural population in planning, design, implementation and evaluation of agricultural development programs. OCV's mandate was to provide a comprehensive assistance package to the farmers including marketing, extension, credit, and input supply, its activities were limited to the marketing of a number of food crops and the provision of some inputs on an irregular basis. The Assistance to OCV project's mandate was to set up an extension service for food crop activities within OCV and to help organize related activities (adaptive research, training, base-line surveys, monitoring and evaluation etc) since the agency did not have the capacity to do this on its own.

The two CARE/USAID projects differ from the other three projects in that their objectives are much more specific in what was to be accomplished. The two projects were primarily aimed at alleviating marketing and storage constraints at the farm level by building cooperatively owned and operated warehouses for crop storage and at providing training to the cooperative members to manage the system. A specific number of warehouses to be finished was given in the PAPAN document, while a minimum volume of warehouses was given for the PAPAL project zone. Farmer participation was included as a specific goal in the PAPAL project after the evaluation team of PAPAN found it to be lacking in the Niari project. A seed farm component was later added to the PAPAN project to supply improved seeds as a basis for the project's

extension activities undertaken by PAPAN field personnel and warehouse managers during the down periods in storage activities.

The goals and objectives for the first three projects were rather vague on exactly what was to be accomplished at the end of the projects and on how its accomplishments would be measured at the end of external assistance. This vagueness on future accomplishments was not a problem for two CARE/USAID projects, whose objectives were partly stated in easy to evaluate quantitative terms. The difference in the qualitative versus quantitative objectives has been the major difficulty in evaluating the accomplishments of the projects, since reports and documents give only very brief information (if at all) on qualitative aspects of development programs.

Function of the Projects

The PDR was an integrated rural development project primarily aimed at cooperative development. But in order to stimulate the establishment of village cooperatives, social and economic activities had to be undertaken to give the cooperatives a *raison d'être*. The PDR therefore intervened in many aspects of rural life with programs for literacy, health and nutrition, rural crafts, women, rural primary school teachers, and fish, animal, and crop production. It tried to reach the goals and objectives by providing the farmers (both men and women) and children (via the agricultural and home economics programs at primary schools) with training, information and services. However, many of the program areas (fish farming, women, health and nutrition

programs, crop production) were slowly eroded later and moved from PDR control due to the creation of new agencies and ministries. The PDR role consequently changed from an agency executing various activities itself to one of coordinating the activities of multiple agencies working in the same geographic region and with the same population. However, its main orientation remained cooperative development in the Pool and Plateaux regions with a new branch in the Cuvette since 1986.

OCV was created to better coordinate food production activities in the country by providing farmers with necessary inputs, extension services, and marketing the outputs of a number of crops. The UNDP/FAO Assistance to OCV Project helped the agency with the establishment of its extension service in two pilot regions (Cuvette and Lékoumou), which involved the training of personnel, the setting up of a monitoring and evaluation system, and the conduct of applied and adaptive research.

The two CARE projects in the Niari and Lékoumou regions were primarily aimed at improving the marketing of food crops by building storage warehouses and by establishing village marketing cooperatives. It was assumed that once this marketing system was put in place, farmers could be stimulated at further increasing production by providing them with extension services and improved seeds. The provision of improved seeds, produced on the project seed farm located in the Niari project zone, was to be the basis of the extension activities in both project regions.

The only common characteristic in the function of the five programs was that they all intervened in the food production chain. OCV was, since its creation in 1978, the coordinating agency with which all

projects had regular contact. The agency also had the largest geographic coverage (seven out of the nine regions of the Congo) and was present in all regions where the other projects had activities. The various development projects each were assigned to work in different regions of the country; the only overlap of projects was in Sibiti district in the Lékoumou between CARE's PAPAL project and the Assistance to OCV project during the last three years of the latter project between 1984 and 1987.

Organizational Structure

The organizational structure of all the projects is rather simple with few hierarchical levels between the top administrators and the village level personnel. The OCV was set up in 1978 as a separate parastatal agency to be an independent profit-oriented organization for the production and marketing of food crops. In reality, it was very dependent upon the government especially for operating funds and advances for the marketing campaigns. The Assistance to OCV project was firmly integrated into the OCV structure. It was not the project's purpose to create a new structure but to work with and within the limited resources of OCV to set up an extension service for this agency. Internal linkages existed chiefly with the different divisions of OCV.

By contrast, the ILO and CARE projects created new bureaucracies as counterpart organizations: PDR and PAPAN/PAPAL. These new organizations were composed of both employees of the various ministries, regional or district administrations and/or representatives of the village cooperatives, district or regional Unions of Cooperatives. PDR

and PAPAN/PAPAL were to function as bridges between the government and the villagers to be better able to execute programs designed in part by and for the farming population. The internal linkages in these two projects therefore were limited to the cooperative structures created and/or assisted by the projects and to the parent agencies of its employees. It remains to be seen whether the government can continue to support all the different mini-agencies created by various projects in the future. This seems much less a problem for PDR (whose operating budget was paid for almost 60% by the government) than for the PAPAN/PAPAL projects whose funds were provided almost exclusively by USAID.

Coordination between the different levels was only a problem for OCV. This agency was rather top-heavy with all decision-making power concentrated at the top. The regional directors of OCV did not have very much authority in matters of personnel and activities, which had to be cleared beforehand with the central directorate in Brazzaville. The Assistance to OCV Project was affected also by this policy in the execution of its activities because it depended on OCV for supply of inputs, timely marketing, sanctions of personnel, etc. The internal lines of communication between field personnel of the project and central OCV personnel, and between field personnel in each of the two regions was also hindered by the strict adherence to hierarchy by the project manager, the great distances between the Cuvette, Lékoumou and Brazzaville, and the near total absence of regular meetings of all the field personnel together. The project in the two regions therefore developed very differently and were independent of each other. This dual

approach cannot have contributed much to the strengthening of OCV's management capacity of an extension service already short of personnel and funds. This may have confused more than helped the OCV counterparts at the general directorate.

External Linkages

The number of linkages that the projects had with other organizations, projects, and agencies was dependent on the scope and function of the project. The number was especially great in the PDR project due to its nature and mission: integrated rural development. Since its inception, it undertook many activities in the Pool and Plateaux regions in a variety of subjects, drawing on the expertise of a number of specialized UN agencies to accomplish these activities. Later, when some activities were pushed off and placed in different ministries, it needed to establish links with them so services to GPC's would not be interrupted. A formal linkage was also established with the Institut de Développement Rural of the national university, which was subcontracted to do evaluation and research studies in the project areas.

OCV had also established linkages with many different organizations, mainly with multilateral and bilateral donor agencies and various development projects which were helping to develop the agency and strengthen its management capacity. OCV's relations with education were restricted to the occasional intern of the IDR. By contrast, the UNDP/FAO Assistance to OCV project and the two USAID/CARE projects had few external linkages. The first project did not really have a need for

establishing many links with other organizations; most of them could be accessed indirectly via OCV and there was not really a need to establish double relationships. Input supply and marketing were functions of OCV and were therefore internal linkages for this project. Additional linkages were, however, established with agencies directly relevant for project activities such as Radio Rurale and the national research station CRAL. There were no official ties between the OCV Assistance project and the countries' agricultural schools, although the Lékoumou project personnel invited the CETA students to attend the farmers' field days at the Sibiti training site.

The CARE projects' linkages with other agencies were the most limited; they were restricted to areas of crop storage (CRAL, FAO post-harvest food losses program), construction of warehouses (with MAE's rural engineering service), and seed multiplication (CRAL). It seems that these projects stood very much on their own and that few or no durable relations with other organizations were established that could benefit the PAPAN/PAPAL projects in the future after the termination of external assistance.

Planning

The planning of project activities ranged from highly central to participatory planning. All OCV activities were planned at the general directorate in Brazzaville. Even regional directors had little input in the planning process. The only freedom they had was to decide, once trucks and money for the marketing campaigns had arrived, in which

district and village to begin buying farmers' produce first, and how to allocate personnel and transport equipment to buy as much as possible in the shortest amount of time with the resources available. However, this top-down approach is not surprising in a parastatal agency in a socialist oriented country, where most organizations were modeled after their Eastern-European counterparts.

The PAPAN project was also planned from above. The farmers had little say on the location of the warehouses to be built and on the crop storage practices to be implemented. This was partly due to the fact that the project included the renovation of a number of existing warehouses. The management system set up by the project also seemed to have been planned from the top, although farmers were represented via the district Union Locale in the operation of the warehouse system and the revolving fund for the marketing of produce. The second CARE project, PAPAL, was much more participatory in that the farmers were actively involved in the decision-making process concerning the location and size of the warehouses.

The PDR project was officially very participatory, although it is the author's opinion that in practice it resembled a type of "exploited" participation in which the people were involved in planning activities but had no real decision making powers once activities were determined. The credit fund did contribute to this situation, because credit was only given for certain types of activities (mainly pig and poultry husbandry) and then only if prescribed buildings, animals, and management practices were followed even though there might have been cheaper alternatives better suited to local needs and circumstances. The

project did not always respond to farmers needs and wishes in other areas, such as attention to cassava production. On the other hand, the PDR made tremendous efforts at involving both regional administrators, technical agencies, donor agencies and, above all, the rural population in the planning of development activities in a Consultative Committee for Coordination. This is the only such committee in existence in the country in which such a broad section of Congolese society is represented to discuss and plan regional development issues.

The Assistance to OCV Project did not involve the farmers directly in planning activities. During many meetings with the population, project personnel got some idea of the problems facing the farmers and developed possible solutions. But, because it did not have any firm technologies to offer the farmers, and the farmers also did not exactly know what the project could offer them, it was difficult to involve them in planning. However, it was anticipated that participation of future extension campaigns would increase with on-farm testing and demonstration of varieties and crop management techniques developed on the project's research fields.

Means to Achieve the Objectives

Except for the OCV Assistance project and, by default the OCV itself, human resources were adequate both quantitatively and qualitatively. The OCV did have problems with recruiting a sufficient number of field agents which limited the actions of the Assistance project. The quality of the field personnel depended very much on their

educational background and professional level. For example, the "ouvriers agricoles" and "moniteurs agricoles" working as extension agents in the Lékoumou had a good practical background, got along well with the farmers, and accepted living in the villages. But their theoretical background needed much improvement. The "conducteurs d'agriculture" on the other hand received an adequate theoretical education in agriculture but lacked the practical skills and vocation to live and work in the rural areas. This was partly caused by the inadequate education received at the CETA's where they were trained, and partly because many of the graduates came from urban areas and had never lived and worked on a farm. These schools were also poorly funded and the qualification of the teaching staff was questionable. The curricula of these schools are also very theoretical and do not focus on the needs of the future employers of these graduates. But, this seems to be a problem with all education in the Congo although it is more acute at the secondary/intermediary levels than at the higher levels. The lack of quality of the field personnel was also compounded by the absence of definite and precise technologies during the early implementation phases which could be diffused to the farming population and on which their training could be concentrated. Both PDR and Assistance to OCV projects encountered this problem. The training given by these projects to personnel was therefore of a very general nature during the first years. But, as was shown in the training of new agents recruited from among the villagers and by PAPAN and PAPAL extension personnel, the Congolese were avid learners and were able to absorb and make use of the training to

serve as extension agents in the villages if precise instructions on specific technologies was given as a basis for extension programs.

The qualifications of senior staff and higher junior staff (from *conducteur principal d'agriculture* upwards) were considered good, especially in technical agricultural fields. However, some improvements and additional training was needed in communication and extension education subjects which were not included in the curricula of the IDR and Lycée Agricole.

All projects suffered from the personnel policies of the Congolese public service. None of the projects had any choice in other than support personnel; senior and junior staff were assigned to the various ministries, agencies and projects by the Public Service according to availability, demand for personnel, and wishes of workers asking for reassignment. All assignments were for three years followed by a three-to four-month vacation and then often the reassignment to a new post in a different agency and/or region. This system was not very conducive to giving the stability and continuity necessary to determine any effect of the training and extension efforts of the projects. However, one could argue that the training given to a person will benefit the country also when the person is working somewhere else, although it was a loss for the project. The expatriate personnel considered the practice as a waste of time and resources that could have been better spent for other activities. All personnel, except for the new extension agents of the Assistance to OCV Project who were on a "payment-according-to-performance" system, were government employees receiving fixed salaries

of the Public Service. Bonuses for good performance were not allowed in the Congo, so the agents had little incentive to do their work well; they would continue to receive their salaries no matter how good or bad their performance was. In addition, they could ask for reassignment after their three years were finished and would hardly risk losing a job because of poor performance. A constant training of new personnel was therefore necessary and the system also seriously affected the continuity in the services being offered to the farmers. All projects reviewed were affected to some degree by this system.

Transport equipment was not a problem for the projects during their existence in the country, although OCV field personnel did not have any means of transportation during its first few years of operation. Since 1984, the extension agents and supervisors in the Lékoumou were given mopeds on credit from the SODETECH agricultural survey project, and bicycles, purchased from the Assistance to OCV Project, were issued to the new agents in both the Cuvette and Lékoumou. OCV itself had a transportation section which had a large number of trucks for the marketing campaigns. These were normally based in Brazzaville but could be used, if necessary, for transport needs of seeds, fertilizer etc. for extension campaigns. The CARE projects included mopeds, motorcycles and vehicles for almost all project personnel and also for some of the "chefs de secteur" of related organizations (OCV, Cooperative Development). Less information was available from the PDR project on transport equipment for its field agents. However, this project had a number of vehicles at its disposal

for the expatriate personnel that were being shared with the Congolese staff for field trips. The Regional Unions in both Pool and Plateaux were also provided with heavy-duty trucks which could be used for a variety of purposes. In spite of some difficulties in the early years of OCV, all projects had sufficient means of transportation to carry out their extension activities.

However, some unresolved questions remain as to the maintenance and continued operation of the equipment in the future. Most of the equipment was maintained and operated by the projects or, in the case of OCV, by foreign technical assistance. In all cases there were problems with the maintenance and repair of non-project vehicles that made it doubtful that the Congolese government and/or the Regional Unions had the resources necessary to keep the material in operation after the termination of the external assistance and funding. Repairs often took very long because of missing spare parts; there was also a lack of funds to buy them because insufficient provisions were made for the amortization and operation of the material.

All the projects had either built or refurbished a building to serve as a training center for their personnel. For practical training they all had some land at their disposal that was also used to carry out research and demonstrations. The level of equipment of the centers varied between the projects and according to project activities, but was adequate for the basic training of the personnel. The PDR training center was the best used, because the project was so wide reaching in the number of areas covered. By contrast, the CARE center was grossly

under-used because it was set up only for the specific purpose of a project that included few formal training sessions of personnel. It was the primary reason to cancel the construction of a similar center for PAPAL. The OCV training centers in both Cuvette and Lékoumou were rather well used in spite of their rudimentary nature. Training sessions were held four times per year, while the sister OCC project also held three or four sessions a year in the center. The combined research-demonstration-teaching purpose of the all the projects' farms made very good use of the available resources.

The financing of each of the projects was very different and provides some indication of their future sustainability. The government commitment to the PDR goal of organizing the farmers in cooperative structures has been unequivocal, as can be seen from the financial contributions made to the PDR. From its inception in 1970, the government has contributed about two-thirds of the PDR operating expenses, even during the financially difficult times of the mid-1970's and mid-1980's. This is quite contrary to the experience of OCV and the Assistance to OCV Project, both of which had ongoing struggles with the government to receive the finances agreed upon at the establishment of OCV and the Project. The political unimportance of the food production sector relative to the export crop and industrial sectors probably is the major reason for this disparity.¹ The USAID/CARE projects take a

¹The political unimportance of OCV is very well summed up in the following statement of the PAPAL Project Assistance Completion Report: "A second lesson to be learned is to be wary of dealing with government parastatals which neither have political importance, enough money to be able to do what the project assumes, nor the interest to make the project successful. The government buying monopoly had little influence

somewhat intermediary position. Most of their operating budget came from USAID and they could therefore continue their work independently from the government. The counterpart contributions consisted mainly of personnel, land and buildings which were assigned to the projects as agreed in the project documents. However, both PAPAN and PAPAL had difficulties with replenishing the revolving funds for the marketing of the crops in the project zones because OCV did not pay for delivered products in a timely fashion. The sustainability of the projects without the revolving funds must therefore be doubted, because pesticides and warehouse managers salaries were supposed to be recovered from the replenishment of the funds by OCV. The financial commitment of the Congolese government to any rural development and extension effort therefore appears to be a good indicator for determining potential success and sustainability of future external assistance programs in these areas. This commitment was present for the PDR project (whose primary aim was not increasing agricultural production but cooperative development) but was clearly absent in all the other projects studied (whose principal goal was to increase the availability of locally produced food crops).

in political life, was never given enough money to permit efficient operation, and could not see what betterment it would derive by doing a good job in marketing farmer produce." USAID, Congo Small Holder Agricultural Development I: Project Assistance Completion Report. (Kinshasa, Zaïre: USAID, 1987), 4.

Participation of the Target Population

The principal target of all the projects studied were the "Groupements Pré-Coopératives" which were pioneered by the PDR project. But, aided by free food donations of the World Food Program for just being a GPC member, the movement spread to other regions of the country as well. The primary reason for working with the GPC's was that more people could be reached in a shorter amount of time and that extension and training efforts would thus be more cost-effective. Instead of working with contact farmers as the T&V extension system does, the GPC's were considered the "contact farmers." The projects' assumptions were that the technologies provided to and pre-tested by the GPC's would subsequently spread to the private farms of the members.

The GPC membership was about equally divided between male and female farmers, although most leadership positions were held by men. Therefore, by using the GPC's as their target, no direct and obvious sex discrimination in the extension programs was practiced, and the number of male and female farmers reached by the projects was about equal. However, as a percentage of the total target population in each of the project zones, the number of farmers reached directly by the projects was very low since GPC membership was only a few percent of the farming population (10% nationally).

Only the PDR has carried out a large number of farmer training sessions. The principal audience of the other projects was the personnel directly involved in the projects or the counterpart organizations, and little training aside from method and result demonstrations focused on

the farmers directly. The Assistance to OCV project trained a small number of GPC leaders to function as liaison persons between the extension agents and the GPC members and non-members in the villages.

OCV probably reached the lowest number of farmers with extension messages, although in principle it reached all farmers in the seven regions it covered during the marketing campaigns. Apart from the Lékoumou region, though, the agency did not have any field agents other than its chefs de secteur who were the district supervisors. But, without any form of transportation, financial and other support, it was impossible for them to do any effective extension work in such large areas. OCV's main extension activities were therefore executed by the UNDP-FAO project in the Lékoumou and Cuvette regions, while the agency made use of some of the human and other resources of the PDR to reach the farmers in the Pool and Plateaux regions. By default, few extension activities were undertaken by OCV in its other regions, namely Kouilou, Niari, and Bouenza.

Overall, none of the five projects studied reached large numbers of individual farmers directly because the "groupements pécoopératives" were the primary target of each project. Other than counting the people present during visits of the expatriate personnel, none of the projects collected any statistical data on a regular and systematic basis on the number of farmers reached or visited by national extension personnel. It would, therefore, be hard to judge the projects' effectiveness only from the small number of farmers that were present at these meetings with expatriate personnel. It is almost certain that many more people have been reached and have benefitted from the projects via informal channels

of communication among farmers themselves and/or via activities of local extension agents in other than the pilot GPC's served by the expatriate personnel.

Source and Choice of Technologies

The technologies in the area of crop production suitable for the small farmers were almost non-existent, which limited the activities of all the projects studied especially during their first years of operation. The agronomic research station at Loudima did not have the capacity and was not provided with sufficient funds to carry out a large research program, and it had no resources and means at all to carry out applied research at regional sub-stations. Its activities were therefore limited to trials at its site in Loudima, where the research focused mainly on developing technologies for the large-scale mechanized farms of the Bouenza region. Not all projects suffered equally from this lack of technologies.

The PDR and the CARE projects included a number of non-crop activities and activities that were not related to crop production directly and for which proven and standard technologies existed in other countries. These "imported" technologies could either be put in practice "as is" or be adapted fairly easily to suit the local conditions, such as fish farming, storage warehouses, and intensive pig and poultry production. However, all projects studied were much less successful in increasing crop production because of the absence of tested, improved varieties of seeds and production methods. All the projects were based

on the assumption that the national research station CRAL had developed the technologies, and that the projects' only task would be to diffuse these technologies to the farmers. This was a false assumption. The Assistance to OCV project, PDR, and PAPAN's seed farm had to develop and test technologies themselves to determine their suitability for the small farmers in their respective regions; unfortunately, none of the expatriate or national personnel assigned to these projects were really qualified in agronomic research. Consequently, much time and many resources had to be diverted to these research efforts before any real extension work and diffusion of new ideas could be undertaken. Because of the short duration of the projects and pressures to do at least something in the area of extension, numerous short-cuts were taken, and new methods and varieties were disseminated after only one or two seasons of testing and before a thorough evaluation could be made of their socio-cultural acceptance, economic feasibility, and marketability. It is obvious that this was a very risky undertaking since farmers could lose confidence if the new technologies did not prove to be better than the old ones.

The PDR developed most of its recommendations on crop production improvements in isolation without involving the farmers. This proved to be a mistake: most "improved" farming methods and technologies were rejected by the farmers because of their high costs, unsuitability in the local farming systems, and constraints in land and labor availability. The slow progress in increasing food production by the PDR was the major reason for FAO to withdraw its support and personnel from the project after ten years.

In contrast, the OCV Assistance project set up a system of simultaneous research at its training farms and demonstrations at the collectively cultivated fields. Feedback could thus be obtained from the farmers, and many comments collected during visits made during the growing season and farm field days were taken into consideration in determining research topics for subsequent years. These comments were also useful in getting a feeling of the possible acceptance of the technologies proposed by the project.

CARE research was done at its seed farm in Mossendjo. It was assumed that CRAL could deliver breeder seed and that the varieties developed at the station were suitable for the project zones. This turned out not to be the case, and the seed farm idea had to be abandoned even though large investments had been made in machinery and clearing the land. This could have been avoided had there been more careful research in the design phase and if the design team had asked the farmers for their opinions on CRAL varieties.² The absence of much success by the projects in increasing food crop production can thus mainly be attributed to the lack of suitable technologies available to the projects from the beginning. The increases in marketed volume of OCV controlled crops that did occur during the implementation phases of the projects in Niari and Lékoumou (see Table 21) were due mainly to the more timely marketing of these products. However, these increases did

²CRAL varieties had been distributed by OCV on an irregular basis. Farmers did not think very highly of them: the peanuts were much smaller and lighter ("it takes much more peanuts to fill a bag of 35 kilograms"), and the maize was judged unsuitable for human consumption. Only rice varieties were acceptable to the farmers.

not really represent an increased production of these crops but rather a diminished diversion of the crops on the illegal parallel market.

Questions also remain concerning the appropriateness of the technologies that were developed and diffused by the projects in view of the aging and predominantly female agricultural labor force. None of the projects addressed the possible consequences of the changing rural demography on future agricultural production, such as:

- 1) an older labor force that lacks the strength might put fallow land in production faster since "younger" fallows are easier to clear than older ones; these shorter fallow periods may lead to an increase in soil degradation and a loss of soil fertility;
- 2) decreasing plot sizes because of a lack of labor to clear large parcels (it is the mens' task to clear the land, but the number of men in the villages is diminishing more rapidly than the number of women);
- 3) a shift to more extensive forms of production and to less labor demanding crops. This shift is already noticeable in the diminished rice production and the refusal of many young women to cultivate cassava because this crop demands so much hard labor to process it for the market.

Future food production capability might be severely compromised if researchers fail to address these facts now before they become serious problems. Since women are the primary food producers in the Congo, the technologies advocated must take into account the multiple tasks of women. Otherwise, they will not be adopted and future increases in food production are uncertain to materialize.

Extension Methods Used

The most widely educational method all of the projects used were the group/village meeting and group activities. This is not surprising since the main target audience of the projects was a group of people: the "groupement pré-coopératif." All extension activities focused on the GPC's; method and result demonstrations, farm visits, and field days were carried out on the collective fields of the GPC's, while training was given to the members of the GPC's only. Audiovisual aids were used extensively by all projects for the training sessions of personnel and farmers at the regional (project) training centers; it appeared that little of this material was used for extension work related to food production in the villages. The extension workers mostly used blackboards and chalk (which could be found in almost all villages) or the horizontal dirt board and sticks when explaining something in the field.

Farmer training was used most extensively by the PDR, which has given training to a very large number of farmers over the 15 years reviewed in this research. The training subjects covered nearly all aspects of rural life, although few sessions were devoted to crop production topics. CARE training in PAPAN was limited to the 18 village warehouse managers only. In the PAPAL project, more villager training was undertaken, mostly in area of collective marketing of produce (bagging and weighing) even before any warehouses were finished. The Assistance to OCV project trained a number of GPC leaders in some basic extension education methods and improved farming techniques so they

would be able to function as liaisons between the extension agents and the villagers.

Radio was not used by any of the projects as an extension medium, although a linkage was established between OCV and Radio Rurale to jointly develop extension messages related to crop production and marketing to be broadcast on the weekly rural radio program. The Assistance to OCV project provided assistance to OCV personnel in developing appropriate messages.

Achievements of the Projects

The reactions of the farmers to the projects has been mixed. In general, the non-crop production oriented activities were better received by the farmers than activities related to stimulating food crop production. However, farmers were very positive about the efforts made by the CARE projects in the area of improving the marketing of the crops, and they expressed great interest in the program transferring some stages of the marketing process to "their" cooperatives. The absence of timely marketing of the produce was considered the major stumbling block to increasing food production, and the other projects suffered setbacks in their extension activities due to the marketing problems. The prices of the products were much less an issue with the rural population, especially because the government had allowed price increases for several years to restore the purchasing power of the farmers. But, although there was a lack of enthusiasm by the farmers to the projects' crop production activities, they were interested in the

programs because of the assistance and attention they received from both the government and foreign experts. It made them feel that they were important and not forgotten by their leaders in the capital city. The psychological boost that they received from being the target audience of development programs best came to light in the PDR project, in which the farmers transformed the mainly social-economic goals of the cooperatives into a political goal: to be heard at the regional and national level and have a voice in the development process.

Except for the OCV, all projects contributed to increasing the awareness of the rural populations of possible crop improvements and production increases. Changes in knowledge and skills was the greatest in the PDR project, due to its extensive farmer training program, followed by the PAPAL and the Assistance to OCV projects which used much less formal training programs and focused activities mainly on non-formal education methods. The farmers' attitude remained somewhat reluctant in all projects due to the capricious marketing situation. But, as shown by the PAPAL experience and OCV's early marketing campaign in the Lékoumou in 1984, farmers did have higher aspirations and expressed great willingness to increase food crop production both by increasing acreage planted and by trying out some of the new technologies that were being proposed by the projects. The best examples of these higher aspirations were the increase in cassava production in the Pool where men now also cultivate and process this formerly "female" crop, and the rapid increase in potato production in the Plateaux in the early 1980's. Production and marketing of potatoes received priorities by OCV in order to rapidly boost their production. The crop is very

perishable under the hot and humid conditions prevalent in the Congo and therefore needs to be marketed very rapidly to prevent large losses that could discourage farmers from producing the crop in the future.

Summary

Although there are no statistics available, one could say that a fairly large number of farmers have adopted new food crop production practices, or at least tried them, in the Pool and Plateaux regions due to the extension efforts of PDR and, to a lesser extent of, OCV. The Assistance to OCV was less successful in promoting new practices and varieties during the relatively short duration of the project which was caused chiefly by the lack of ready technologies to be disseminated to the farming population at the start of the project. The two CARE projects have been successful in instituting a system of village level storage warehouses managed by the village cooperatives themselves. The cooperatives were also executing the first steps of the marketing of the produce (weighing, bagging, and produce treatment). However, these latter projects were unsuccessful in increasing production through extension services based on improved seeds. The project seed farm component was abandoned after three years and, by consequence, the extension activities related to cropping practices (which were to be based almost exclusively on the presumed availability of improved seeds) suffered a great setback.

Which of the Projects Has Been Best Able to
Meet the Needs of the Farmers?

Objective two of this research was to determine which of the projects has best been able to meet the needs of the small farmers. The needs were described as not primarily to produce more, but to increase subsistence and income security over time, to find labor saving technologies, and to procure some monetary resources for children's education, medicines, clothing, etc.

None of the projects has been very successful in increasing agricultural production, nor did they have a negative effect on farmers' subsistence security. Since none of the projects managed to increase agricultural production much, farm incomes and income security did not improve either. This was because, with the exception of the CARE projects, the projects were unable to solve the most urgent problem faced by the farmers and the one that they perceived as having the greatest impact on increasing production in the long term: marketing of their produce. The CARE projects were aimed at village level storage and marketing of food crops, and both PAPAN and PAPAL succeeded in meeting the immediate marketing needs of the farmers. But, it is unclear whether this village level storage and marketing system will be able to succeed beyond the period of external assistance. The slow reimbursement by OCV of the revolving fund which finances the system already jeopardized the marketing activities during the projects lifetime. The future would have been much brighter if the cooperatives would have been able to control the whole marketing chain from producer to consumer without having to

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depend on the unreliable parastatal OCV to market the produce beyond the village level.

The 1979 project evaluation team of the PDR mentioned the acceptance and consultation of farmers in matters concerning **their** development as the main interest of the farmers in this project. No one perceived this as being a need of the farmers at the onset of PDR, and it was an unexpected outcome to the project team members. To have a voice at the district, regional, and national level in matters concerning rural development efforts can thus be considered a second need of the rural population. All projects reviewed addressed this need for recognition to a greater or lesser extent, with the PDR being the most successful and OCV the least successful. The external assistance projects were better able to assist the rural population because the farmers considered them as being less tainted by government bureaucracy, more independent, and better able to solve their problems. Thus, the projects not only contributed to the organization of the rural population in economically viable units (which was the primary reason that they aimed their activities at the pre-cooperatives) but at the same time gave some political recognition and status to these units. All the projects have been first attempts at assisting the rural population with training and extension programs aimed at increasing food production. Although the farmers did not have a direct, expressed need for increasing food production (subsistence needs were already being met), they appreciated the attention they (finally) got in this area. Hardly any attention to food production was given during the colonial period, while government efforts since Independence focused chiefly on

large-scale mechanized production on state farms and on the dual status cash/food crop peanuts.

Since all projects studied addressed the needs of the rural population in some way or other, it is difficult to say whether one project has been better able to meet these needs than the other projects. For all five projects reviewed, it is questionable that the needs can continue to be met in the future after termination of external assistance and funding on which they depended so much. The organizations set up by the PDR probably have the best chance, and the Congolese government has shown its commitment to making the cooperatives succeed and will likely continue to do so in the future. But, if extension education, either by these projects or by newly created structures, is to be successful in meeting the economic needs of the population and the country, the obstacles in the extension systems' environment such as marketing, input supply, and suitable technologies for the small farmers have to be taken care of first. The environment posed numerous hurdles for the economic agenda of the extension services of the various projects that has limited them in attaining their goals of increasing production and incomes, decreasing the rural exodus, and of meeting the social, political, cultural and economic needs of the rural population. If extension services are to be successful in meeting both the needs of the rural people and those of the country, the removal of these obstacles must be a priority.

Table 22: Relative rating scales comparing the five projects.

Variable	Projects				
	PDR	OCV	UNDP/FAO Assistance to OCV	USAID/CARE PAPAN	USAID/CARE PAPAL
Function:					
service	2	3	0	3	3
information	2	1	3	1	1
education	3	0	3	1	2
institutional					
development	3	0	2	2	2
research	1	0	2	2	1
other	0	0	0	2	0
				seed farm	
External linkages with:					
education	1	1	2	0	0
research	1	1	2	2	1
marketing	2	-	1	3	3
credit	2	1	0	0	0
other					
projects/ agencies	3	3	2	1	1
planning:					
level where done	regional (in CCC)	central	regional (project)	project HQ in region	project HQ in region/ by village
farmer involvement	3	none	1	1	3
decision making level	project (GPC's)	central	regional (project)	project HQ in region	project HQ in region/ by village
Participation:					
farmers reached as % of target	2	1	2	1	3
population	1	-	1	2	2
farmers trained	3	0	2	1	2

0=none 1=low 2=medium 3=high

See notes on page 282 for an explanation on the meaning of the rating scale.

Continued.

Notes to Table 22:

The rating of low, medium and high does not mean the same for all the variables in this table. For **function**, the numbers indicate how much attention was paid to service, information delivery, etc. For **external linkages** the numbers indicate the extent to which the projects collaborate with other institution of importance for agriculture and rural development. The rating of the **means** provide an indication of their qualitative and/or quantitative adequacy to achieve their objectives. **Participation** ratings refer to the number of farmers reached or trained. **Extension methods** refers to the extent to which the various methods listed were used by each project. The ratings of the different categories of **achievements** (reaction, KASA change, trial and adoption) indicate the changes that occurred as a result of the projects. For all variables, these are not absolute numbers; the ratings only provide an indication of how well one project has done compared to the others. High ratings, therefore, mean that a particular project has been successful only compared to the other projects studied.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

In this study, five rural development programs have been described, analyzed and compared in order to determine their impact on food production in the Congo. Differences in their implementation were studied to determine the extent - if any - these differences played in the projects' success. The projects have been active for varying lengths of time (the longest, PDR, for 15 years; the shortest, PAPAL, included only two years at the cut-off date for this study), and represent the main efforts of the government and external donor/assistance agencies of aiding the rural population in the area of food production since Independence.

The projects have had varying success in achieving their objectives for increasing food crop production and, by consequence, rural incomes. Measured by the amounts of produce marketed in the country, none of the projects really has been able to increase production significantly. For almost all crops, production levels were even with those found at the start of the programs, and in some cases even below those pre-project levels. The five projects reviewed should, therefore, not be judged so much on their success or failure of accomplishing increases in production and rural incomes, but on their

contributions to the learning process on which future development programs can be build.

What can thus be learned from the experiences of these projects? The reasons for the small impact are found both in the projects' environment and in the projects themselves. The effectiveness of agricultural extension depends to a great degree on the environment in which the program operates, and the limitations imposed on the program by the environment. In the People's Republic of the Congo, these external factors appeared to have had a greater negative effect on the implementation and accomplishment of the five projects reviewed than the internal factors. The major environmental limitations were:

- The rudimentary agricultural research system of the Congo, which focused its programs on large scale, mechanized farming and not on small farm production. There were, therefore, no technologies available on which the extension services could base their activities.

- Absence of a food crop marketing system until 1979. The marketing board created in 1978 to market food crops, OCV, has had a very precarious performance due to a lack of resources to carry out its tasks.

- Price policies that made farming a non-remunerative occupation.

- Urban-centered development planning.

- An educational system that is too academic and too Western-oriented and, by consequence, does not train youngsters for professions needed most in the country. For example, the agricultural schools below university level did not include any courses on community development, agricultural extension or agricultural education, although most of their graduates would be assigned as extension agents or agricultural teachers at some point in their career.

- A general aversion of the Congolese people towards agriculture and agricultural related professions, which developed during the colonial period and has been reinforced by the development policies of the various Congolese governments since Independence.

Although the government did make a few changes to alleviate some of these external constraints (such as the re-opening of CRAL in 1975, price increases for agricultural products between 1979 and 1985, improvements in the national road system, and the abolition of the monopolized marketing system in 1986), these changes have been piecemeal and have not had a significant impact on food production. The lack of coordination of activities and priorities between the various Ministries that controlled different services of interest to rural development contributed to the fragmented nature of rural development. Food production has been decreasing for all crops except cassava and potatoes. For other crops, production has not declined much, but only because of the production increases realized on the heavily subsidized and money-losing state farms. Nor have activities directed at food production been a great priority for the government (in spite of the slogans to the contrary) because food crops are not exported and thus do not earn hard currency. The fact that the country has needed (and continues to need) to import large quantities of food just to meet demand (about half its total imports are made up of food products) has been much less of a concern because the oil dollar flow has been able to finance these imports.

However, the projects themselves are also to be held accountable for their low success in increasing production. The largest share of the blame should, in the author's opinion, be put on the project design teams: all the projects were based on the (false) assumptions that technologies and inputs were available or would soon be available, and

that sufficient and adequately trained personnel (both national and expatriate) would be put at their disposal right from the start. In addition, output marketing and price policies were more or less taken for granted as being external and unimportant to the projects' activities and objectives. Although not all these assumptions do apply equally to all the projects, they have negatively affected all of them to some extent. The PDR, as a pilot rural development program, experienced many setbacks in its food crop extension programs due to the unrealistic assumptions and the limitations in its environment. However, none of the project design teams nor the government itself apparently drew any conclusions from the lessons learned in this project. Subsequent projects (OCV, Assistance to OCV, and some components of the CARE projects) were designed using the same (now disproved) assumptions.

There are several scenarios that might be suggested to explain the unrealistic project designs: 1. the government, in its eagerness to receive aid and assistance might have downplayed the importance of the environmental limitations, denied their existence, or made promises for improvements that it knew beforehand could not be realized; 2. the donors may have shut their eyes to existing realities in their eagerness to dispense aid money and implement "their" project; 3. if PDR was consulted, its personnel may have stressed its accomplishments in its social, cultural and political agenda (in which it was justified) while downplaying the lack of progress in the economic aspects of the project (the latter being the chief reason for FAO's withdrawal at the end of the second phase). But, whatever the reasons for failing to heed the lessons learned by the PDR in the design of the later projects, it is

clear that much more careful research is necessary during the planning and design stages of development projects to avert a waste of scarce development resources.

The main conclusion from the study is that agricultural extension is not "the wonder drug that works wonders" as so many countries think it is. Extension can only address a symptom (usually the lack of information dissemination to and training of farmers), but if there are problems in the rest of the system and in its environment (lack of research, credit, input and output markets, etc.), its effect will be minimal. Extension services have to be part of an integrated strategy which addresses all the shortcomings in the agricultural system simultaneously. It is probably also not the first necessity of a country if, as in the case of the Congo, the shortcomings are plenty.

As could be seen from CARE's experience in the Niari, and OCV's experience in the Lékoumou, timely and reliable markets were much more important for increasing production than extension. PDR had a similar experience in its animal production program. The PDR was highly successful in extending and promoting modern pig and poultry production units (based on imported technology and supported by credit and input supply), but the project saw its efforts almost wiped out in 1984 when no markets could be found for the animals and prices tumbled. Many GPC's consequently abandoned their stables and dissolved their cooperatives. Before starting an extension program, a more permanent solution to the marketing problem is therefore essential if the goal is to increase small farm production.

Extension services can be successful if proven and profitable technologies are available, as was shown in the above cited example of the PDR animal production program and also by the CARE storage warehouses. These programs used relatively standard, imported technologies that required little or no adaptation to the local situation and were able to be implemented without many difficulties apart from the marketing and revolving fund reimbursement problems. However, this is nearly impossible with crop production technologies which are often very location and culture specific. No standard technologies exist for crop improvement that can be imported from elsewhere and which fit into a particular farming system "as is." Without prior adaptive and applied research, it is very risky, if not impossible, to build an extension program on new untested crop production technologies, especially for food crops that provide the subsistence security for people. Because no such research existed in the Congo at the onset of the projects, their impact on food crop production has remained minimal.

Also, all projects underestimated the existence and importance of informal communication channels between farmers as a means of spreading new technologies. The spread of new cassava processing techniques in the Pool and the production increases thus made possible are an example of such informal communication that farmers use if new and profitable technologies are made known to them. These informal channels could, and should, be used much more as low cost alternatives for the relatively expansive formal channels of agricultural extension.

The decision to try to build extension services around an empty pool of technologies, in the absence of a reliable marketing channel was therefore a highly questionable one, but one on which all projects were based. External assistance, therefore, should have focused on solving some of the credit, input supply, research, and marketing problems before attempting to vulgarize new, untested and not really adapted crop production technologies aimed at increasing yields and outputs.

Can any of the approaches used by the projects be adopted by the Congo as a model for future extension services? It is the author's opinion that none of the projects can be adapted in its entirety for a future extension service model. Each project provided some parts of the puzzle of rural development of which half the pieces were still missing. The missing parts were described above. Some of the existing parts that have been tested and used successfully by the various projects and should be incorporated into future rural development efforts are given below.

The PDR's efforts at organizing the farmers in cooperatives has made an important contribution to valuing farming as a profession and in increasing the rural voice in national and regional decision making bodies. Although the cooperatives thereby act more as a labor union than an economic entity, it is important to provide the rural population with such a political forum that attracts the attention of both Congolese policy makers and donor agencies. The many training sessions on a wide variety of topics carried out by the PDR for the rural population have

also contributed to strengthening the cooperatives and to developing the human resources of the Pool and Plateaux regions.

Both PDR and the Assistance to OCV project have conducted considerable training of extension and community development workers, filling an important gap in their formal education, especially in the practical aspects of crop and animal production and extension work. The Congolese can always use more training, but should this be the role of rural development assistance in view of the extensive educational system and the high levels of schooling attained in the country? Would it not be more cost effective and better for the country in the long run to try to change the educational system and curricula to bring it in line with the country's needs for professional personnel with the right qualifications? The Congo, as so many other countries, cannot really afford to educate people that, once graduated, have insufficient qualifications for the jobs to which they are assigned and need immediate retraining or additional training to make profitable use of their services. Training of the extension personnel will always be necessary (even in developed countries), but it should focus on specific techniques and new technologies necessary to carry out their tasks and not be a "cheap" replacement for a failing national educational system.

In view of the absence of village storage facilities, the PAPAN and PAPAL projects made good sense. They were able to solve the immediate marketing problems for both GPC's and individual farmers, who could store their products without the risk of great losses in cooperative warehouses. The continued dependence on OCV for further marketing beyond the village level was the great weakness in these

projects. Now that OCV has lost its marketing monopoly, it should be possible to transfer marketing activities completely to the district or regional Unions of Cooperatives. In such a system, OCV could function as a commercially oriented transporter (since it has the vehicles and maintenance facilities), renting its trucks to the Unions for transportation of the produce to urban markets or agro-industries.

The research farms set up by the Assistance to OCV Project in the Cuvette and Lékoumou, the CARE (seed) farm in the Niari (which became a research/demonstration farm after 1985), and PDR run farms in the Pool all provided valuable support to the national research station CRAL for the development of locally adapted crop production technologies. These farms should be further developed and integrated in a national applied/adaptive research network.

These elements should be parts of future extension efforts in the Congo. However, the efforts will only have an impact if the problems in the external system are solved in a way that is acceptable to the government, urban dwellers and above all the farmers. Such extension efforts cannot be based on assumptions and promises: changes in the extension systems' environment have to be made before new extension activities are undertaken in the country. This will require some hard political decision making, but without tackling these problems now, the future of the Congo's rural areas, after the drying up of its oil wells and wealth and the passing away of its present generation of farmers, will be very bleak.

Recommendations**1. Agricultural research.**

Adequate funding, personnel, and infrastructure should be provided to strengthen the national agricultural research capacity at the agronomic research station CRAL at Loudima. Additional support will need to be given to further develop the various project research-training centers in the different regions, and to institute a system of small test/demonstration farms at the district level. This research system would develop and test new technologies for food and cash crops and animal production as appropriate for the farming systems in each region and district, and form the backbone of any future extension services. If possible, the regional research-training centers and the district demonstration farms should be connected to the existing agricultural schools for whom they also could serve as a teaching facility. Student labor could keep the exploitation costs down, while such an arrangement would stimulate theory-practice integration, and establish links between farmers, schools and extension services thereby preparing students better for future extension assignments as extension agents. Such an arrangement will require a cooperative agreement between the Ministries of Secondary and Higher Education, Rural Development, and Scientific Research and Environment, who now control the different areas of education, research, and extension.

The questions of the decreasing, aging rural population and the majority female agricultural labor force need to be taken into account on a priority basis in developing research programs. Agricultural

research should not only focus on potential production increases based on the (false) assumptions that enough labor is available and that farmers will accept any production increasing technology. Researchers will have to address the problems of how the new technologies fit into the existing farming systems, how the increased production is to be processed and marketed, and whether the technologies conflict with existing intra-household labor allocations of especially women as the main producers, processors and marketers of the food crops of the country.

2. Marketing of food crops.

The assistance to the cooperatives as provided by the PDR (training, credit, cooperative development, etc.) should be extended to the GPC's in all regions of the country. However, since collective production activities have not been very successful except for animal and fish production, alternatives should be found as the main *raison-d'être* of the cooperatives. The PAPAN/PAPAL warehouse and farm gate marketing system and the PDR Regional Union Transport and Marketing Sections could form the basis of a new orientation of the cooperatives in the form of a cooperative marketing structure. The localized systems set up by the PDR and the CARE projects, therefore, need to be developed into a national cooperative marketing network to include wholesale and intermediary trade in the urban areas. The network will need to be set up and run by and for the farmers independently from the government. Its employees should be paid by the system and not by the Public service. But, in order to realize such a system, much additional training in

management, economics, marketing, and crop storage of the farmers directing and managing the network and for the cooperative members will be necessary to make the system viable and sustainable. As was shown by PAPAL and PDR this is not an impossibility in the Congo.

3. Agricultural pricing system.

A revision of the agricultural product pricing system is necessary. Buying prices should reflect actual production costs, while the sizeable discrepancy between official and real selling prices on the urban markets should be eliminated. The small margins allowed between buying and selling prices are insufficient to cover marketing costs, and do not provide any incentive for private traders or cooperatives to market the country's agricultural produce. The large losses incurred by OCV on its marketing operations are proof of that. OCV operations have not been a good example for the private traders and, with the present pricing system, the abolishment of its marketing monopoly has not enticed them to fill the gap left by OCV. A pricing system based on the principles of demand and supply which also takes the high transportation costs into account (as is already the case for cassava) would appear to be fairer to both farmers and consumers. With the help of a system of buffer stocks, the government could guarantee the farmers a minimum price and protect the consumers by instituting maximum retail prices, while free market forces would be allowed to reign if prices stayed between these levels.

4. Coordination between rural development programs.

Much greater emphasis should be placed on collaboration and coordination between various development programs and projects in the country both by the government, foreign donors and implementing agencies to prevent duplication of efforts, to learn from each others mistakes and successes, and to combine the resources available to accomplish the tasks at hand. The Congolese government does have the primary responsibility of coordinating the development activities of Ministries, government and foreign donor agencies, and parastatals but it hardly exercised this duty. However, the role of coordinating development activities and stimulating collaboration between agencies should be much more aggressively pursued by the government in the future; the Ministries of Planning and of Cooperation are especially suited to fulfill these roles.

5. Learning from the past.

Studies of past experiences of projects can provide useful information for the planning and design of new development programs, but often little use is made of them especially when a project was considered a failure or less successful. In addition, such documents are often hard to find. It is therefore recommended that internal, external and technical reports of projects are made available freely for research in a publicly accessible place, for example in the libraries of national universities, and not be put away in a dusty corner of some ministry or aid agency never to be seen again.

6. Agricultural education.

The curricula of the (agricultural) schools of the Congo should be adapted to meet the needs of the population, the development needs of the country, and the needs for schooled personnel of future employers. Education for education's sake does not lead to development. Much more could be accomplished by short duration projects if they did not have to re-train national personnel in areas that could or should have been included in their formal education, such as the practical aspects of agricultural production, extension education and community development. Now that the Congo has attained the highest level of schooling and literacy in Sub-Sahara Africa, it is recommended that the country re-orient its school system to provide quality education instead of quantity education. This will not only benefit the agricultural sector, but especially the industrial and service sectors of the economy which nowadays provide the largest income to the country.

7. Future extension programs.

The multitude of crop or activity specific extension services have not contributed to strengthening Congolese capacity of implementing and managing agricultural extension services, nor have they really been able to adequately address the problems and to satisfy the needs of the farmers. The farmers face a multitude of problems in complex farming systems that cannot be solved by piecemeal extension services. It is therefore recommended that the extension services of OCV, OCC, OCT, the Ministries of Eaux et Forêts (fish farming) and Agriculture et Elevage (cooperatives, animal husbandry, and rural engineering), and those set

up by the various projects be combined into one national agricultural extension agency with a strong leadership. This would eliminate the competition between agents from various extension services all descending upon the same farmers, but often with conflicting messages, which creates confusion and is a nuisance more than a help to the rural population. Such a system would demand much closer monitoring and supervision of field personnel than was practiced by the projects reviewed in this study, and many more agricultural researchers and subject matter specialists than are presently available in the Congo. In the short run, on-the-job-training can redress some of the qualitative and quantitative shortcomings in personnel, but in the long run the recommended changes in the country's formal agricultural education system (see recommendation 6) would be able to fill the gap. Together with the expansion of the national research system to include regional stations and district level model farms/test plots (see recommendation 1), the revamped extension service should be able to address the complex rural and agricultural development problems of the Congo.

Additional Research Questions

1. Usually, extension evaluations are only concerned with reactions of the farmers to a certain program. However, extension programs do not only work with farmers but are, in most cases, considered to be a two-way communication channel between researchers and farmers. This is also the case in the Congo in spite of the limited research undertaken by the national agricultural research center CRAL that is

of direct interest to the small producers. Nevertheless, agricultural extension program evaluations should not only be concerned with the farmers but also address the changes that occurred in awareness, reaction, interest, KASA, and practice of the researchers as a result of the projects.

2. The model combining Bennett's hierarchy of evaluation criteria and the steps in the diffusion of innovation process has been useful to determine the variables used to analyze the projects in this study. However, as stated in the introduction, evaluation reports, articles and documents are often very brief or ignore the intermediate steps of the model (awareness, reactions, interest, KASA change, evaluation and trial). It would be desirable if additional research in the field, questioning farmers, extension personnel and researchers, could to be carried out to test the validity and usefulness of this combined model for evaluating extension programs.
3. The present study has been of a descriptive, qualitative nature and has largely considered the variables used to be independent of each other. A future study, one that would need to be carried out in the field, might concern itself more with quantitative aspects of the nature and the strength of relationships between variables. The variables of interest for such a study would be: participation, source and choice of technologies to be disseminated, extension methods used, and achievements of the projects (as measured by reactions, awareness, interest, and KASA change, and trial and

APPENDICES

APPENDIX 1

SUMMARY OF MAJOR DEVELOPMENT PLANS

Allocation	1964-1968			1975-1977			1982-1986	
	Planned	% Allocation		Planned	% Allocation		Planned	%
	Outlays ¹	Planned	Actual	Outlays ¹	Planned	Actual	Outlays ¹	Planned
Agriculture, Fishing Forestry	4.9	8	5	11.6	15	3	275.7 ²	25
Industry, Mining, Energy	25.2	47	51	12.8	17	28	227.6	20
Transport, Communication	8.5	16	20	19.5	26	24	138.8	13
Urbanization, Housing	7.5	14	7	8.6	11	1	195.4	18
Education, Health	2.8	5	5	7.6	10	1-45	50.7	5
Services	5.4	10	12	15.7	21	1	220.7	20
Total Investments	54.2	100	100	76.0	100	100	1108.9	100
Investments Realized	33.8		85%	27.1		36%	718.6	64.7% ³
Financing:								
Congoese public funds		22%	18%		33%	78%	69%	45%
Private funds		40	51				6	7
Foreign aid/loans		38	31		67	22	25	48

¹Amounts in billion F.CFA.

²Planned investments for agriculture alone amounted to 73.42 billion F.CFA Or 6.6% of the total, of which 18.5 billion was planned for the small farm sector.

³In constant 1981 currency, the actual investments were 53.7%.

Sources: République du Congo, Plan Intérimaire du Développement Economique et Social, 1964-1968, (Brazzaville, 1964); "République populaire du Congo: Plan Triennal du Développement 1975-77," in Les Plans de Développement des Pays d'Afrique Noire (Paris: Ediafric La Documentation Africaine, 1975); "Congo: Le Plan Quinquennal de Développement Economique et Socila 1982-86," in Les Plan de Développement des Pays d'Afrique Noire (Paris: Ediafric La Documentation Africaine, 1986); Bulletin de l'Afrique Noire No. 1369 (25 juin 1987) and No. 1350 (12 février 1987); and L'Economie des Pays de l'Afrique Centrale (Paris: Ediafric Service, 1971).

APPENDIX 2

PRICES FOR AGRICULTURAL PRODUCTS PAID TO FARMERS AND
OCV WHOLESale PRICES SINCE 1979
 (prices in F.CFA per kilogram)

	63	73	74	75	76	77	78	79		80		81		82		85	
PA								PA	PV	PA	PV	PA	PV	PA	PV		
Maize	12				30	30	30	43	72	43	72	47	72	59	109	73	
Rice	16	21	25	25	30	30	30	45	80	45	80	50	80	63	113	90	
Peanuts (whole)	20							60	85	60	85	75	133	112	166	123	
Peanuts (shelled)	35							70	105	70	105	100	180	150	205	173	
Potatoes A				60	60	80	100	120	200	120	200	140	200	150	205	170	
B				40	40	60	90	90	150	90	150	110	150	110	170	132	
Beans		60	60	70	70	70	100	120	190	120	190	150	190	150	205	350	
	ONCPA period							OCV period									

PA=prix d'achat or farm-gate prices
 PV=prix de vente or whole-sale prices

Sources: OCV and Caisse de Stabilisation, in Y. Cassignard, Amélioration des Systèmes de Commercialisation en République Populaire du Congo (Rome: FAO, 1982); République du Congo, Plan Intérimaire du Développement Economique et Social 1964-68 (Brazzaville, 1964); Groupement BERETEC, SED-SEP/Développement, Agriculture: Mesures de Politique Economique, Rapport Principal (Brazzaville: Ministère du Développement Rural et Ministère du Plan et des Finances, 1988).

APPENDIX 3"OPERATION PETITE MOTORISATION AGRICOLE" (OPMA)

Goal: To define different strategies for the introduction of mechanization on small farms and to develop appropriate structures to do this. Mechanization is considered an important way to move the traditional agricultural system towards more modern and remunerable forms of production.

Objectives: To test whether mechanization can be a solution to :

1. improve the living and working conditions of the small farmers, and can contribute to slowing the rural exodus;
2. contribute to an increase in food production in the Pool region in order to diminish the food deficit in Brazzaville.

The OPMA project was started in the Pool region in 1974 and was executed by the Bureau de Développement de la Production Agricole (BDPA), a French consultant company, and was financed by the Fonds d'Aide et de Coopération.

The results of the OPMA project show that the profitability of mechanization depends on the choice of crops to be grown, the rotation used, the intensity of land use, and the kind of machinery used. However, product prices are the most important factor determining the profitability of mechanization and its successful introduction. The farmers showed that they were able to use tractors, and could also be taught to adjust the tools and implements for different farm operations. They were also able to assimilate the new technologies and work conditions into their farming systems. However, a number of factors have limited the widespread adoption of mechanized farming practices:

- The technological dependence on external sources for the maintenance and repair of the tractors and implements, as well as of inputs such as fuel and lubricants;

- The technology required the simultaneous acceptance of new farm management rules with which the farmers were not familiar. This applied particularly to the book keeping and cost accounting procedures which the farmers were asked to use. The illiteracy of the older farmers was an additional limiting factor with regard to the acceptance of these new management practices.

The OPMA project was executed in four phases:

Phase 1: 1974-75 Installation of the project and training of personnel.

Phase 2: 1975-78 Experiments with different types of two-wheeled tractors and implements on PDR managed state farms; definition of agro-technical recommendations.

Phase 3: 1979-80 Extension and progressive introduction of the production systems and techniques developed in Groupements Précoopératifs of the PDR project.

Phase 4: 1980-82 Take-off phase for large scale dissemination.

The way the OPMA project has been executed has not really resulted in a transfer of technology, but more in a "sale" of technology. The negative attributes of the project relate to its insufficient preparation of the rural milieu for the new technology, and the absence of setting up support services necessary for the operation of the machinery.

A. The farmers were not sensitized sufficiently. The technologies were developed in isolation by the project personnel without the involvement of the farmers. There was no policy on technical training on maintenance and repairs, or the local manufacturing of spare parts by, for example, village black smiths.

B. Not enough time and effort was given to the training of the farmers in the use of the new farming techniques, although there was an increasing need for such training because of the simultaneous introduction of fertilizer, improved seeds etc. necessary to make mechanization profitable.

C. The new technologies increased farmers' dependence on outside systems for the acquisition of the necessary production inputs. Also, the low prices of agricultural products and the high prices for inputs such as fertilizer and seeds made farmers very reticent of adopting the new technology.

D. The Congolese farmers are not very technology minded.

E. The tractors and implements introduced were not very well adapted to the human and ecological conditions of the small farms. The machinery broke down frequently, but even simple repairs could not be done by the farmers. No support structures were put in place by the project to help farmers to keep their machinery operable, or to train local people for there maintenance.

APPENDIX 4

PERSONNEL AND STAFF TRAINING CARRIED OUT BY THE PDR PROJECT

	1970			1971											
Training sessions	Oct.	Nov.	Déc.	Janv.	Fév.	Mars	Avr.	Mai	Juin	Juil.	Août	Sept.	Oct.	Nov.	Déc.
Functional literacy															
Trainers															
Senior project staff															
Agricultural extension personnel															
Fish farming agents															
Home economics and nutrition agents															
Livestock and veterinary medicine staff															
Rural crafts agents															
Rural and public works foremen															
Functional literacy agents															
Kinkala															
Boko															
Kindamba															
Mindouli															
Iékana															
Home economics and nutrition agents															
Health agents															

Source: ILO, Travaux Accomplis dans le Domaine des Constructions, de la Formation des Cadres Ruraux et de la Diffusion des Techniques Agricoles, Rapport Technique No. 1, projet CON 8-7 Développement Rural dans la Région du Pool. (Geneva: ILO, 1971), 45.

	1979		1980		1981		1982		1983		1984	
	1	2	1	2	1	2	1	2	1	2	1	2
Extension agents	3	528	11	1198	10	972	5	211	2	120	2	168
"Ruralization" of Primary Education	1	24	3	522	3	240	2	140	1	180	-	--
Students	1	1125	2	350	1	400	1	150	1	90	-	--
Women and Family Welfare Section	1	1120	-	--	1	180	1	110	-	--	2	340

1= Number of training sessions.
2= Number of trainee-days.

Source: A. Matton and J. Chabasse, Rapport de Fin de Mission en République Populaire du Congo, Projet de Développement Rural du Pool et des Plateaux (Brazzaville: Ministère de l'Équipement Rural et de l'Action Coopérative/BIT, 1985).

APPENDIX 5FUNDING SOURCES OF THE PDR CREDIT AGRICOLE AND
OF VARIOUS INVESTMENTS BY THE GPC's AND UNIONSPool region

Year	Amount (in 1,000 F.CFA)	Donor	Utilization
1975-78	9,000 27,000	UNDP Swiss Government	Revolving fund id.
1978	500	OECD	Construction of pig and poultry stables, GPC Kinkosi
1979	750	OECD	id.
	8,000	Institut Universitaire d'Etudes de Développement IUED (Geneva)	Construction of 2 pig and 2 poultry stables, GPC's NGamindoko and NGoliba
	700	Participation of GPC's	Creation of UPAB
1980	1,000	Gift of the Congolese Workers Party PCT	id.
	3,000	U.S. Embassy	Construction of a 35m ³ silo at UPAB
	3,000	West German Embassy	id.
	2,000	French Embassy	Equipment for 2 carpentry GPC's
	4,200	OXFAM Quebec	Equipment and infrastructure for vegetable and poultry production, GPC Kiazi-3
1981	76,000	Congolese Government	Medium and long term loans to GPC's
	22,179	UNDP/ILO	Two Mercedes trucks for the Transport and Marketing Section of the regional Union
	600	UNDP/ILO	Four mopeds for the staff of the regional Union
	76,000	Banque National de Développement du Congo	Short term loans to GPC's
1982	1,900	UNDP/ILO	Replacement of UPAB material to increase its production
	3,874	UNDP/ILO	35 KVA generator for UPAB

continued

Appendix 5, cont.

1983	12,000	Canadian Embassy	Construction of two 50 m ³ silos at UPAB
	10,000	Caisse National de Crédit Agricole CNCA	Loan to UPAB to buy a stock of maize; reimbursed in two equal installments in 1983 and 1984
	5,000	CNCA	Small loans to GPC's
1984	2,571	Canadian Embassy	Improvement of village water springs
	4,785	UNDP/ILO	Mechanization of rice and vegetable production

Plateaux Region

Year	Amount (in 1,000 F.CFA)	Donor	Utilization
1975-78	875	UNDP	Revolving fund
	2,625	Swiss Government	id.
1979	421	Congolese Government	Specific actions
1980	1,958	Congolese Government	id.
1981	18,400	Congolese Government	Purchase of small tools
	1,900	Congolese Government	Purchase of seeds
1982	15,776	Congolese Government	Purchase of small tools; small ruminant production
1983	12,000	Canadian Embassy	Purchase of a 70 HP tractor with implements for mechanized potatoe production
1984	10,252	Canadian Embassy	Sheep production in two GPC's
	7,178	Canadian Embassy	Small motorized implements for rice production
Total for the Pool region:			
		274,059,000 F.CFA	(38,066 F.CFA per GPC member)
Total for the Plateaux region:			
		71,385,220 F.CFA	(22,427 F.CFA per GPC member)
Total for both regions combined:			
		345,444,220 F.CFA	(30,247 F.CFA per GPC member)

Source: A. Matton and J. Chabasse, Rapport de Fin de Mission en République Populaire du Congo. Technical Report, projects PRC/79-002 and PRC/83-003. Brazzaville: Ministère de l'Équipement Rural et de l'Action Coopérative/BIT, 1985, 57-59.

APPENDIX 6FARMER TRAINING CARRIED OUT BY THE PDR PROJECT (1979 to 1983).

	1979		1980		1981		1982		1983		1984	
	1	2	1	2	1	2	1	2	1	2	1	2
Crafts, mechanics, construction	1	2600	1	1950	-	--	1	90	1	120	1	120
Rural engineering	9	940	3	416	6	364	2	120	3	420	-	--
Livestock production	17	522	7	150	10	1076	3	450	8	400	6	320
Fish farming	3	80	3	290	7	730	-	--	-	--	1	15
Literacy, animation, multi-disciplinary sessions (cooperative animation, management, agricultural techniques and extension)	14	1522	18	3905	16	1512	7	898	3	240	5	315
Cadres of the zonal, district and regional Unions	-	--	20	840	30	2620	5	720	1	75	2	148
Management, revolving fund and agricultural credit training	-	--	5	300	6	360	44	570	-	--	15	457
Management of village pharmacie and primary health care	-	--	-	--	1	120	1	120	-	--	-	--
Management of a veterinary pharmacy veterinary products	-	--	-	--	1	90	1	90	-	--	1	30
Total	51	6834	58	8091	79	7630	66	3218	18	1379	32	1395

1= Number of training sessions.

2= Number of trainee-days.

Source: A. Matton & J. Chabasse, Rapport de Fin de Mission en République Populaire du Congo.

Technical Report, project PRC/79-002 and PRC/83-003. Brazzaville: Ministère de l'Équipement Rural et de l'Action Coopérative/BIT, 1985, 95.

APPENDIX 7PERSONNEL PROVISIONS OF THE PDR PROJECT AFTER TERMINATION
OF EXTERNAL ASSISTANCE (1986 onwards)

	Total number of positions	Positions filled	Personnel to be recruited
Pool region			
<u>Project Directorate</u> (at Kinkala)			
-Project Director	1	1	
-Chiefs of Service:			
*Animal husbandry	1	1	
*Plant production	1	1	
*Animal production	1	1	
*Cooperatives	1	1	
*Agricultural credit	1	1	
*Rural engineering and mechanization	1	1	
-Assistants to the Chiefs of Service			
*Agricultural credit	2	0	2
*Cooperatives	1	0	1
*Rural engineering	1	0	1
<u>District level</u> (6 districts)			
- "Ingénieurs"	5	0	5
- "Conseillers coopératives"	13	1	12
<u>Assistance to the service units of the Union Regionale du Pool</u>			
-Accountant for UPAB	1	1	
- "Ingénieur" for the transport and marketing section	1	0	1

Continued.

Appendix 7, cont.

Plateaux regionProject Directorate (at Djambala)

-Project Director	1	1	
-Chiefs of Service			
*Animal production	1	1	
*Plant production	1	1	
*Cooperatives	1	1	
*Agricultural credit	1	1	
*Rural engineering and mechanization	1	1	
-Assistants to the Chiefs of Service			
*Agricultural credit	1	0	1
*Rural engineering	3	3	

District level (3 districts)

- "Ingénieurs"	2	0	2
- "Conseillers Coopératives"	6	1	5

Assistance to the service units of the
Union Regionale des Plateaux

- "Ingénieur" for the transport and marketing section	1	0	1
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Cuvette region

-PDR Coordinator	1	0	1
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District level (3 districts)

- "Conseillers Coopératives"	3	3	
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Total personnel needs of the three regions:	54	22	32
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In order to execute the activities planned, the Congolese government would need to recruit and or reassign 32 new staff members to the PDR, 10 "ingénieurs" (IDR or ITA level) and 22 "conseillers coopératives" (graduates of the CETA with the rank of Conducteur d'Agriculture).

Source: A. Matton & J. Chabassa, Rapport de Fin de Mission en République Populaire du Congo: Projet de Développement Rural du Pool et des Plateaux, (Brazzaville: MERAC and ILO, 1985), 154-156.

APPENDIX 8OUTLINE OF THE SUBJECTS COVERED IN THE NEW AGENT TRAINING
CARRIED OUT BY THE ASSISTANCE TO OCV PROJECT

Each training program had a length of two weeks (12 days), and consisted of 26 sessions of one and one-half to two and one-half hours. The program was as follows:

- A. Lectures, films and slides, and discussion sessions.
 - 1. **The plant:** organs and their functions; growing cycles; factors related to growth; agricultural calendar and field operations (four sessions, seven hours).
 - 2. **Technical agriculture:** choice of land; land preparation; crop rotations; soil melioration and fertilization; cultivation of the principle food crops (four sessions, nine and one-half hours).
 - 3. **Mathematics:** Basic calculations (four sessions, nine and one-half hours).
 - 4. **Extension topics:** methods and behaviors; films, videos and slides; discussions, case studies and simulations (three sessions, seven and one-half hours).
 - 5. **Administrative arrangements:** work organization, reporting and monitoring (one session, two and one-half hours).
- B. Practical training in the field.
 - 1. **The plant:** structure of a seed; choice and selection of seeds; germination tests; interpretation of results (three sessions, four and one-half hours).
 - 2. **Technical agriculture:** soil structure and composition; methods of marking out a rectangular field; plowing; planting; soil melioration and fertilization (four sessions, six hours).
- C. Evaluation of the training.
 - 1. Testing on agricultural and mathematics subjects was done orally during the training (two sessions, four and one-half hours).
 - 2. Overall evaluation of the training by the trainees and trainers (one session, one and one-half hour).

Regular refresher courses were given four times a year for the extension agents (one session before and one during each of the two cropping seasons) and two sessions a year were programmed for the Chefs de Secteur in charge of supervising the agents.

APPENDIX 9USAID/CARE SMALL HOLDER AGRICULTURAL DEVELOPMENT I (PAPAN)
PROPOSED CROP STORAGE EXTENSION TRAINING OUTLINE

The schedule below outlines the training planned for the zone chiefs and village warehouse managers for the PAPAN project area in the Niari as specified in the original project document of the Congo Small Holder Agricultural Development I project.

Zone Chief Training

Length of training: 4 weeks

Starting date : January 1982

Training modules :

Module 1 - General

Unit 1 Introduction: administrative and logistics issues

Unit 2 Project description: goal, purpose, objectives and activities

Unit 3 Job responsibilities: detailed description

Module 2 - Technical

Unit 1 Extension work: knowledge of pre-cooperatives, basics of organizing techniques

Unit 2 Management training: supervisory skills, reporting procedures

Unit 3 Data collection:

*data collection and reporting methods and procedures

*information on crop purchases by GPC's; weight and prices paid

*existing storage and related practices

Unit 4 Storage and fumigation techniques

Unit 5 Survey of crop improvement, rural technology and other related rural development topics

Warehouse Manager Training

Length of training: 2 weeks
Starting date : March 1983
Training modules :

Module 1 - General

Unit 1 Introduction: administrative and logistics issues
Unit 2 Project description: goal, purpose, objectives and activities

Unit 3 Storage and fumigation techniques

Unit 4 Fundamentals of crop improvement, rural technology and related subjects

Training will include field trips and site visits. Classroom training will be followed with on-the-job training and supervision. Periodic training meetings will be held to review progress, identify problems, and further upgrade skills.

APPENDIX 10EVOLUTION OF THE MARKETING AMOUNTS OF FOOD CROPS
BETWEEN 1954 AND 1985 (in metric tons).

Year	Peanuts	Maize	Paddy	Cassava	Potatoes
1954	4069	1048	2811	nd	-
1955	6159	1741	2991	nd	-
1956	7495	1209	1925	nd	-
1957	12000	1349	2095	nd	-
1958	9000	1139	1721	nd	-
1959	8138	1421	3457	nd	-
1960	8129	1679	3200	800000	-
1961	11164	622	1826	nd	-
1962	7290	820	840	nd	-
1963	5940	1010	1040	nd	-
1964	7403	1152	1625	nd	-
1965	6800	500	1800(800)	nd	-
1966	5600	700	2500(1400)	nd	-
1967	6300 ¹	840	2500(1500)	420000	-
1968	4400	850	2600(1200)	nd	-
1969	4500	800	2900(2600)	nd	-
1970	4000	700	2664(1900)	461000	-
1978	15000 ²	638 ³	1082 ³	580000	38 ³
1981	1353	2360	349	628000	185
1982	1713	7564	2494	678000	269
1983	1404	7016	1693(1130)	672000	428
1984	3355	3079	(585)	696300	499
1985	730	4600	700	706700	238

Numbers in () represent the production by the small farmers.

¹ Total peanut production was estimated at 18,000 tons according to the Plan of the Ministère du Développement cited by Bertrand.

² Estimates of total production used by the Ministry of Agriculture and FAO.

³ Figures for 1977

Sources: For 1954-64 data: Ministère de l'Agriculture, SEITA 1ère région agricole. In Pierre Vennetier, Géographie de la République du Congo; 1965-70 data: Plan, Ministère de Développement. In Hugues Bertrand, Le Congo: Formation Sociale et Mode de Développement; 1970 and 1978: Afrique Contemporaine No. 131 (juillet-août-septembre 1984); 1981-85: Bulletin de l'Afrique Noire No 1371 (9 juillet 87) and Marchés Tropicaux NO. 2189 (20 novembre 1987); L'Economie Congolaise (1ère édition) (Paris: Ediafric La Documentation Africaine, 1983), 38.

The sources of the data cited by Bertrand indicate that approximately 62% of the estimated amounts of peanuts, maize and rice produced was marketed in 1967. No information was given on the percentage of the cassava and potatoes production marketed 9 in that year.

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