PLANNING EXPERIENCE IN TUNISIA, BURUNDI AND SYRIA

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ABSTRACT

In a 1975 CRED Discussion Paper (#46), the present author analyzed the financing of investments in Tunisia during the period 1961-1971. Since then, the author has gained further planning experience in Burundi and Syria. This paper will describe the planning tools developed in these three countries and will discuss their general applicability.

In Tunisia, a system of interlocking capital accounts was developed in order to analyse past investments. In Burundi, this system of interlocking capital accounts was computerized and used for macroeconomic forecasts. Over the years, other elements were added to the macroeconomic framework, in order to provide detailed forecasts in various fields: production, requirements of skilled personnel, etc. Moreover, a computerized list of projects and an educational model were established. Finally, in Syria, the production element was further developed into an industrial development model. This model was based on balance equations of individual commodities and on input-output relations between them. Such a computerized commodity model corresponds very closely to Syrian planning methods, applied manually.

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1. INTRODUCTION

Around 1975, CRED published a considerable number of articles on planning and economic development in Tunisia.[1] Other articles and books on the same subject were published elsewhere.[2] In one of those articles, the present author analysed the financing of investments in Tunisia during the period 1961-1971. Since then, the author has gained further planning experience in Burundi and in Syria. This article will describe the planning tools developed in these three countries and will discuss their general applicability.

2. SUMMARY OF CONCLUSIONS

In Tunisia, the author worked under a United Nations Development Program (UNDP) project. In order to analyse past investments, a system of interlocking capital accounts was developed. In Burundi, the author was part of a team of technical assistance, provided by the World Bank. Collaboration with experts from the German Federal Republic (Evers, Mueller) made it possible to computerize this system of interlocking capital accounts and to use it for macroeconomic forecasts. Over the years other elements were added to the macroeconomic framework, in order to provide detailed forecasts in various fields: production, requirements of skilled personnel,

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[1]These articles are the following: Wolfgang F. Stolper. Investments, Employment, and Output per Man in the Tunisian Economy, 1961-1971 (Center for Research on Economic Development) 1974; J.G. Kleve. The Financing of Investments in Tunisia 1961-1971 (Center for Research on Economic Development) 1975; J. G. Kleve and Wolfgang Stolper. Changes in Income Distribution (Center for Research on Economic Development) 1975; Peter S. Heller. An Analysis of the Structure, Equity and Effectiveness of Public Sector Health Systems in Developing Countries: The Case of Tunisia, 1960-1972 (Center for Research on Economic Development) 1975.

[2]These other articles and books include the following subjects and authors: R.J. Blake J. Import Controls and Production in Tunisia (Center for Research on Economic Development) 1975; Th E. Daves. Progress and Politics in the Tunisian Agricultural Sector, 1962-1971; A. Kupfer. The Incidence of the Tunisian Tax System.

etc. Moreover, a computerized list of projects and an educational model were established. Finally, the author worked in Syria, under a European Economic Community (EEC) financed project concerning industrial development. Within the framework of this project, executed by two Danish consulting firms, Dangroup and Cowiconsult, and together with another member of the resident team (P. Broch), the production element was further developed into an industrial development model. This model was based on balance equations of individual commodities and on input-output relations between them. Such a computerized commodity model corresponds very closely to Syrian planning methods, applied manually.

Presently, it is difficult to conceive of planning without using a model. Programming techniques allow one to take into account a quantity of data which the human mind alone would not be able to manage. In this way, the model can reflect the complexity of an economy.

In the experience of the author, the attitude of the general government toward projection models is not the same in every department. Planning ministries are interested and many examples can be cited where planning ministries tried to use the model approach. Still, a certain cleavage may persist between technical assistants and decision makers. It is one thing to develop projection models, it is another thing to establish the use of the model technique as a routine procedure within a planning ministry. Technical assistance can be used for conceiving the model and for writing the programs, while the data input should come from the various departments of a planning ministry. This ministry should also monitor the use of the model.

3. THE TECHNIQUE OF INTEGRATED CAPITAL ACCOUNTS IN TUNISIA

This technique was used in Tunisia for analysing investments in the period 1961-1971. This certainly is a long time ago but the Tunisian experience of that period still seems of interest. Tunisia began by boosting public investments, especially through the creation of new state enterprises. The high investment level was associated with deficit financing and depletion of the foreign exchange reserves. By 1965,

financial means were exhausted and it was not possible to increase public investments any more. The second half of the sixties presented a completely different picture: public investments went down, private investments were stimulated, and domestic savings increased. These policy changes represented a pragmatic approach to economic problems, very typical for Tunisian policy makers. By 1971, higher domestic savings plus a favorable situation in Tunisian export markets made it again possible to increase the level of public investments. Private investments continued to grow and, thereafter, the economy of Tunisia really became a mixed one, with a public and private sector both equally developed.

These developments were analysed through a series of integrated capital accounts. This system was put into place by the author, who, at that time, was working with the planning ministry under a UNDP (United Nations Development Program) project. The application of the method of integrated capital accounts requires a certain statistical support, namely a national accounts framework and financial statistics. Even in developing countries, considerable information on capital accounts of financial institutions, of the general government and of the balance of payments is normally available. The same is true for the current account of the general government and of the balance of payments, which permits one to calculate savings for these two agents. Such information is relatively solid, compared to statistics concerning agricultural and industrial production. Thus the approach of integrated capital accounts made maximum use of information already available.

Operations of the capital account of each agent were distinguished in the usual way. Thus, for example, on the revenue side of the capital account of the general government, a distinction was made between borrowing from the central bank and from the commercial banks; the revenue side of the capital account of the balance of payment distinguished between grants and loans; and the expenditure side of the capital account of the commercial banks distinguished between short- and long-term credits, etc. As each operation involved two agents, it proved possible to constitute the capital account of a residual agent: households and nonfinancial enterprises.

Integrated capital accounts were completed for each of the 11 years in the 1961-1971 period. Subsequently, variations in flows of funds between the different years were studied. Results of this analysis made it understandable why public investments had to be curbed from 1965 onwards and how Tunisia got through the difficult years afterwards. During the sixties, each agent contributed in a more or less unorthodox way to keep the system afloat. Examples are short-term borrowing abroad by the central bank at the beginning of the sixties, the same by commercial banks thereafter, treasury deposits of state monopolies in the same period as well as all through the sixties, and short-term credits of commercial banks to state owned enterprises which were rolled over and made into a source of permanent financing. At the beginning of the seventies, world market prices for Tunisian export products went up, the balance of payments improved, and everything became much easier.

4. MACROECONOMIC FRAMEWORK IN BURUNDI

Burundi is a small country, situated on the fringe of the East African highlands. A new regime came to power in 1976. It had an active economic policy, and interest in planning increased. Already before 1976, the planning organization benefited from technical assistance, provided by France and by the German Federal Republic. Moreover, from 1976 onwards, the World Bank also provided technical assistance in the field of planning. From 1976 to 1982, the author was part of the group of experts provided by the World Bank.

Stimulated by the interest of the Burundian officials in charge of planning, collaboration between experts of various origins made it possible to computerize a set of integrated capital accounts and to use it as a tool for planning. The model was of a sequential type, i.e., each equation was solved with the data from preceding equations. The program was written in FORTRAN 4. These two characteristics are common to all the models described in this article.

As in Tunisia, the system consisted, first of all, of a general framework of national accounts, secondly, of detailed current accounts in

the fields of the balance of payments and of the general government and, thirdly, of the capital accounts for the same agents as distinguished in Tunisia. This projection model became known as the macroeconomic framework. Within this framework, the same transactions were distinguished as before, implying a similar bias towards financial items. Even though, in those years, statistics were not well developed in Burundi, much financial information was available.

Initially, before a list of projects was developed (see Section 6), fixed investments were projected autonomously. In effect, the main purpose of macroeconomic projections was to test the feasibility of fixed investment targets. It checked the consistency of these targets with the external and internal equilibria. The projected macroeconomic framework was not acceptable in cases when the foreign exchange reserves would become too low or when domestic borrowing by the general government would become too important. There is a clear link between the analysis of investment financing in Tunisia and the macroeconomic framework used for projections in Burundi. In both cases the concentration was on the financial means available for total fixed investment rather than on the distribution of investments over economic sectors.

5. EXTENSION OF THE MACROECONOMIC FRAMEWORK

5.1. General

Over the years, many submodels were attached to the macroeconomic framework developed in Burundi. These were:

- Commodity balances,
- Transport requirements,
- Consumption of petroleum products,
- Employment.

These submodels will be discussed in the following sections.

5.2. Commodity Balances

In projecting GDP, commodity balances were established for the most important agricultural, mining and industrial products. These balances

were, firstly, drawn up in quantities, then converted into values by applying domestic and world market prices. The balances for agricultural products (8 commodities) and for mining products (3 commodities) served especially for export forecasts. The balances for industrial products (35 commodities) were used for measuring import substitution. Moreover, commodity balances also served in forecasting GDP of the modern sector. The 35 industrial commodities included products that were, at that time, not yet manufactured in Burundi but for which projects figured in the medium-term plans.

5.3. Transport Requirements

Burundi being a landlocked country, a transport infrastructure is vital for smooth development. In order to judge whether the existing infrastructure is sufficient, long-term projections are needed in terms of tonnage to be transported. In 1979 and in 1980, transport to Burundi was interrupted as a consequence of an overloaded railway system in Tanzania and political events in Uganda. These problems heightened the interest in transport planning.

The macroeconomic framework already provided long-term forecasts of imports in constant prices, classified over 20 types of import goods. It was a rather simple step to convert these forecasts in constant prices into total tonnages to be transported. However, this was not enough. It was also necessary to forecast whether imports from Europe would come by lorry from Mombasa, by railway and ship from Dar es Salam, or directly by air transport.

In order to answer those questions, this submodel used several variables. One of them was the average unit price of one ton of imports, calculated for each of the 20 categories. Other factors were related to the cost of each of these three modes of transports.

5.4. Consumption of Petroleum Products

Burundi does not produce any crude oil nor has it a refinery. Its consumption of petroleum products is completely covered by imports, coming either from Kenya or from Tanzania. Imports of refined petroleum products

constitute about one quarter of the total bill for imports. Moreover, when petroleum products became scarce as a consequence of transport problems, the economy was crippled. It was thus necessary to keep strategic stocks.

Projection of imports, other than refined petroleum products, was part of the macroeconomic framework. Projections were done in the usual way: each import category, e.g., equipment, was projected in relation to a specific part of GDP or to a specific type of expenditure (fixed investment in this example).

Given the importance of petroleum products, a special submodel was developed, in which the consumption of each refined petroleum product was linked to groups of consumers or to principal industrial users.

5.5. Employment

The macroeconomic framework provided a break-down of GDP over 12 economic sectors. For each of these sectors, a UN project had made employment data available, detailed by level and by specific occupation.

The growth demand was estimated on the basis of, on the one hand, the growth rate of each GDP sector, and, on the other hand, the employment distribution for each sector in the base year. It was also necessary to take into account replacement demand. This factor covered the replacement of those who retire from the labor market and also included skills needed to replace foreigners. It was, of course, quite possible to take these factors into account when constructing the employment submodel. The result of the employment submodel, required personnel by level and skills, was compared to the number and composition of school leavers (see Section 8).

6. LIST OF PROJECTS

The macroeconomic framework determined the future volume of investments from the financial side. It is also desirable to determine the investment volume from the projects side. This can also be formulated in budgetary terms: the macroeconomic framework determined the annual value of the development budget, but it is another thing whether such a sum can accommodate on-going and planned projects.

Naturally, the total amount of fixed investment, determined from the financial side, depended on the way projects were financed: the larger the foreign participation in the financing of project, the higher the total amount of investment. In its turn, the importance of foreign financing depended on the choice of the projects. New schools and hospitals, for example, usually had less foreign participation in their financing than new industries.

In order to assess investment volume from the project side, a computerized model called "List of Projects" was developed. Information which was fed into the model included the cost of each project in constant prices. Furthermore, projects were classified by economic sector, agent and location. Moreover, the financing scheme was indicated as well as the time schedule for implementation. As about 300 projects were considered, it would not have been possible to treat all this information by hand.

The results of List of Projects were used in the macroeconomic framework. These results included an exogeneous forecast of fixed investments in constant and current prices, and also served to check which percentage of fixed investments were covered by outside financing.

When the macroeconomic projections showed that the amount of fixed investment, as taken from the List of Projects, was not acceptable, the List had to be revised. Projects to be retained were those which promoted growth of GDP and helped in the establishment of external and internal financial equilibria. Thus, the macroeconomic model and the List of Projects were used simultaneously till satisfactory projections were obtained. This proved to be more easily said than done: political resistance to the suppression of some projects was important.

The computerization of information on projects could have been extended much more. It is, for example, possible to take into consideration the impact of projects on output and inputs. In fact, German technical assistance extended List of Projects in this way. Moreover, it standardized the computer program and introduced it to planning organizations in various other countries.

7. RECURRENT EXPENDITURE

In developing countries, it is a well-known phenomenon that fixed investments can outstrip the capacity of the current budget to maintain or operate the created infrastructure: roads are badly maintained, new hospitals are standing idle, etc. In order to check whether infrastructural investments in Burundi would grow too fast in relation to the current budget, a submodel was developed, specifying recurrent expenditure in relation to fixed investments.

This submodel can be considered an offspring of List of Projects. The impact of each project on the current budget of the general government was indicated in the List. In doing so, projects were grouped. For example, all modern roads had the same coefficient; the same was true for all primary schools. Recurrent expenditure was added to what was considered a normal increase of current expenditure of the general government and the result was inserted into the macroeconomic framework. This constituted another consistency check: when current expenditure of the general government would rise too fast, as a consequence of recurrent expenditure, the number of infrastructural projects should diminish.

8. EDUCATIONAL MODEL

This computerized model was intended to help in educational planning. It forecast the number of school leavers at each level and type of education. The model was based on present and future capacities, rates of success in end-of-year examinations, and on drop-out rates. The result of the model was compared to future requirements as projected by the employment model.

9. THE INDUSTRIAL DEVELOPMENT MODEL IN SYRIA

The manufacturing sector in Syria before 1950 was composed mainly of small workshops. Modern, relatively large-scale plants were few: several textile mills, a cement plant and a sugar mill. The 1950s witnessed the

growth of modern industry in the spinning and weaving of cotton and in the production of cement, vegetable oils, sugar, soaps, matches and glass. However, except for textiles and cement, modern manufacturing industry remained of modest scale throughout the 1950s.

The Ba'ath party came to power in 1963 and decided in favor of socialism. As a consequence, the government accelerated the process of nationalizing manufacturing enterprises without, however, totally abolishing the private industrial sector. The period of nationalization was followed by a really astonishing acceleration of the investment effort in industry. The biggest change in the investment level took place in the years 1973 to 1976 when the fixed investment volume in manufacturing was, in a period of three years, multiplied by five. Thereafter, the investment volume remained stable.

Given the rapid development of manufacturing, the Syrian Government felt the need for an independent judgement on how existing industries were functioning and on the possibilities for further expansion. Consequently, from 1983 to 1985, two Danish consulting firms (Dangroup and Cowiconsult) investigated public and private manufacturing industry in Syria. This enquiry was financed by the EEC (European Economic Community) and the author was part of the resident team in Damascus. In the framework of this enquiry, all public enterprises and a sample of private ones completed questionnaires. Moreover, a number of big public enterprises were examined from a technical point of view.

In order to assess future possibilities for manufacturing in Syria, an industrial development model was constructed in collaboration with one of the team members (P. Broch). The input for this model came from the questionnaires completed by the enterprises. It was a commodity model based on the resources-uses balance for each commodity and on technical input-output relations between specific commodities. The model dealt with 130 commodities but the program is capable of treating many more (up to 300).

Using input-output relations in the industrial development model is not the same as using a normal input-output table. The latter reflects the situation in a past year and is by sector and in values. It is a well-known fact that, in developing countries, coefficients in input-output tables are

not stable. They change as a consequence of changes in commodity composition and in prices. This would certainly be the case in a country like Syria where new industries are created continuously. Pitfalls in using input-output tables for planning are avoided by working on the basis of individual commodities. Moreover, the Syrian model allows varying technical relations over time.

Balance equations and input-output relations are in quantities but the use of appropriate prices made it possible to arrive at aggregates like GDP, foreign trade balance, etc. These aggregates were put into a macroeconomic framework in order to test whether results of the commodity part of the model were acceptable. Yardsticks were the growth of GDP, the importance of the foreign debt service, and the level of government savings.

In comparison with the Burundi models, the macroeconomic framework in the Syrian industrial development model has been kept very simple. For example, the government's fiscal revenue is determined by just one single relation to GDP. In the Burundi model, different taxes were distinguished, each one having its own base for forecasting. On the other hand, the commodity part in the Syrian model has been developed much more than the corresponding part in the Burundi model. This was in accordance with the industrial focus of the Syrian enquiry.

This further development consisted not only in recognizing more commodities, but also in a much more refined approach. Projection of the individual commodity balances was undertaken by maximizing domestic production under three constraints: domestic production capacity, total demand for the commodity (i.e., the sum of final and intermediate domestic demand and of exports) and, finally, availability of the necessary inputs for the domestic production of the commodity in question.

As to the conversion from quantities to values, the Syrian industrial development model operated with three sets of prices: domestic market prices, domestic cost prices, and world market prices. Concerning domestic market prices, a distinction is made between free and controlled prices. Free domestic market prices evolved according to domestic production cost, import prices, and the importance of imports. Changes in controlled prices were determined exogeneously. The distinction between free and controlled

prices allowed the model to simulate the effects of different subsidy policies on government finances.

Needless to say, projections with the model were fully computerized. In this respect it should be stressed that the computerized model was not the author's brainchild but the fruit of collaboration between the members of the consulting team.

10. USE OF PROJECTION MODELS

10.1. General

The examples of planning given in the preceding pages make it perfectly clear that computerized models can be of substantial help. Such techniques make it possible to use a great quantity of data that otherwise could not have been mastered. Indeed, computerized models can be looked upon as a way of organizing a data stream in a systematic way. Such models permit one to concentrate on data collection, leaving the calculation to the machine.

Moreover, economic modeling is very versatile and can be used in different fields: List of Projects, commodity balances, financial analysis, etc. Thus, there is no doubt that computerized models are the appropriate instruments for data treatment and for projections.

Models based on extensive data can reflect the complexity of the economy. Simpler models can be constructed without being computerized, but projections based on them would be less interesting. An example of the need to use a complex and computerized model can be taken from our experience with the Syrian industrial development model. It proved easy to promote the growth of production through new industries but it was much more difficult to increase the growth rate of GDP. New industries require more imported inputs and use refined petroleum products that would otherwise have been exported. Furthermore, an increase of GDP in one year stimulates general imports in the following year. To predict these direct and indirect effects, a complex model is required.

10.2. Commodity Balances and Markets

It might be feared that the use of projection models leads to a technical approach and that economic reasoning will not maintain its proper place. An example of a possible lack of economic reasoning can be given. The projection of future commodity balances might show export surpluses. It might then be automatically assumed that these surpluses can in fact be exported. This example is given by Stolper, and he labels such an approach as "technocratic"[3].

The use of computerized models does not imply the need for such a crude reasoning. In the industrial development model for Syria, exports will develop depending on the export market. In this respect, the user of the model has the choice between three possibilities:

A. For staple commodities, like crude oil, he might assume that the world market can absorb any quantity so that exports are simply equal to the exportable surplus.

B. For important commodities, like cotton fabrics in the case of Syria, the model user might undertake special market studies, leading to specific export forecasts.

C. For other commodities, it has been assumed in the model, that exports will develop according to the relation between export price and domestic cost price.

This example shows that the model approach can leave sufficient room for the economist to bring in his judgment.

10.3. The Use of Projection Models Within the General Government

It is one thing to develop projection models; it is another thing to introduce them within the general government. In the experience of the author, the attitude of administrators toward projection models depends on their position within the general government. In this respect three centers might be distinguished: central banks, finance ministries, and planning departments. All of them are directly concerned by projection models, but their attitude toward these models is not the same.

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[3] Wolfgang F. Stolper, op. cit., p. 1.

The typical central banker does not show much enthusiasm for projection models developed outside the bank. They are considered as an interference and an infringement on his freedom of action.

The finance ministries are more open, and in theory interested in projection models. In practice it is different: the daily worries and the fixed annual budget routine take up all the time of the officials in a finance ministry. In the experience of the author, finance ministries rarely adopt projection models.

With planning ministries, or with planning departments within other ministries, it is different. There is a great interest in projection models, and many examples can be cited where attempts have been made to introduce those models within the general government. In Burundi, project lists, together with the macroeconomic framework, were of great practical use. Furthermore, the input for the educational model was established in collaboration with the planning department of the Ministry of Education. In Syria, the State Planning Commission (SPC) showed interest in the industrial development model. This model was used by the consultants for testing the effects of various sets of economic policies. These policies were defined in close cooperation with the SPC. Further integration of the model into Syrian planning methods remains a possibility. After all, the commodity approach of the industrial development model is very similar to planning methods now manually applied by the SPC.

10.4. Preparing the Model Input

In order to integrate the model approach with the operations of general government, the contribution of outside experts should be limited to methodological aspects. The data input itself should come from the different departments making up the planning organization, whereas the use of the model should also be decided upon by the principal planning organization. Only in this way can the model approach become a permanent feature of government.

Providing data input for models very soon constitutes a big job. For example, for each of the 130 commodities in the industrial development model for Syria (and apart from the input-output relations), 12 data points have

to be supplied, making 1,560 data points in total. It is not sufficient to provide these data once. Changing circumstance and new targets must be allowed for. Very soon, this updating cannot be done any more by one or two experts. The input load must be distributed over the government departments involved, and each of them should be responsible for part of the input. Of course, such a system can only be put into practice when the chief of the planning organization is convinced of the value of the model approach and insists on having regularly updated projections.

PUBLICATION ANNOUNCEMENT

This coming fall (fall, 1986), CRED will publish the first in the new **CRED Case Studies Series.** The first set will be available in early September for classroom use, at a cost of approximately $4.25, postpaid. The case studies will be designed to promote class discussion on economic policy in developing countries. They will be problem solving cases, self-contained, and will not require any additional data.

The first case study set to be published will be the "People's Democratic Republic of Ralandia: Two Case Studies" by Jacqueline R. Sherman and David F. Gordon; it will be available in both English and French. This set has already been published in preliminary draft form as CRED Discussion Paper #114, and may be ordered as a regular Discussion Paper. **Please note: This work is copyrighted; no part of it may be reproduced or transmitted in any form or by any means, including photocopying.**

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40. Ames, Peter. Ecologie terrestre et mise en valeur du Bassin du Fleuve Gambie 1985. 382 p. $15.00

39. Derman, William et al. Developpement rural dans le Bassin du Fleuve Gambie 1985. 368 p. $15.00

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36. Mathes, J.C. and Gilbert, Elon. Water Resource Management and Gambia River Basin Development (Gambia River Basin Studies). 1985. 253 p. $15.00.

35. Ames, Peter. Terrestrial Ecology and Gambia River Basin Development (Gambia River Basin Studies). 1985. 358p. $15.00

34. Derman, William et al. Rural Development in the Gambia River Basin (Gambia River Basin Studies). 1985. 330 p. $15.00

33. Moll, Russell and Dorr, John. Aquatic Ecology and Gambia River Basin Development (Gambia River Basin Studies). 1985. 244 p. $15.00

32. Schneider, Curt R. Water-related Diseases and Gambia River Basin Development (Gambia River Basin Studies). 1985. 346 p. $15.00

31. Josserand, Henri et al. Projet Elevage Departement de Bakel (Senegal): Rapport Final d'Evaluation (Partie I, Synthèse; Partie II, Gestion des Pâturages; Partie III, Pédologie et Hydrologie; Partie IV, Etude Socio-économique). 1985. 530 p. $25.00.

30. Josserand, Henri et al. Eastern Senegal Range and Livestock Project: Final Monitoring and Evaluation Report (Part I, Synthesis; Part II, Range Management; Part III, Soils and Water Engineering; Part IV, Socioeconomic Study). 1985. 454 p. $25.00.

29. Sherman, Jacqueline R. Grain Markets and the Marketing Behavior of Farmers: A Case Study of Manga, Upper Volta. April 1984. 317 p. $20.00.

28. Shapiro, Kenneth H., et al. Agroforestry in Developing Countries. 1984. 195 p. $12.00.

27. Ariza-Nino, Edgar J., et al. Effets Nutritifs de Politiques Agricoles: Cameroun et Sénégal - Partie I: Rapport de Pays. 1982. 369 p. $8.00. Partie II: Méthodologies d'Analyse et Modalités d'Enquête. 1982. 284 p. $7.00.

26. Ariza-Nino, Edgar J., et al. Consumption Effects of Agricultural Policies: Cameroon and Senegal - Part I: Country Reports; Part II: Methodology. 1982. 465 p. $15.00.

25. Barlow, Robin (editor). Case Studies in the Demographic Impact of Asian Development Projects. (Contributors: J. Anderson, H. Barnum, J. Bauer, P. Gosling, A. Jain, H. Mohtadi, and E. Mueller.) 1982. 204 p. $10.00.

24. Makinen, Marty et Ariza-Nino, Edgar J. La Marché Offert au Bétail dans la Zone Nigérienne Centrale (Le Projet de Gestion des Paturages et de l'Elevage). 1982. 63 p. $7.50.

23. Makinen, Marty and Ariza-Nino, Edgar J. The Market for Livestock from the Central Niger Zone (Niger Range and Livestock Project). 1982. 55 p. $7.50.

22. Ariza-Nino, Edgar J. et Griffith, J.L.P. Les Fournisseurs - Argentine, Australie, Nouvelle-Zélande; et Ariza-Nino, Edgar J.; Manly, D.W. et Shapiro, Kenneth H. L'Economie Mondiale de la Viande: Autres Pays - Fournisseurs et Consommateurs (Tome IV/V, La Commercialisation du Bétail et de la Viande en Afrique de l'Ouest). 1981. 476 p. $15.00.

21. Delgado, Christopher L., et Staatz, John M. Côte d'Ivoire et Mali (Tome III, La Commercialisation du Bétail et de la Viande en Afrique de l'Ouest). 1981. 567 p. [Out of Print.]

20. Josserand, Henri P., et Sullivan, Gregory. Bénin, Ghana, Libéria, Togo (Tome II, La Commercialisation du Bétail et de la Viande en Afrique de l'Ouest). 1980. 441 p. $15.00.

19. Ariza-Nino, Edgar J.; Herman, Larry A.; Makinen, Marty; et Steedman, Charles. Rapport de Synthèse: Haute-Volta (Tome I, La Commercialisation du Bétail et de la Viande en Afrique de l'Ouest). 1981. 258 p. $15.00.

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