AGRICULTURAL PRODUCTION

and EMPLOYMENT in

IVORY COAST

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OCCASIONAL PAPER NO.4
FEBRUARY, 1974

IOWA STATE UNIVERSITY 211-d GRANT PROGRAM

This study is one of ten case studies prepared by Erik Thorbecke and Gunars Dambe and published in:

Comparative Analysis of Agricultural Development and Employment Performance and Planning, FAO, Rome, 1974.

The authors are grateful to FAO for allowing this case study to be reproduced in the Iowa State University 211-d Grant Occasional Paper series.

The above study is originally published as Agricultural Planning Study #18.

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Publication of this paper is funded under the AID/211-d grant to Iowa State University. All views, interpretations, recommendations, and conclusions expressed in this paper are those of the authors and not necessarily those of Iowa State University or the Agency for International Development.

EXISTING SITUATION

Structure and growth of the economy: The Ivory Coast has an area of 322 thousand square kilometers. Its population was estimated at about 4.7 million in 1968, with an average rate of growth of 3.5 percent during 1964-1968. The Ivory Coast is presently one of the fastest growing countries in West Africa. Its GDP growth in the last half of the 60's averaged 8 percent per year. Industry, which accounted for about 19 percent of the GDP, reached a growth rate of 18 percent per year during the same period (see [1]). The country's industrial base, however, is just emerging. Industrial development on a larger scale began only in 1952 after the opening of the port at Abidjan. The value of industrial production has increased from US $43 million in 1960 to about US $140 million in 1965. The range of industrial production has broadened out from the processing of agricultural and forestry products for local market to their processing for exports such as sawn wood, soluble coffee, canned pineapple, palm oil products, etc. In addition, there have developed industries for domestic market based largely on imported raw materials such as flour milling, light metal products, chemicals and the assembly of cars and trucks.

A number of key macro-economic variables and their behavior during the 1964-1968 period which is illustrated in Table 1, attest to the success of economic development in terms of per capita income. In spite of a very rapid population increase (3.5 percent per year), national income rose much more rapidly (at 8 percent per year) so that per capita income could improve quite substantially (at 4.5 percent per year). This indicator of growth, however, conceals the actual distribution of income and its behavior. As will be shown and discussed shortly, economic growth in Ivory Coast has been characterized by dualism, failing to benefit all

Table 1 National Income[1], Population[2], National Income Per Head[3], and Annual Growth Rates

	Year					Growth
	1964	1965	1966	1967	1968	1964-1968
1. National Income	179.6	181.4	198.2	210.2	248.4	8%
2. Population	4,165	4,300	4,430	4,560	4,765	3.5%
3. National Income Per Head	43,115	42,176	44,750	46,094	52,136	4.5%

Source: computed from [7].

[1] in billions of F. CFA

[2] in thousands

[3] in F. CFA per head

parts of the country equally. As a consequence, disparities of income distribution, especially on a regional basis have been on the increase, creating serious problems for the success of future economic growth in terms of output, income and employment.

Table 2 yields an insight into the changing structure of production. While the importance of the primary sector is declining (from 40 percent of GNP in 1964 to 34 percent of GNP in 1968), that of secondary sector is increasing with the relative weight of tertiary sector remaining more or less the same. This kind of development usually is considered quite successful, indicating an expansion of the industrial base of the economy, and an approach to what has been termed by Rostow as a "take-off" stage into sustained growth.

Ivory Coast is still predominantly agricultural. In 1965 it was estimated that about 75 percent of the total population resided in rural areas. However, about 90 percent of total population derived their incomes from agriculture, because a number of urban dwellers actually have small plots of land or work in the adjoining rural areas [6]. In 1965 Abidjan, the capital of Ivory Coast, accounted for about one third of total urban population.

Agriculture in Ivory Coast is divided into two distinct subsectors: the traditional subsistence agriculture and the modern commercial, mostly export oriented, agriculture. Grosso modo, this division follows along the ecological lines of two climatic zones which are found in Ivory Coast.

The southern part of the country, including the coast and the capital of Abidjan, is in the wet equatorial zone. Here rainfall is relatively abundant and well distributed. Hence, crop cultivation is possible throughout the year. In addition, this area is largely covered by forests which

Table 2 Distribution of GNP at Market Prices in Billions of F. CFA and as a Percent of Total and Sectorial Growth Rates (percent)

Sectors	Year				
	1964	1965	1966	1967	1968
1. Primary[1]	87.2	84.4	88.1	86.8	100.7
2. Secondary[2]	36.0	40.6	49.1	53.2	62.4
3. Tertiary[3]	93.6	89.0	95.5	107.4	133.1
Total	216.6	214.0	232.7	247.4	196.1
Percent of Total					
1. Primary	40.2	39.4	37.8	35.0	34.0
2. Secondary	16.6	19.0	21.1	21.6	21.1
3. Tertiary	43.2	41.6	41.1	43.4	44.9
Total	100.0	100.0	100.0	100.0	100.0

Source: [7] plus additional calculations.

[1] agriculture, forestry, fishing

[2] artisan manufacture, construction, industry, mining

[3] commerce, transportation, services and others

in the tropics have important soil conservation and enrichment qualities. The presence of large wooded areas not only moderates temperature, transpires large quantities of water and maintains favorable air moisture, but also contributes to mechanical and chemical decomposition of the bedrock and the creation of humus.

The north and partly also the center is savannah. Here rainfall is limited to only a part of the year, and may be quite irregular. Thus, relying exclusively on nature's supply of water, agricultural crop production is limited at the most to 6 months of the year. Although savannah has a large potential for the development of pastoral agriculture, and in spite of a number of coffee, cocoa and cotton plantations, this region forms the basis of traditional subsistance agriculture with primitive means of production, very low productivity, hence very low incomes. Here for the largest part of the area the utilization of land and the population has maintained an equilibrium at the level of subsistance for quite some time mostly due to deeply imbedded social attitudes. Traditional agriculture has remained isolated also due to insufficiently developed economic intrastructure such as poor transportation and marketing facilities which have failed to establish effective links with the rest of the economy.

Statistical data concerning traditional agriculture in the north are extremely scarce. However, it is quite obvious that the north is relatively very poor, that underemployment is widespread so that there is an urgent need for the infusion of capital in the form of modern intermediate inputs (such as fertilizers, irrigation, etc.) to integrate this subsector with the rest of the economy and benefit it from economic growth.

As indicated before, about 90 percent of the total population was in agriculture in 1965. On the basis of information in [6] (see Table 23 in

[6]) only about 4 percent of economically active agricultural population was in its modern subsector, export agriculture accounting for more than 50 percent of the subsector's total labor force. Thus, about 96 percent, the vast majority of agricultural labor force, was confined to traditional agriculture characterized by low productivity and incomes at subsistance.

A breakdown of income distribution per classes of income earners is not available at the present time. However, on the basis of above distribution of labor force and since modern agriculture, which is mostly export oriented, provides something like 37 percent of GNP in value terms (in 1968) it is clear that income disparities must be very large. As the traditional sector continues to stagnate and export agriculture to grow vigorously, it appears that the distribution of income probably is worsening.

The nation's principal export products are of agricultural origin and consist of coffee, cocoa, bananas, and pineapple. Agriculture's contribution to total export earnings in the 60's was about 80 percent. Including forest products the value of exports due to these two categories increases to something like 97 percent of the total [5]. Ivory Coast's agricultural exports are dominated by coffee and cocoa. In fact, Ivory Coast is considered the World's third largest coffee producer [1]. In 1955 coffee and cocoa exports amounted to over 70 percent of the total export value which implies a high dependence of foreign exchange earnings on only two commodities. This dependency, however, shows a declining trend. According to figures for 1968, the value of cocoa and coffee in total exports was only slightly over 60 percent [7], indicating some success in the attempt to diversify export agriculture.

Exports which in 1968 amounted to about 37 percent of GNP in value terms have been vigorously expanding in recent years. According to [7],

in the eight year period since 1960, the value of exports increased by about 150 percent. Since the GNP has continued to expand at a high and increasing rate in the same period, economic growth in Ivory Coast appears to be export led, and reflects the important contribution of agriculture towards over-all development.

Imports amounting to about 29 percent of GNP in 1968 have also been rapidly expanding. Their growth in value terms since 1960 has been estimated at about 11 percent per year [7]. In terms of composition the following breakdown was recorded as a percent of total for 1968: finished industrial goods 24 percent, food 15 percent, semi-finished industrial goods 16 percent, consumption goods 32 percent, other goods and services 13 percent.

Employment: The problem of employment has been receiving increased attention in Ivory Coast, especially because some sectors and regions of the economy have been experiencing acute labor shortages for some time. There is a wealth of well organized statistical data for recent years, but due to a relatively recent start at comprehensive economic planning (Ivory Coast became independent in 1960) reliable data are available only for the modern sector and only since 1958 (see [6]). Data of highest quality are limited mostly to the capital of Abidjan and to a few other urban centers of secondary importance. However, there is enough information to characterize present trends and warrant several conclusions.

Population growth is proceeding at an increased rate. At the beginning of the 60's the growth rate of total population was estimated at about 2.4 percent per annum. For the latter part in the decade this rate showed substantial increase reaching 3.5 percent per year in 1968 (see Table 1).

As indicated above, the functioning of the economy exhibits dualism which coincides to a large degree, to the two major ecological zones, the

savannah in the north and the rain forest area in the south and along the coast. Part of the rain forest around the capital of Abidjan has been reclaimed by commercial, export oriented agriculture. An economically distict zone is the capital itself.

The economically active part of the population of Ivory Coast represents about 55 percent of total population for both sexes. Further characteristics of the employment pattern emerge after an examination of the distribution of wage earners (salariales) by sectors, according to skills and nationality. (The data describes the situation in 1965 and are obtained from [6]). In spite of the importance of modern, commercial agriculture, in terms of output, only 18 percent of total wage earners are found in that subsector. Modern secondary and tertiary sectors provide 32 and 50 percent, of total wage employment respectively. In terms of rural and urban activities the former provides about 15 percent, the latter about 85 percent of total jobs. The same percentages obtain when the total economy is divided along the lines of traditional and modern sectors. It is interesting to note that the public sector provides about 40 percent of all wage employment, most of which are jobs in the civil service.

The breakdown of wage earners according to their nationality throws additional light on the situation of employment in Ivory Coast. It is surprising to learn that native Ivorians actually represent a minority when their numbers are compared to the total of wage earners in the economy. Thus, for example, in 1965 Ivorians constituted only 34 percent of all wage earners in the private sector. The rest was composed as follows: non-Africans 32 percent, other Africans 34 percent.

A look at the distribution of skill levels presents somewhat more familiar picture. The participation of Ivorians at both extremes of

the hierarchy of skills is extremely low. It is found that at the top i.e., among highly qualified technicians and adminstrative personnel,only 14 percent are the nationals of Ivory Coast. 83 percent of those jobs are occupied by non-Africans. At the lower end of the echelon, i.e., among the lowest paid and lowest quality manual jobs 30 percent of the jobs are held by the Ivorians.

The situation depicted reflects both the success and the failure of economic development in Ivory Coast. It was seen that in total and per capita terms the growth of output has been impressive. This growth, however, has been confined exclusively to the modern sector and localized in Abidjan and its vicinity. Rapid growth of the modern sector has generated demand for skills which the economy has not been able to provide, at least not in the short run. This situation, without doubt, can be explained by the policies practiced during the colonial period of recent past.

Because of dualism, the large traditional subsistance sector has not experienced much improvement. Poverty is still very much in evidence, perhaps even more so because of growing income disparities vis a vis the modern sector.

As a result the urban sector, especially Abidjan, has exerted increasing pull to the residents of rural areas. Since 1960, there has been an exodus of rural population, which has the tendency to assume alarming proportions. It has been estimated that between 1960-65 on the average 17,000 people per year have departed the rural sector for urban residence. The trend in the rural-urban migration is estimated to reach 30,000 people per year in the period 1965-1970 [6]. Most of the migrants are youth who have completed their primary education and obtained the "Certificat d' Etudes," which has been considered synonymous with the right for a clerical or skilled job in public or private modern sector.

As a direct result of rural-urban migration, many areas in the rural sector including plantations in the south, have experienced acute shortages of labor. This has led to a relatively large-scale immigration of unskilled labor from the neighboring Ghana, Upper Volta, Mali, Guinea, and Liberia. Hence, the relatively large component of foreign wage earners in the primary sector. Foreign labor thus is of great importance in maintaining the level of output and insuring agriculture's contribution to export earnings. Coffee production, for example, requires about 64 percent of all labor involved in the production of export crops. As far as modern agriculture is concerned, foreign wage earners constitute nearly four-fifths of the total wage earners in that subsector. Most are European nationals.

Another result of the rural-urban migration has been an increasing labor surplus and a consequent growth of unemployment among the unskilled in urban centers, especially in Abidjan. Most migrants have relatives or friends who are willing to accommodate them upon their arrival in the city without cost. It was estimated that about 15,000 youth were accomodated in such a manner in Abidjan in 1965 [6]. They are thus in the position to refuse work they do not want for quite some time.

However, it is difficult to consider unemployment a serious problem in Ivory Coast. Unemployment that exists, is of transitory nature, a problem of readjustment to the rapid growth of economy. Unemployment in Ivory Coast is certainly not synonymous with irreversible misery and deprivation. One can always return to his kins in the countryside. There are no official statistics concerning unemployment in the Ivory Coast as a whole or in Abidjan. However, there is growing concern about the young which upon completion of primary and secondary education refuse manual

work and demand office work in the cities.

There also are no statistics on underemployment. It is clear, however, that there are sizable income disparities existing between the north and the south, between the traditional and modern sectors of the economy. In this sense underemployment exists in the traditional sectors, especially in agriculture, where the contribution of the labor to the output is circumscribed by climatic conditions and lack of infrastructure, especially irrigation.

In summary, the present situation concerning employment in the Ivory Coast can be expressed as follows:

1) There still exists a large subsistance sector, in terms of numbers of people, with very low productivity and incomes which is not integrated with the rest of the economy and does not participate in the benefits from economic growth.
2) There is a large exodus of young people from rural areas towards cities, mostly Abidjan. This movement creates acute labor shortages in the areas of origin, and labor surplus in the areas of destination. Unemployment, however, is not a serious problem yet.
3) The deficit of rural labor is mitigated by the inflow of foreign unskilled labor from neighboring countries.
4) Rapid development of the modern sector is creating increasing demand for administrative, organizational and technical skills which the economy is not in the position to satisfy for some time to come.

FACTORS RESPONSIBLE FOR UN- AND UNDEREMPLOYMENT IN THE IVORY COAST

Unemployment is clearly not a serious problem and an obstacle to economic development in Ivory Coast. There does not exist, by any

standards, a significant number of the labor force unable to find work and secure the basic necessities of life. There exist, however, a small number of primary and high school graduates, unwilling to do manual work, who cannot match their expectations with the job opportunities that the economy is presently offering. In general, economic development in the Ivory Coast seems to verify the thesis that widespread unemployment is inconsistent with a high rate of GDP growth.

This does not mean that a more serious unemployment may not arise in the future. One of the factors that may be responsible for such an unfortunate development is the continuation and increase in the rate of rural-urban migration, caused, primarily, by the increasing gap between rural and urban incomes and economic opportunities in the two sectors. These in turn are related to ecological constraints, described in some detail in section 1, especially the seasonal nature of agriculture. This may encompass a wide variety of situations restricting productive activities from one to two months for tree crop farmers to five to six months for grain farmers in the savannah drylands.

Another factor which underlies the difficulties of matching expectations with job opportunities is the result of democratization of education during independence. Most of the young people are now in the position to obtain the basic education they want. Along with this comes the reluctance to accept "inferior jobs" or lower salaries. In the sense that expectations cannot be matched with job opportunities, expansion of education has been unbalanced causing some waste in investment.

Economic growth has also weakened the traditional structure of the enlarged family. Instead of remaining within the family circle, younger people demand more independence, are less willing to recognize parental

authority, are attracted by the "lights" of the city and want to "take a chance." In addition, there have been significant changes in the population pyramid of Ivory Coast. Its base has been expanding relative to the rest, and there are many more younter people than before (see [6]).

There is also some evidence ([6] and [7]) that due to economic growth the participation rate of females is increasing.

While there is no significant unemployment, underemployment can be described as quite extensive. Again, no official figures are available, but the above statement can be made simply on the basis of the extent of traditional activities which are quite in evidence. The major causes for its existence have been pointed out as stemming from the agricultural cycle of the savannah and lack of effective linkanges between the traditional sector and the rest of the economy. Investment policies in the past have favored the south, neglecting the development of economic infrastructure in the north. Thus, the north has continued to remain relatively isolated.

It has to be emphasized that the traditional sector cuts across the climatic zones delineating north from the south. It also pervades the large urban areas in the form of varios artisan activities and services. The existence of the latter may be a necessary and indeed a desired condition in the process of development. To some extent it plays a regulatory role by providing a transitional stage for rural migrants aspiring to higher skills and better opportunities.

Out in the isolated countryside, a change towards more intensive production is often met with resistance towards innovations. Again this seems to be mostly due to the neglect of economic infrastructure, especially in the form of dissemination of knowledge and agricultural extension work.

It is estimated [4] that in the first part of the 60's, there were only 600 extension agents for a rural population of some 3.1 million.

DEVELOPMENT PLANNING AND EMPLOYMENT STRATEGIES

Economic development planning in Ivory Coast is quite advanced, well documented and recently attempted within an input-output framework. An example of this is presented in - Pespectives Decennales de Developpement Economique, Social et Culturel 1960-1970 [4]. The problem of full employment receives a prominent place. Employment performance in the past is analized in great detail, and possible future courses of action suggested (see [5] and [6]). As already emphasized, planners are faced with lack of reliable data with respect to the traditional sector, therefore, much attention is given to improve data collection.

In terms of employment the basic aims for future development appear to be (1) the modernization and integration of the traditional sector, and (2) the elimination of the present skill constraint. The strategy to achieve the former is suggested along the lines of output diversification and increased yields. Together with food crops such as rice, maize, and others, introduction and expansion of various commercial crops such as cotton, sugar cane, jute, tobacco, rubber tree (hevea), oil palms, and livestock is planned.

Present yields in the traditional sector are very low (see [4]). Lack of access to knowledge, high yielding varieties, commercial fertilizers, irrigation, and markets have been responsible for the existing situation.

The Ivory Coast, however, is fortunate to have a number of agricultural research institutes (for details consult [4]). In terms of improved yields some remarkable and spectacular results have already been achieved.

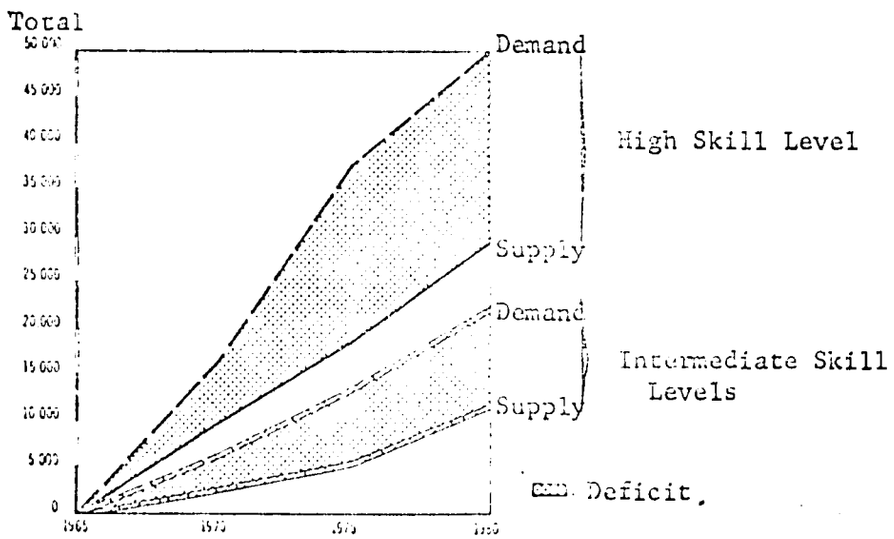
Thus, for example, the yield of oil palms have been increased from 200 kg of oil per hectare to 2,000 to 3,000 kg of oil per hectare. Similarly, the yield of copra has been increased from 400 to 2,000 kg per hectare. Higher yielding peanut, banana, castor oil, and other varieties have also been developed. Admittedly, these results have been achieved under controlled conditions. It is clear, however, that there is a great potential in improving the overall performance of traditional agriculture by proper development policies which provide required inputs and incentives.

Present diversification in agriculture is also considered as a highly desireable goal from the point of view of exports. It was indicated that the share of coffee and cocoa is dominant in the value of total exports. A diversification of exports would clearly lessen the country's vulnerability to adverse trends on the world's market for the two commodities indicated.

Higher yields, and a more diversified and more intensive cropping pattern provide the necessary preconditions for a successful attack to the spread of underemployment and low incomes. As was pointed out earlier, these were the underlying causes of an increased rural-urban migration causing some unemployment in the cities. The strategy which succeeds at the modernization of traditional agriculture will thus succeed also in solving some of the major difficulties in providing adequate employment opportunities for the future.

Another specific concern of the plan in terms of employment is that of providing the necessary skills demanded by the growth and modernization of the economy. The presence of a large foreign component in the various activities demanding high skill levels indicates serious shortages which will have to be corrected. Figure 1 is included to illustrate graphically the estimated need of the rapidly growing economy for high and intermediate

Figure 1. Estimated Future Demand and Supply for High and Intermediate Skills

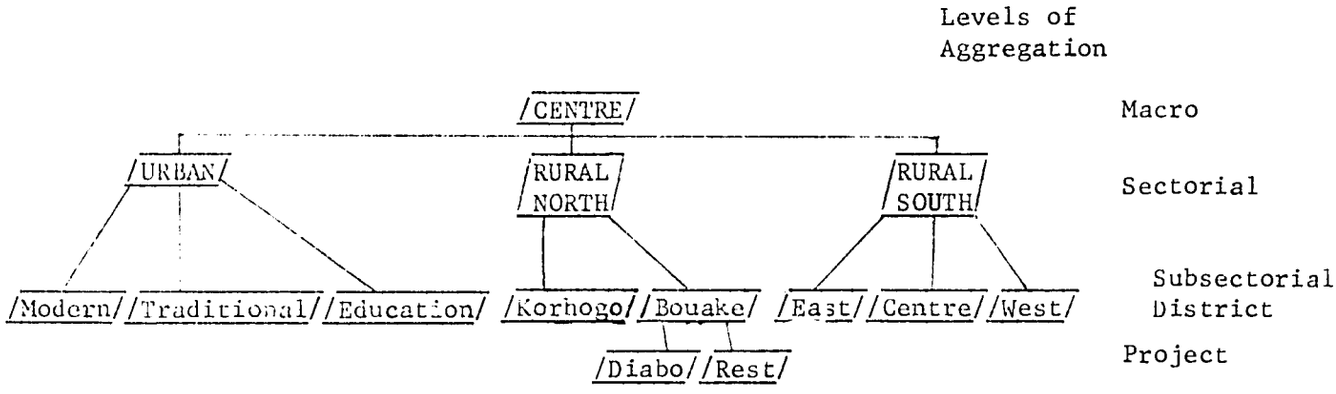


Source: /6/.

skills and the actual supply that the educational system is expected to provide. The rapid increase in the demand for highly qualified personnel is striking. It is clear that a correction of the deficit will require much additional investment and time. For more details consult [6].

With the above development objectives in mind, the economy of Ivory Coast has been the subject of a study by IBRD (see [8] and [9]). One of the most difficult problems in the development plans is to make the right investment decisions at the micro level, consistent with overall growth objectives such as GDP growth, import substitution, employment generation, balance of payments, goals, etc. The study by IBRD attempts to build a system of models to bridge the gap between micro economic decisions at the project level with macroeconomic framework within which national objectives are formulated. The models are at various levels of aggregation. The economy is divided into two rural (Northern and Southern) sectors and one non-rural (urban) sector. Each of these are further subdivided so that linkages are established between the lowest micro unit and the center. In this way national objectives defined at the center are translated into investment and employment decisions at the project, regional, or subsectorial levels. If constraints imposed by these linkages are not violated, consistency among the constituent parts is being maintained. Schematic representation of the model follows.

Figure 2. Decomposition of the Ivory Coast Model System



Source: [8].

Labor is treated in great detail. Members of the labor force are grouped into three groups: a) non-migratory male adults, b) women and children, c) migratory male adults. Moreover, distinction is made also between five levels of skills. These are created and upgraded in the education subsector which is part of the urban model. Skill requirements can be met in two ways: by education and training activity locally, and by importation (immigration) of labor from abroad. Education activities are considered at primary, secondary, and university levels in which the time element involved extends over a period of 10-15 years. Thus, the planning within the composite model framework is a long term planning.

For each skill level there is a reservation price below which a person is unwilling to supply his labor or below which the employer is forbidden to offer employment. Reservation price reflects the reality of unemployment. Without this price the model would eliminate unemployment provided that land was not a limiting factor. Reservation price varies and indicates income disparities between sectors and regions, determines labor transmigration plans and the size of unemployment.

The complex structure of the model makes large numbers of parametric variations possible. Thus, it is possible to introduce arbitrary notions of feasibility and expectations. In vigorously growing Ivory Coast where rapid structural change is taking place, flexibility and adaptability of the model to new conditions is very important. In agricultural production, for example, a choice of several technologies is possible. Therefore, the implications of employment and investment can be analyzed on the basis of the expected mix of these techniques. The adaptability of the model to change is also assured by the introduction of different skill levels and educational activities upgrading them and from the incorporation of labor

transmigration flows regionally and internationally.

The model is still in the process of being developed. Parts of it, however, have been solved and tested. For example, the model has been used to choose optimal production patterns between various tree crops given the quantity of labor available and distinguishing between skilled and unskilled labor. In the North, where traditional farming methods are the only available, land may become a bottleneck. The model has been used quite successfully to investigate how seasonal labor requirements may be changed under the impact of tractor use and other land upgrading techniques, and what the optimal pattern of various crops would be under the changed conditions.

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