

Employment Problems and Policies in Madagascar

E. COSTA ¹

LIKE MANY OTHER developing countries, the Malagasy Republic has not included increased employment among the general objectives ² of its five-year plan for 1964-68, as an end in itself. Admittedly, the plan, which was drawn up with a ten-year perspective ending in 1973, provides for 17,000 new jobs each year between 1960 and 1973, but this figure relates chiefly to production targets: the plan merely adds that it "seems reasonable to assume that agriculture will be able to absorb" the 38,000 other young persons aged 20 who will be available, for example, in 1973.³

However, the full utilisation of human resources is one of the basic concerns of Malagasy planners. Already in the three-year programme for 1959-62 this concern resulted in efforts to promote basic education and rural leadership and in a campaign against underemployment, in the form of a number of simple, "grass-roots" projects launched on the initiative of provincial and local authorities.

These ideas have become clearer in documents showing a trend towards more efficient planning of the Malagasy economy. A report which sets out to demonstrate the need for such planning ⁴ recommends the carrying out of grass-roots projects that would "produce a large volume of additional investments, which might reach as much as 4,000 million francs a year" and an "industrialisation and employment policy in line with demographic growth", designed to create at least 100,000

¹ International Labour Office.

² These general objectives are: increased and improved agricultural production, particularly of essential products; development of industry, especially energy and the processing of agricultural produce; organisation and supervision of distribution; organisation and rationalisation of transport; gradual and well-ordered integration of nationals into the economic life of the country at the policy-making, management and administrative levels. To these may be added: an annual 3 per cent. increase in gross domestic product per head of population, an annual 2.5 per cent. increase in consumption per head, and the doubling of public investments between 1964 and 1968.

³ Commissariat général au Plan, Tananarive: *Plan quinquennal 1964-1968*, p. 30.

⁴ Repoblika malagasy: *Le plan de développement de Madagascar: Rôle, méthode et organisation du Commissariat général au Plan* (mimeographed report) (undated), pp. 3-4.

industrial jobs within ten years.¹ In 1962 a characteristic link was established between mobilisation of the nation and investment: peasants were to supply "additional labour investment, in view of the many semi-idle days spent away from the fields".²

The 1964-68 plan adopts the same approach and provides for 14,000 million Malagasy francs of human investment—in the sense of "labour investment"—for the five-year period. For its part, the law embodying the economic programme adds that the population, especially the *fokonolona*³, are to help in achieving the general objectives, that the participation of the population will be strengthened by establishing, through the leadership scheme, permanent contact between it and the Government, and that the Government will make a special effort to train supervisory staff.

Furthermore, with a view to bringing its employment policy into line with the general targets of the plan, the Government has set up a Training and Employment Committee responsible for studying training and employment problems.⁴ A training and employment plan is to appear in 1969 at the same time as the second five-year plan.

The measures taken to promote employment in rural areas and those taken under the urban employment policy will be examined in the two main parts of this study. In a concluding section the results of these measures as a whole will be assessed. First of all, however, a brief review of employment problems in Madagascar will be made.

Employment problems

According to the five-year plan⁵ employment problems in Madagascar are the result of three factors: demographic growth, accelerated urbanisation, and increased attendance at secondary schools and universities. The scope and consequences of these three developments should therefore be examined.

Demographic growth and employment

According to administrative estimates—which are probably exaggerated as far as rural areas are concerned—on 1 January 1965 the total

¹ This is a general formula, which is not based on any deliberate planning of manpower resources.

² Commissariat général au Plan, Tananarive: *Rapport sur le développement de Madagascar* (Oct. 1962), p. 21.

³ See below, p. 227.

⁴ Decree No. 67-037 of 24 January 1967 to set up a Training and Employment Committee (*Journal officiel de la République malagasy*, 28 Jan. 1967, p. 123). A "training and employment committee" had already met several times before, but its functions were not clearly defined.

⁵ *Plan quinquennal 1964-1968*, op. cit., p. 29.

population of Madagascar was 6,335,810 inhabitants¹ or 10.8 inhabitants per square kilometre. This is a low density, scarcely more than the average for continental Africa. It is aggravated by the scattered nature of the rural population and is an obstacle to physical planning and development. Certain traditions and spending habits also act as a check but, despite the existence of various ethnic groups, Madagascar has a common language and this contributes to solidarity.

The economically active population² at the same date was estimated at 3,350,242 persons, i.e. 52.8 per cent. of the total population, while the number of inhabitants aged 15 and over amounted to 3,922,700. Subject to the usual reservations that must be made in estimating the size of the effectively active population in rural areas, the participation rate seems to be above the average for Africa.

However, owing to a sharp decrease in the death rate and the advances made in the field of health, the population grew at an annual rate of 2.3 per cent. from 1947 to 1962, whereas from 1921 to 1947 the average annual growth rate was only about 0.75 per cent. According to official estimates, from 1960 to 1965 the total population increased by 1,038,000 inhabitants, i.e. 19.6 per cent. A study based on 1957 data³ estimates that the population will reach 11,950,000 inhabitants by 1990. The average annual growth rate would therefore be 2.57 per cent. and in the case of the population of active age (15 to 59 years) even slightly higher. These rates, however, would seem to be a maximum for Madagascar.

In contrast with this demographic growth, there has been a fall in wage employment in the past 15 years owing to a slackening of economic expansion⁴ and to the fact that most of the population (85 per cent. lives from agriculture) is made up of independent peasants who are under-employed and cut off from economic channels. According to statistics of the Ministry of Social Affairs, the number of wage earners in the public and private sectors⁵, which on 1 July 1950 was 220,125, had dropped to 187,019 by 1 July 1965, amounting at that date to only 5.6 per cent. of the economically active population. If the usual pattern of economic development is to be followed this trend will have to be corrected. In this

¹ République malgache, Institut national de la statistique et de la recherche économique (I.N.S.R.E.): *Bulletin mensuel de statistique*, No. 124, Jan. 1966, p. 5.

² Employers in the private sector (excluding employers of domestic servants), wage earners, unsuccessful applicants for jobs, unpaid family workers and self-employed persons (*Rapport statistique de la Direction du travail et des lois sociales, ministère des Affaires sociales, pour l'année 1965*, table 1).

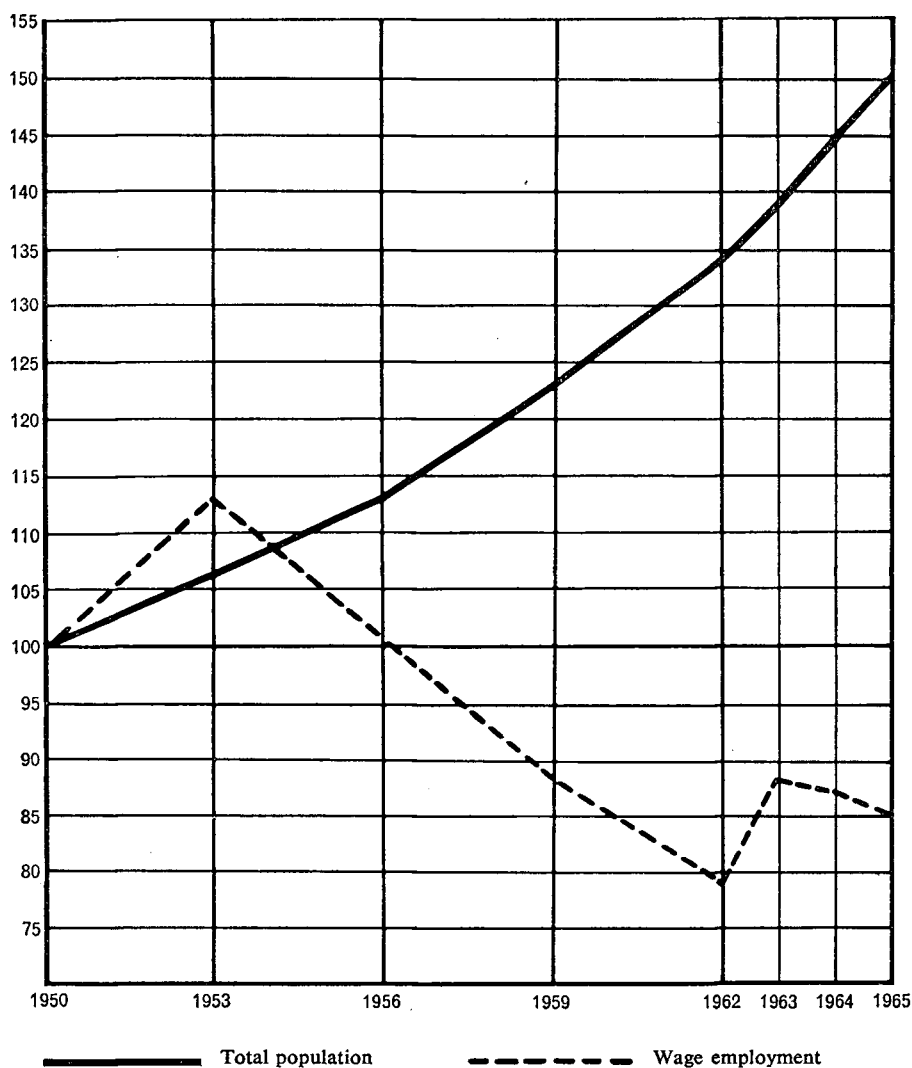
³ I.N.S.R.E.: *Essai de prévision de la population malgache* (Tananarive, 1964).

⁴ As well as to a decrease in the number of large concessionary agricultural holdings. Increased wages have perhaps also contributed to the fall in wage employment.

⁵ Excluding civil servants and other workers employed by the State and by lower authorities, the number of whom has increased only slightly in recent years and in 1967 was 30,000.

TREND OF TOTAL POPULATION AND WAGE EMPLOYMENT INDICES, 1950 TO 1965

(1950 = 100)



Sources: for the total population administrative estimates on 1 January of each year, published in République malgache, Institut national de la statistique et de la recherche économique (I.N.S.R.E.): *Bulletin mensuel de statistique*; for wage employment, the statistics for 1 July of each year, published in *Rapport statistique de la Direction du travail et des lois sociales*, loc. cit.

respect, the plan for 1964-68, which forecasts ¹ an increase of 110 per cent. in wage employment between 1960 and 1973, i.e. an annual rate of 5.87 per cent., or more than twice the demographic growth rate, appears optimistic. The chart opposite shows indices for the total population and wage employment from 1950 to 1965.

The proportion of women in the wage-earning population (17.4 per cent. in 1965) is high compared with the countries of continental Africa. However, nearly half of them are employed as domestic servants and over three-quarters are unskilled. Furthermore, the high percentage of young persons in the total population is due to demographic expansion: at present 53 per cent. are under 20 years of age. This proportion, which is about the African average and is unlikely to increase much in the next 20 years, according to the National Institute of Statistics and Economic Research (I.N.S.R.E.), points to the need for not only a medium- and long-term employment policy but also an immediate one.²

Lastly, the number (now about 100,000) and proportion of foreigners in the population are decreasing slightly as more jobs are being taken over by nationals. The foreigners—chiefly French, Comoro Islanders, Indians and Chinese—are employers, supervisors, skilled workers or traders.

Accelerated urbanisation and regional disparities

Madagascar's urban population is small.³ In 1960, 86 per cent. of the population lived outside the "towns" of more than 2,000 inhabitants. However, since 1959 Tananarive has been growing at the rate of 4.4 per cent. a year, reaching 321,000 inhabitants by 1 January 1965⁴, and since 1961 the growth rate of the other towns with more than 5,000 inhabitants has been over 6 per cent. annually, i.e. nearly three times that of the total population. This development will continue because of the drift from the land, though this is comparatively moderate, and because of the fall in the death rate, which is faster in the towns than in rural areas; however, urbanisation depends very much on the development of secondary and tertiary activities.

It is to be expected that the drift from the land will continue because of rural underemployment. The latter varies widely from area to area⁵

¹ *Plan quinquennal 1964-1968*, op. cit., p. 30.

² Each person of active age must, on average, provide for the maintenance of almost one inactive person, i.e. his burden is nearly twice that of his counterpart in Western Europe.

³ The seven towns with more than 20,000 inhabitants (Tananarive, Tamatave, Pianarantsoa, Majunga, Tuléar, Diégo-Suarez and Antsirabé) today account for little more than 8 per cent. of the island's population.

⁴ *Bulletin mensuel de statistique*, No. 124, Jan. 1966, op. cit., p. 6.

⁵ As regards visible underemployment, whereas the maximum number of working days per year for adults is estimated at 250, excluding market days, the actual number ranges from 216 around Lake Alaotra to 43 in the prefecture of Mananjary. See M. RUDLOFF: "Pour une nouvelle politique de développement", in *Revue économique de Madagascar*

(footnote continued overleaf)

but is usually due to the smallness of the farms, absence of between-season crops, and lack of equipment. The gross domestic product in 1966 totalled 138,300 million Malagasy francs and probably did not exceed 20,910 francs per head¹, which puts Madagascar after many French-speaking African countries (Gabon, Senegal, Ivory Coast, Cameroon, Congo (Brazzaville) and Mauritania) and would seem to indicate that underemployment is extremely high. However, there is a considerable amount of subsistence farming in Madagascar², and the areas of low income per head do not necessarily coincide with those where underemployment is most visible.

The trend in wage employment in secondary and tertiary activities, most of which are in the towns³, has not kept pace with the growth of the urban population. Table I shows the development of wage employment, by sector, from 1950 to 1965: it has fluctuated but not increased. It would be risky to make any conjectures about the further development of wage employment, even in the near future. The targets set by the plan for manufacturing industries, for example, will probably not be achieved.⁴ As table I shows, another reason why it is unlikely that urban employment will show a rapid natural increase is that the number of persons employed in services and as domestic servants is high compared with the industrial sector.⁵

It should be stressed, however, that although 4,273 artisan employers, 90 per cent. of whom live in the towns, were counted on 31 December 1966, it is difficult to establish the exact number of small artisans and other independent workers. Yet the problem of urban employment can only be grasped as a whole by a detailed study of these groups.

(Tananarive), No. 2, Jan.-Dec. 1967, p. 90. The surveys on working time carried out in 1963 by the Office for the Development of Agricultural Production show that the degree of activity of rural families varies widely, even within the same province. These surveys include in the activities of rural families: crop growing; livestock raising; fishing; paid work for the authorities, the *fokonolona* or private individuals; artisan work for family consumption; and wild crop harvesting.

¹ I.N.S.R.E.: *Situation économique au 1^{er} janvier 1967*, pp. 86 and 88. The Malagasy franc is worth 0.02 French franc.

² According to the National Institute of Statistics and Economic Research, in 1962 money income accounted for 52 per cent. of the total income in rural areas and income in kind (subsistence farming, barter, gifts) for 48 per cent. In the agriculture, forests and fishing sector total money income amounted to 20,766 million Malagasy francs and income in kind to 33,310 million.

³ Although Malagasy industry is highly dispersed (Tananarive accounts for only 35 per cent. of industrial wage earners), it is concentrated in the towns, particularly the ports. On this point see Compagnie d'études industrielles et d'aménagement du territoire (CINAM): *Situation de l'emploi et de l'industrie à Madagascar* (Jan. 1962) (mimeographed).

⁴ See table VI, p. 242.

⁵ The percentage of paid domestic servants in Madagascar is particularly high in relation to continental African countries, and, as regards the percentage employed in service activities as a whole, Madagascar is surpassed only by Mali, Dahomey and Kenya. See, in this connection, K. C. DOCTOR and H. GALLIS: "Size and characteristics of wage employment in Africa: some statistical estimates", in *International Labour Review*, Vol. 93, No. 2, Feb. 1966, pp. 168 and 171.

Despite the discrepancy between the development of the urban population and that of wage employment, the monthly average number of *registered* unemployed persons has shown no clear upward trend over the past ten years.¹ On the other hand, of the 8,906 unsuccessful applications for jobs noted by the Employment Service in 1966, half were made by young persons under 24 years of age and nearly all by persons with only a rudimentary training. The growth of the population and the expansion of the towns will therefore probably aggravate the unemployment problem in future.

TABLE I. NUMBER OF WAGE EARNERS IN NON-AGRICULTURAL SECTORS, 1950 TO 1965

Sector	1950	1956	1960	1963	1964	1965
Extractive industries	12 590	5 821	6 612	10 547	9 249	7 800
Manufacturing industries and workshops	26 572	18 603	17 718	22 045	22 158	21 576
Building and public works	9 257	17 821	9 512	26 265	27 436	25 546
Electricity, water, sanitary services ¹	—	—	1 975	2 840	2 633	2 369
Commerce, banking, insurance ²	15 111	20 108	28 445	23 871	24 623	25 353
Transport and storage	6 122	9 685	14 700	15 747	13 237	11 981
Services	40 739	38 979 ³	33 730	20 400	12 889	12 980
Domestic servants ²	28 084	34 372	32 070	30 000	29 506	29 230
Total	138 475	145 389	144 762	151 715	141 731	136 835

Source: Statistics of the Ministry of Social Affairs. Civil servants are not included in these figures.

¹ Heading introduced in 1959. ² In 1956 some wage earners in the "liberal professions" were included under the heading of "domestic servants". ³ As no figure is available for 1956, the average of the previous and subsequent years is given.

The question of urban growth is linked with that of regional disparities. A line between Majunga and Fianarantsoa divides Madagascar into two distinct parts: a relatively densely populated north-east and a sparsely populated south-west. On 1 January 1965 over 72 per cent. of the population lived in the four provinces of Tananarive, Fianarantsoa, Tamatave and Diégo-Suarez, i.e. on 46 per cent. of the territory. The density of the Tuléar and Majunga provinces was about 5.5 inhabitants per square kilometre, and this disparity will probably increase, since in 1960 the proportion of the female population between 10 and 19 years of

¹ Between 1956 and 1965 this number fluctuated between 350 and 770. See I.L.O.: *Year book of labour statistics, 1966* (Geneva, 1966), p. 370.

age in those two provinces was considerably less than in the others.¹ In many cases, however, the sparsely populated areas are not the poorest (see table II). There are, then, considerable possibilities for internal migration, especially as less than 3 per cent. of the total area is cultivated and 10 per cent. could apparently be used immediately for agriculture. Moreover, the plan ² notes that a "movement to settle on the unoccupied land in the middle-west and the west is beginning to take shape". In any case, the history of Madagascar has been a series of migrations—seasonal and temporary migrations, even rural settlements—towards the west of the Plateau, the western coast and the extreme north.³ This is an alternative solution to the problem of drift from the land.

TABLE II. RURAL POPULATION AND AGRICULTURAL INCOME, BY PROVINCE, 1960

	Diégo-Suarez	Majunga	Tamatave	Tuléar	Tananarive	Fianarantsoa
"Agricultural" income per rural inhabitant (crop growing, livestock raising, fishing, timber)	(In Malagasy francs)					
	16 500	10 900	10 200	8 900	8 700	8 400
	(Per square kilometre)					
Density of rural population . .	7.95	3.98	10.93	4.78	16.62	12.88

Source: Derived from Commissariat général au Plan: *Economie malgache: Evolution 1950-1960* (Tananarive, June 1962), p. 70.

Increased school attendance and problems of skilled employment

School attendance in Madagascar has sharply increased in recent years. The total number of teachers, which in 1950-51 was 252,000, rose to 446,280 in 1959-60 (at the time of independence) and to 704,625 in 1964-65.⁴ The rate of attendance at primary schools, which was 30 per cent. in 1951, reached 47 per cent. in 1965. This advance has been accompanied by some difficulties: the increase in the number of teachers has

¹ See Commissariat général au Plan: *Economie malgache: Evolution 1950-1960* (Tananarive, June 1962), p. 28.

² *Plan quinquennal 1964-1968*, op. cit., p. 21.

³ H. DESCHAMPS (*Les migrations intérieures à Madagascar* (Paris, Berger-Levrault, 1959)) has made a detailed study of these migrations.

⁴ This last figure is broken down as follows: pre-school teaching, 9,734; primary, 633,039; secondary, 50,137; technical, 7,090; teachers' training, 2,312; university, 2,313 (*Bulletin mensuel de statistique*, op. cit., No. 133, Oct. 1966, p. 1).

not kept pace, the number of pupils per class is much too high and performance is low. Moreover, school attendance varies widely: it is highest in the province of Tananarive and lowest in that of Tuléar. Lastly, the cost of education is rather high in relation to the gross domestic product (7 per cent. in 1964).¹

From the standpoint of employment, two observations may be made about this development.

(A) The number of teaching staff in technical education is less than a seventh of those in general secondary education. This situation may very well check the nation's supply of skilled manpower, especially as manual workers are handicapped, as regards promotion, by a lack of general knowledge. Although at present the deficit in skilled workers, technicians and non-manual workers appears to be no more than 300, for 80 per cent. of the vacant administrative posts a certificate of proficiency or a technical certificate is required. Moreover, many foreigners are skilled workers, and with the integration of nationals into economic life, the need for skilled nationals will increase.

TABLE III. DISTRIBUTION OF WAGE EARNERS BY OCCUPATIONAL CATEGORY

Category	1960	1963	1964	1965
Unskilled workers	129 130	117 852	120 724	117 342
Semi-skilled and skilled workers	33 195	48 035	43 760	41 275
Salaried employees	24 145	26 130	23 373	23 916
Supervisors and managers . . .	4 503	3 828	4 308	4 486
Total	190 973	195 845	192 145	187 019

¹ Source: Statistics of the Ministry of Social Affairs. The agricultural sector is included in these figures but not the civil service.

Table III gives statistics for the past few years, according to the classification in use.² It shows that distribution has been relatively stable, with a slight increase in the number of skilled workers and a slight decrease in the number of unskilled. However, bearing in mind turnover requirements and a probable increase in the volume of employment and in the need for skilled workers in certain branches of activity, it is

¹ In 1961 public expenditure for education amounted to 5.7 per cent. of the G.D.P. in Madagascar against 4.9 per cent. in the United Kingdom, 4.8 per cent. in the United States and 2.9 per cent. in France, according to *Financing education for economic growth* (Paris, O.E.C.D., 1966), pp. 82-83.

² The statistics of the Ministry of Social Affairs do not make sufficient distinctions between the occupational categories to permit precise estimates for the near future. Besides, the breakdown applied varies from undertaking to undertaking.

reasonable to forecast a need for over 20,000 skilled workers between now and 1970, without taking into account unremunerated activities; according to the plan ¹, 6,000 new jobs for supervisors and skilled workers will be vacant each year between now and 1973. For certain skills technical training will doubtless be able to meet needs; for others, such as welding, mechanics, plumbing and painting, the shortage will increase. Assuming that technical training is maintained at its present level, there will be a deficit of over 100 workers for each skill (over 1,000 in the case of mechanics) during the period 1966-70. These estimates do not take into account supplementary training requirements that will arise owing to the youth of some supervisors.

(B) On the other hand, the increase in the number of teachers in general education and the preference of young persons for traditional studies and the university already resulted in 1965 in more than 1,400 unsuccessful applications for jobs from persons who had completed not merely primary schooling but in some cases secondary schooling and university. Owing to the growth of the population, the stagnation in employment and the structure of education, the number of the educated unemployed is likely to increase.

Utilisation of human resources and promotion of employment in rural areas ²

General policy

Many studies have been carried out on the obstacles to the development of agriculture in Madagascar. Traditions, farming methods, inadequate outlets, insufficient credit, fluctuations in agricultural prices, and inadequate training, leadership, equipment and techniques—all these must be overcome if the peasants are to be provided with full employment and the quality of their work improved.³

For this, "human investment" and the rural leadership scheme have not been enough: more conventional measures (development of new land, diversification of rural activities, agricultural training) have become equally important in combating underemployment.

¹ *Plan quinquennal 1964-1968*, op. cit., p. 30.

² It seems logical to consider the rural employment policy before the urban employment policy because, owing to the complexity of the problems and the pronounced agricultural character of the country, the agricultural plan provided a basis on which the plans for the other sectors were worked out. See J. C. ROUBEYRAN: "Problèmes méthodologiques de la planification agricole dans les économies en voie de développement à prépondérance agricole (l'exemple de Madagascar)", in *Cahiers de l'Institut de science économique appliquée* (Paris, I.S.E.A.), No. 160, Apr. 1965 (Series V, No. 8), pp. 253-285.

³ See, in this connection, M. RUDLOFF: "L'économie villageoise à Madagascar et en Afrique noire", in *Revue économique de Madagascar* (Tananarive), No. 1, Jan.-Dec. 1966, pp. 315-340.

Human investment

In Madagascar human investment takes the form chiefly of grass-roots projects in which the *fokonolona*, a traditional institution, participates. At the same time, however, the population performs other unpaid work, which may also be regarded as human investment as that term is used in the plan for 1964-68. Lastly, some general Acts require the population as a whole—or idle persons—to perform certain tasks (reafforestation, growing of compulsory crops), which lead to an increase in employment and result in labour investment.

(A) The *fokonolona* would appear to afford a natural framework for local human investment operations.¹ In the nineteenth century the *fokonolona*, which is a self-administering community made up of the inhabitants of a locality or several neighbouring localities, added to its judicial and conciliation powers the right to organise collective work useful to the group. Under the French administration the role of the *fokonolona* as a territorial community became more pronounced and at the same time the obligation to produce a minimum amount of crops to meet the needs of the members was extended to all; since 1950, however, the gradual introduction of rural communes has slightly limited the economic role of the *fokonolona*, and at present the two institutions share economic functions.

It is the rural commune that provides the "framework for development operations"², but the *fokonolona* may be asked to take part, for they are to act as "substitutes and relays" for public bodies³ and are therefore to help implement the plan by contributing to grass-roots projects undertaken by the communes. There is no doubt that the *fokonolona* spirit has a useful part to play in solving the problem of popular participation in the implementation of a rural employment policy.

(B) As conceived in Madagascar, the grass-roots projects assigned to the rural communes and requested and carried out by the population are quite different from the large-scale projects planned by the technical services and carried out by contract.⁴ Their aim is to turn to account the

¹ On the historical development and the possibilities afforded by the *fokonolona* see J. DEZ: "Le fokonolona malgache: institution désuète ou cellule de développement?", in *Cahiers de l'Institut de science économique appliquée*, op. cit., pp. 189-252.

² Ordinance No. 62-061 of 25 September 1962, section 153 (*Journal officiel de la République malgache*, 12 Oct. 1962).

³ Ordinance No. 62-004 of 24 July 1962 to establish the functions, responsibilities and powers of the *fokonolona* (ibid., 11 Aug. 1962, pp. 1559-1561).

⁴ The following information is based mainly on the General Instructions for grass-roots operations (*Journal officiel de la République malgache*, 8 Jan. 1966, pp. 78-91). See also R. LENOIR: "Les travaux au ras du sol", in *Cahiers de l'Institut de science économique appliquée*, op. cit. (Series F. No. 20), No. 156, Dec. 1964, pp. 29-39.

work potential of the underemployed masses by encouraging them to undertake voluntary work that will, in turn, bring them benefits.

Although it is up to the beneficiaries themselves (hamlets, villages or *fokonolona*) to take the initiative, it is the rural communes that submit the project plans to the subprefect and the appropriate technical services. The project plans indicate the number of inhabitants affected and the number of active persons taking part in the work. The technical services draw up estimates showing the amount of credit requested and the amount represented by the participation of the beneficiaries in terms of manpower, materials and services.¹ (As far as possible, methods requiring highly skilled workers and fragile equipment are not used and the population must contribute to the maintenance of the finished work.) The project plans are then sent to the Regional Technical Committee for Planning and Development in the prefecture, which classifies them according to their economic interest and their consistency with the objectives of the plan and then submits them for approval to the central authorities (Ministry of the Interior and Ministry of Finance) and to the central technical services, so that the budget appropriations for grass-roots projects may be allocated among the various prefectures.²

As a rule, the commune is responsible for carrying out the work. However, if the project represents as much as 500,000 Malagasy francs or requires the use of more sophisticated techniques, it may be assigned by the Regional Technical Committee to a particular service. In every case the appropriate technical service (public works, rural engineering, agriculture, livestock, water and forests) is responsible for supervising the work. Communal work supervisors are responsible for operations at the communal level; nearly 800 have already been trained.

Whereas in 1962, when the operations were got under way, 56 per cent. of the appropriations were earmarked for developing means of communication and 44 per cent. for agricultural hydraulics, livestock raising, reforestation, soil conservation and land reclamation, in 1966 these proportions were more than reversed (24 and 76 per cent.). Since the appropriations for operations approved for the years 1964-66 in 17 prefectures amounted to 669 million Malagasy francs and the participation of the population, on the basis of 100 francs for each working day, is evaluated at a minimum of 20 per cent. of the cost of the operations, it emerges that at least 1,338,000 days were devoted to grass-roots projects during those three years.

¹ The working day is estimated at 100 Malagasy francs (the minimum hourly wage varies, according to the area, between 16 and 25 Malagasy francs in agriculture and between 19 and 29 Malagasy francs in non-agricultural occupations). The General Instructions stipulate that "to the fullest possible extent funds should not be spread over a large number of small operations but spent only for operations the total amount of which, including human investment, is not less than 100,000 Malagasy francs".

² These appropriations take the form of loans or subsidies when the project will not produce direct additional income for the peasants.

(C) Human investment is defined as any unpaid work performed outside their normal occupations by the inhabitants of communes and *fokonolona* in the interest of the community (in grass-roots projects, the building of schools and dispensaries, etc.). Accordingly, if the communes assist the soil conservation and land reclamation teams of the Agricultural Extension Service¹, their participation apparently comes under the heading of human investment as provided for in the plan. Similarly, 870 road gangs² carried out work to improve secondary roads to the value of 3,660 million Malagasy francs during the five-year period.³ The *fokonolona* supplied them with additional workers, particularly for the transport of materials. This assistance also comes under the heading of human investment.

Consequently it is difficult to estimate the amount and value of all the human investment actually made. The 1962 report on development⁴ considered that if a tenth of the population devoted three months in a year to human investment, its value would be 4,000 million Malagasy francs annually. The plan for 1964-68 goes further, providing for 14,000 million francs of human investment for the five-year period, i.e. about ten working days a year for each person of active age.⁵ This amount, though small considering the extent of underemployment, is nevertheless high by comparison with the other African countries, since it represents 9 per cent. of total investments (165,000 million francs)⁶; for 1969-73 the plan provides for 17,000 million francs of human investment (8 per cent. of the total).⁷

Of the human investment provided for from 1964 to 1968, 7,000 million francs is for crop growing and reforestation and 250 million for roads, but 6,600 million is for social investment (town planning and housing, health, schools), which only has a temporary effect on employment.

The returns on human investment operations are also difficult to evaluate. As regards costs, the plan⁵ indicates that 360 million francs from public funds will be used to finance the annual programmes, but this does not include either the cost of technical supervision of grass-roots projects, which is not taken into account in the estimated cost of the operations, or the cost of the rural leadership scheme, whose influence on the participation of the population in the projects is not quantifiable.

¹ By 1967 these teams had developed 1,015 hectares in the Tuléar and Itasy areas.

² At present there are only about 50, with a budget of 156 million Malagasy francs.

³ *Plan quinquennal 1964-1968*, op. cit., pp. 116-117.

⁴ *Rapport sur le développement de Madagascar*, op. cit., p. 22.

⁵ *Plan quinquennal 1964-1968*, op. cit., p. 35.

⁶ In Africa this percentage is only exceeded in the plans of Cameroon and Guinea.

⁷ Admittedly, according to the plan, over half of this human investment will consist of projects that would normally be carried out spontaneously by the population.

(D) Besides human investment as it is defined, the Malagasy Government has adopted other general measures to put the population to work. An Act of 24 December 1963¹ lays down the obligation for all males between 21 and 55 years of age to plant at least 50 forest or fruit trees each year or to assist in forest or soil conservation work.² These activities, however, are insignificant from the standpoint of employment, since an average planter plants 50 trees in two days.

Moreover, it is difficult to say to what extent the relevant legislation³ helps in practice to do away with idleness, though it may contribute appreciably to combating underemployment. Under this legislation idle persons between 18 and 60 years of age are obliged to carry out agricultural work on their own behalf on lands belonging to them or made available to them, under conditions established in relation to local requirements and the plan's objectives. Any peasant who does not cultivate the minimum area established by decree and any town-dweller who does not have a regular job and who is not registered at an employment office is regarded as an idle person.⁴ Town-dwellers are directed towards agricultural work wherever there are arrangements for receiving them. The prefect decides on the minimum area to be farmed, the crops to be grown and the period for bringing the land under cultivation; and if there is no arable land in the village where the idle persons live he may send them to areas set aside for that purpose by the Government.

At present few data are available on how much the area under cultivation has increased. In the prefecture of Fianarantsoa, for example, the area increased from 146,800 hectares in 1964-65 to 152,400 hectares in 1965-66, much of the new land being set aside for the dry farming (maize, cassava, beans) that had been recommended in the programme for combating idleness.⁵

Civic service

Civic service is intended for young persons from both towns and rural areas, though it is, in fact, performed in rural areas.

¹ Act No. 63-032 (*Journal officiel de la République malgache*, 28 Dec. 1963, p. 2808) and the decree to implement it, dated 27 January 1965 (*ibid.*, 6 Feb. 1965, p. 253).

² Town-dwellers may be dispensed from this obligation by paying a contribution of 100 Malagasy francs.

³ Ordinance No. 62-062 of 25 September 1962 (*Journal officiel de la République malgache*, 12 Oct. 1962, p. 2223) and Decree No. 63,268 of 15 May 1963 (*ibid.*, 25 May 1963, p. 1256).

⁴ Idleness, therefore, is not the same thing as involuntary unemployment but because of the inadequacy of the Employment Service and the fluidity of manpower this is a somewhat theoretical distinction.

⁵ In addition, the penal system provides that prisoners may be used to carry out work of economic interest (road and bridge building, land development, reafforestation). The prisoners either work in camps or are made available to concessionary undertakings.

It is, like military service, a form of national service.¹ Under the plan² the civic service aims at training men capable and desirous of promoting the country's development. They receive training for that purpose and apply what they have learned by carrying out work that will contribute to development within the framework of the plan.

The Office for Rural Leadership and Civic Service co-ordinates the activities of the civic service "with those of other bodies helping to promote national development".³ This service forms part of the nation's activities and is directed to the country's needs. The recruits are supposed, in particular, to share the knowledge they have acquired with the inhabitants, for example by settling on new land; and the service is intended to increase their occupational qualifications and chances of obtaining other employment. It is meant to be run economically and not to be a heavy burden on the budget. It should pay off in the long run—at the human level by making full use of people's capacities and by the choice of educational programmes, and at the economic level by the economic benefits of the work done and, in the last stage, increased productivity. In order to fulfil the criterion of "profitability" and to fit into the plan, the projects should not "compete with but supplement the work of existing bodies or undertakings, so that employment will not be reduced or the national economy disturbed"; they should also ensure full employment of the service's resources.

A school for supervisors is a feature of the service; here students receive general, military and rural training and then take specialised courses with a view to becoming heads of pioneer sections or teams, rural craftsmen, primary-school teachers, or literacy instructors. Another element of the service is the pioneer companies. These are composed, on an average, of 140 recruits chosen from among volunteers according to their area, skill and training. The length of service has, in practice, been fixed at 18 months, and all the young men mobilised, whether pioneers or future supervisors, spend a period in the army, during which they all receive civic, military, physical, general and vocational training. Being non-specialised, this vocational education is only a sort of preliminary training to equip the individual to succeed in the rural environment.

The rural craftsmen, who have been trained in woodworking and ironworking techniques at the school for supervisors, help to establish pioneer villages. After a qualifying period the teachers spend a year

¹ National service, lasting three years at most, may be done either in the military service or in the civic service or in both. (Ordinances No. 60-118 of 30 September 1960 (*Journal officiel de la République malgache*, 8 Oct. 1960, p. 1012) and No. 62-022 of 19 September 1962 (*ibid.*, 28 Sep. 1962, p. 1950), and Decree No. 63-165 of 6 March 1963 (*ibid.*, 16 Mar. 1963, p. 707).)

² *Plan quinquennal 1964-1968*, op. cit., p. 141.

³ Order No. 411 of 11 February 1963, section 3 (*Journal officiel de la République malgache*, 23 Feb. 1963, p. 444). The general features of the civic service are defined in the General Instructions of 11 February 1963 for the experimental period of the service.

teaching in a primary school; at the end of their service they are engaged by the communes or apply to the Ministry of Cultural Affairs, but their engagement is not guaranteed by the service. The literacy instructors take part in literacy campaigns in the villages. The pioneer companies set up bases in areas chosen in conjunction with the appropriate ministries, where they clear and till the land and establish basic facilities; when this work is completed the pioneers, who are given priority in acquiring land, may settle in the developed areas. However, since the training is not wholly adapted to the rural environment, very few young persons have done so up to now. They can be transferred to public or private undertakings and at their request their files can be sent to the Employment Service, which is responsible for helping to integrate them into the national economy.¹ Lastly, about 1,000 have become, in various capacities, supervisors in the civic service.

In May 1967 there were ten civic service companies. It was planned, however, that there should be one for each prefecture by the end of the year, i.e. 18, and by 1972 one for each subprefecture, i.e. 90. Under the plan ² the total strength in 1968 should be 13,000 pioneers; the operational budget would reach 420 million Malagasy francs in 1968 and 1,200 million in 1973, whereas it amounted to only 83 million in 1964. On average, the cost of each recruit may be estimated at about 100,000 Malagasy francs.

By the end of 1966 the pioneers had developed 589 hectares and, in addition to work on projects benefiting the local population, they had helped about 40 migrants, both civilians and former pioneers, to settle on the land. Furthermore, some of them have become supervisors or rural teachers in the areas developed during their service. For the time being, however, these results seem small compared with the expenses incurred, and the effective operation of the service is being delayed by its high cost.

Rural leadership

The rural leadership scheme aims at encouraging human investment projects by making village inhabitants aware of their capacities. Since 1962 ³ rural leadership centres have been set up on the initiative of the Institute for the Investigation and Application of Development Methods (I.R.A.M.). These centres are directed by rural leaders trained by the Office for Rural Leadership and Civic Service; they, in turn, train leaders

¹ Decree No. 65-441 of 9 June 1965 (*Journal officiel de la République malgache*, 19 June 1965, p. 1386).

² *Plan quinquennal 1964-1968*, op. cit., pp. 170-171.

³ Between 1950 and the achievement of independence a number of experiments to train the peasantry were carried out. However, they were confined to the technical aspect and, by disregarding the human factor, they did not produce the expected results.

appointed by the *fokonolona*. Introductory courses in general and technical subjects enable the leaders to promote development in the villages; specialised training is designed to spread modern farming methods, to improve the management of co-operatives, and so on. On returning to their villages, the leaders, under the guidance of the head of the centre, decide with the population what immediate measures should be taken to raise production and improve the grass-roots projects. The rural leaders must also help the population to work out forms of community organisation that are suited to the needs of development (for example co-operatives).

The areas from which the leaders are recruited are determined according to their population density, the technical work already undertaken and the number of technicians available. It is planned that there should be one leader for every 100 villagers. By May 1967 there were over 15,000 male leaders and nearly 6,000 female leaders teaching women small tasks, the end-of-plan objectives being 53,450 and 41,650 respectively. Eighty-two million Malagasy francs is to be invested over the period 1964-68 in the establishment of 91 leadership centres, and the operational budget should average 200 million francs a year between 1968 and 1973, which is much less than the cost of the civic service.¹

Physical planning and the development of large areas

Since Madagascar is composed of a large number of small regions, the operational framework of the plan for 1964-68 is primarily regional. Accordingly, a physical planning policy must, in particular, aim at organising internal migration, delimiting industrial and agricultural development areas and setting up development companies. In contrast with measures affecting the country as a whole, physical planning is based on operations carried out in unpopulated or sparsely populated areas and is intended to promote the settlement, in sound conditions, "of young persons with a view to the full development of the area".² It therefore has a direct effect on employment.

The farming of development areas is checked by a complex land tenure situation. In order to ensure a return on investments, ownership is subject, under an ordinance of 3 October 1960 on *rural development areas*, to a resolutive condition of development: the Government may take back property within those areas if the cultivation of the land does not meet the standards laid down.³ Thirteen development areas have been

¹ An inquiry begun in 1965 may lead to a reorganisation of the rural leadership scheme within the framework of the second plan.

² *Rapport sur le développement de Madagascar*, op. cit., p. 35.

³ For the country as a whole, since the passing of an Act of 19 December 1966, the commission responsible for establishing what arable lands are not being cultivated may decide that the *de facto* occupant who has developed the plot of land without any opposition from the owner may remain on it for a specific period.

created since 1961. On most of them agricultural development operations have been undertaken or development companies set up.

Development companies are used in the case of large areas requiring high investments and an extensive and permanent supervisory staff. They are temporary bodies, which help to get operations started and encourage rural leaders to set up co-operatives at a subsequent stage. They prepare and supervise the establishment of assigns on the land; manage part of the developed area as a pilot unit and provide the assigns with paid seasonal employment during slack periods; manage an agricultural machinery station, where implements are made available to the assigns for a charge based on the cost price; run a centre where accelerated training is given in the use and maintenance of agricultural machinery; carry out educational work in collaboration with the technical services; and ensure regular marketing of the assigns' products. In order to get along without subsidies from the Government or from the French Fund for Aid and Co-operation, the companies should become financially self-sufficient as quickly as possible by making deductions from the peasants' income, which increases from year to year. The contributions that the peasants can pay while still earning an adequate net income are calculated according to their gross income.

Five development companies exist at present. It is worth looking at one them—SAMANGOKY—in some detail, as an example.

Begun in 1952 with the assistance of the French Textile Fibre Development Company (C.F.D.T.), the development of the Mangoky delta in the south-west part of the island was entrusted in 1961 to a joint public and private company known as SAMANGOKY.¹ A pilot unit of 1,000 hectares was completed in 1965 and a zone of 10,000 hectares, the first section of a large area, is to be developed by 1973. Eight hundred "associated" families have been established on the pilot unit; 5,000 other families, comprising 25,000 persons, should be established on the over-all area by 1973. The associated farmers are mainly peasants already living in the delta, but immigrants from other areas have also joined them, and the experiment thus tends both to combat local underemployment and to encourage rural settlement. On the pilot unit the farmer—who is a share-cropper taking half of the produce—does any routine work involving considerable labour; he is entitled to 40 ares² of rice fields and 60 ares of cotton fields. Unassigned land is farmed by wage earners employed by the company. Although commercial cotton growing is the first objective, the timetable for work in the rice fields has been staggered so as to permit the full employment of the peasants, even out of season. The decrease in underemployment is shown by the fact that the gross annual income per family, estimated in 1961 at 94,000 Malagasy francs, reached 125,000 francs in 1965 and should amount to 141,400 francs by 1971. This means that after the contribution to SAMANGOKY has been deducted, the net income per family would be 68,500 francs, which is far more than the monetary resources of a family in the traditional economy of the region.

¹ On this experiment as a whole see F. DOUMENGE and R. BATTISTINI: "La mise en valeur du delta du Mangoky", in *Les cahiers d'outre-mer* (Bordeaux), No. 74, Apr.-June 1966, pp. 144-173; see also *Le développement rural dans les pays d'Afrique noire d'expression française* (Paris, Société d'études pour le développement économique et social (S.E.D.E.S.), 1965), Vol. II.

² One are = 119.6 square yards.

Employment in Madagascar

The cost of the experiment, however, is comparatively high. The development of 10,000 hectares by 1973 will have cost, including investments, working expenses and staffing, between 5,000 million and 6,000 million Malagasy francs. The company's capital investment can be paid off only very gradually by marketing part of the cotton and rice crops. Consequently, the experiment will be fully justified economically only if it leads to increased marketing by developing transport facilities and by industrialising certain processes (cotton gins, oil works, rice mills). A cotton-ginning factory and a factory making prefabricated irrigation pipes are being put into operation.

The other development companies are based on similar principles. Table IV shows the economic characteristics of the companies that were originally provided for and have actually been set up. Most of the experiments tend to increase the area under cultivation and, at the same time, the size of the production units, which have been too small up to now to raise income sufficiently within the framework of an exchange economy.

In 1960 SOMASAK took over from the Office for the Development of Agricultural Production the management of 33,000 hectares in the Sakay area, west of Tananarive. From the outset, besides the 300 peasant families already in the area, inhabitants of Réunion and immigrants from other regions in Madagascar, including the families of about 100 unemployed from towns, sent to the Sakay area by the Employment Service, have also come. Thanks to the advances made in farming, particularly the diversification of out-of-season crops, the head of the family and a young boy are now employed full time on each production unit. Near Lake Alaotra SOMALAC has undertaken a programme to develop the land and reorganise tenure, which has not led to immigration; as regards the increase in the farmers' income, the targets set by the plan were amply achieved in 1966. SEDEFITA is developing two areas in the Tuléar region: Taheza and Fiherenana.¹ Lastly, COMENA, which was not provided for by the plan, has 10,000 farmers working on 18,000 hectares in the Marovoay plain.

The Middle-West Company has been replaced by an over-all operation designed to change the farming methods used by families in this underpopulated region and to promote the settlement of 4,000 migrant families. Seven hundred and fifty families will be sent there between 1967 and 1969 on the basis of psychotechnical selection. The annual number of working days for each unit should be 450 from the fifth year on and at the end of ten years the daily output of the farmer should be six times that of an agricultural worker. SOMASAK has been merged with the Middle-West operation and the migrants will be trained in the Sakay area.

The recently established *state farms*² are run by a manager, on behalf of the Government and under the supervision of the appropriate technical services, for the production, processing and marketing of agricultural produce, timber or livestock. Besides their supervisory staff, they employ seasonal workers chosen from among the heads of families in the area and therefore contribute directly to reducing underemployment. Also, the neighbouring peasants are introduced to more modern

¹ Table IV shows that, in relation to the investments made, the increase in annual income per family varies widely for each company. It is in the Taheza area that the ratio between increased income and total investments is highest. The low amount of money investments in that area is apparently accounted for by greater labour investment.

² Decree No. 66-490 of 29 November 1966 (*Journal officiel de la République malagasy*, 3 Dec. 1966, pp. 2422-2423).

TABLE IV. ECONOMIC CHARACTERISTICS OF DEVELOPMENT COMPANIES PROVIDED FOR BY THE PLAN AND ACTUALLY SET UP

	SAMANGOKY	SOMASAK	SOMALAC	SEDEFITA	
				Taheza	Fiherenana
Main products	Cotton, rice	Rice, maize, cassava, livestock	Rice	Rice, peanuts, livestock	Peanuts, cotton, vegetables
			(In hectares)		
Areas developed by 1973	9 500	19 310	31 100	4 345	4 400 ¹
Average size of farm . .	2	7.5	5.5	2.5	1.5 or 3
			(Number)		
Number of farmers by 1973	5 000	2 570	5 620	1 800	2 550 ¹
			(In Malagasy francs)		
Gross annual money income per family:					
at the beginning of the experiment	94 000	247 200 ²	150 000	50 600	38 000
at the end of the experiment	141 400	587 500	223 000	122 300	117 400 or 173 150 ³
Net annual money income per family:					
at the beginning of the experiment	40 300	73 300 ²	88 000	9 000	38 000
at the end of the experiment	68 500	262 300	156 000	51 200	86 200 or 87 950 ³
			(In million Malagasy francs)		
Total investments	4 280	2 308	5 049	178	773.5
Gross annual working expenses at the end of the experiment	309.7	42	71.3	8.2	28.6
Balance of the company's annual operational budget at the end of the experiment	+56.6	-9.2	+35.9	+13.2	-0.6

Source: Derived from data contained in Commissariat général au Plan, Tananarive: *Plan quinquennal 1964-1968*, pp. 78-81 and 179-203.

Note: The targets have sometimes been slightly modified when the plan was being implemented; the main purpose of this table is to give an outline of policy as originally formulated.

¹ By 1972. ² Four years of farming at most. ³ Arable farming or livestock raising and market gardening, as the case may be.

techniques and they earn more, especially as the farms buy their produce. The first farms set up occupy over 1,000 hectares and employ several hundred seasonal workers. The experiment will very likely be extended.

Diversification of rural activities

Even before the country's independence, the possibility of introducing mixed farming in order to reduce the periods of underemployment inherent in single-crop farming had been considered. The three-year programme for 1959-62 linked the problem of crop diversification with that of stabilising agricultural income and emphasised the techniques that are essential for the introduction of two crops a year.¹ The Planning Office has calculated that the income of a farm would be increased by 100 to 130 per cent. by growing two crops of rice a year or by introducing mixed rice and cotton farming, since improved farming methods are supported by the organisation of marketing facilities.² In the High Plateaux an attempt is being made to introduce out-of-season crop farming and to use the *tanety* (hills); on the central eastern coast the cultivation of bananas for export, sugar cane, cocoa and oil palms is being introduced or extended.³

Other efforts are being made gradually to absorb hidden underemployment by improving yields through the dissemination of technical knowledge. As a result, rice yields rose appreciably in 23 areas from 1946 to 1966.⁴

Measures to help artisans are being carried out chiefly in the towns, although according to the plan⁵ the conversion of workshops into semi-industrial production units should help to check the drift from the land. It is impossible to say to what extent such measures will help to absorb underemployment. However, rural training and the conversion of "school workshops"⁶ may encourage the development of small service businesses in the countryside, and the development companies teach the peasants how to maintain agricultural machinery.

Basic education and rural vocational training

Basic education differs from rural training, which is linked to labour investment and efforts to bring in new techniques, in that it aims at the

¹ Three-year programme 1959-62 for economic and social development (*Journal officiel de la République malgache*, 17 Oct. 1960, pp. 2138 and 2143).

² See R. GENDARME: *L'économie de Madagascar*, Etudes malgaches, Publications de l'Institut des hautes études de Tananarive (Paris, Cujas, 1960), pp. 157-162.

³ G. HANICOTTE: "Les plans de développement agricole de la côte centre-est de Madagascar", in *Revue économique de Madagascar* (Tananarive), No. 2, Jan.-Dec. 1967, pp. 331-369.

⁴ Maximum yields increased from 3.07 to 4.27 tons per hectare. See Repoblika malagasy: *Enquête rizicole 23 zones, opérations 1966-1967*, table 1.

⁵ *Plan quinquennal 1964-1968*, op. cit., p. 96.

⁶ See below, p. 243.

full utilisation of human resources by providing general training. It is the third facet of the activities of the Office for Rural Leadership and Civic Service, which has been made responsible for "the swift eradication of illiteracy . . . by periodic literacy campaigns" and "by constant efforts to promote literacy and basic education in support of those campaigns".¹ As basic education is intended to make the persons concerned aware of their immediate problems, the literacy programme has been co-ordinated with the rural leadership programme. The work of the Office is carried out at the provincial level by teachers, who are assisted by literacy instructors trained in the civic service, and, in the villages, by literacy centres where teams of unpaid voluntary workers are taught by the instructors.²

In the field of rural vocational training proper an advanced agricultural school was set up in 1962 for training engineers.³ Training for middle-grade staff (work supervisors), previously given in three separate institutions for agriculture, livestock raising, and water and forests, has been centralised in the rural school at Ambatobé, which trains multi-skilled staff and even provides courses in social sciences. The National School for Social Development has started to give co-operative training to middle-grade co-operative staff, whose work is to be carried on at the local level by rural leaders. The capacity of these institutions, however, is still quite unequal to the number of applicants.

The plan for 1964-68⁴ therefore stresses that the total number of agricultural staff should double every five years and proposes a series of measures to that end, including the creation of three new rural schools; eight schools, where practical training will be given to basic staff, in addition to the four already existing; a system of accelerated training for supervisory staff; agricultural training centres for peasants in the communes; and education for the female population.⁵ The bottleneck is at the level of teaching staff, and the plan recommends the gradual transfer of technical assistance personnel to teaching jobs. Table V shows the staff increases provided for by the plan.

¹ Decree No. 63-643 of 27 November 1963 (*Journal officiel de la République malgache*, 7 Dec. 1963, p. 2650), section 7.

² In May 1967 there were about 800 literacy centres, 267 of which were run by the Office.

³ Just after the country achieved independence vocational training needs for adequate rural leadership were estimated (by J. GILLAIN: "Problèmes actuels et perspectives de l'agriculture", in *Cahiers de l'Institut de science économique appliquée*, op. cit., No. 121, Jan. 1962 (Series F, No. 17), pp. 29-69) at 2,500 foremen, 2,500 instructors, 500 work supervisors, 100 agricultural engineers and 100 engineers—needs far exceeding available staff. Moreover, agricultural training aimed only at meeting requirements for administrative and supervisory staff: of 800,000 farmers, only 100,000 had received very limited on-the-job training in peasant organisations. See *Rapport sur le développement de Madagascar*, op. cit., p. 24.

⁴ *Plan quinquennal 1964-1968*, op. cit., pp. 48-50.

⁵ The extension of primary education to the rural areas, the need for which is recognised, does not appear to have made any significant headway yet.

TABLE V. NUMBER OF AGRICULTURAL STAFF PROVIDED
FOR BY THE PLAN

Agricultural staff	1963	1968	1973
Engineers	154	235	316
Work supervisors	111	250	476
Middle-grade staff	295	621	1 203
Basic staff	839	1 556	2 973
Instructors	713	2 936	5 207
Female staff	2	58	183

Source: *Plan quinquennal 1964-1968*, op. cit., p. 177.

Effects of industrialisation and the development of the tertiary sector on urban employment

Under the plan for 1964-68 ¹ industry is to pursue two objectives: "to exploit local raw materials"—for instance by processing agricultural produce that is often exported in the raw state and producing consumer goods to replace imported products ²—and "to create the right conditions for absorbing surplus manpower resulting from demographic expansion". This second objective, which is not quantified, is presented as a corollary of the first and nowhere in the plan is it given priority over it. Before examining the number of jobs created as a result of industrialisation, it is appropriate to consider whether industrialisation itself, as planned, is likely to have the maximum effect on employment.

Features of the industrialisation policy

The chief purpose of industrialisation, which is to reduce the deficit in the balance of trade, is obviously unrelated to the employment policy, since the efficient use of raw materials may be obtained by production methods leading to only a limited increase in employment. The plan ³ points out that "mechanisation in the industrial sector ⁴ must be intelligently applied in order to maintain and improve the level of employment without adversely affecting industrial output"; in actual fact, whereas the index of industrial production by value is to rise from 100 in 1960 to 225 in 1968 and to 390 in 1973, the employment index is to rise only to 136 and to 176 respectively. The number of new jobs resulting from the speeding up of work in the infrastructure and transport sector is calculated on the assumption that the present structure of undertakings will be

¹ *Plan quinquennal 1964-1968*, op. cit., p. 85.

² At present Madagascar does not have a key resource that could be used as an axis for development.

³ *Plan quinquennal 1964-1968*, op. cit., p. 87.

⁴ Mines, electricity, fuel, manufacturing industries, crafts, tourism.

maintained.¹ The plan does not opt in favour either of a wider use of "artisan" techniques that could reduce imports of semi-finished goods, equipment and staff, or of a more intensive use of existing production capacity by developing shift work.

The industrialisation policy is based on the Investment Code², under which undertakings of special interest to the economy may benefit from a preferential tax and customs system and receive subsidies. The undertakings concerned include, in particular, those that contribute to economic growth by creating jobs or by producing goods or supplying services that help to develop existing activities or to create new ones. Moreover, firms that undertake to give preference to nationals when recruiting receive government assistance in working out the conditions of employment and recruitment of such workers, the help of technical and vocational training institutions in selection, guidance and training, and authorisations to bring in foreign staff if their requirements are not met, as regards quantity or quality, by national staff. It will be noticed that these provisions are very general.³

On the other hand, although the total amount of investments allocated by the plan for the period 1964-73 (376,000 million francs) is nearly twice that for the period 1950-60 (193,000 million francs), the amount of investments for the industrial sector is only 17 per cent. of the total for 1964-73. Obviously, investments in infrastructure and transport (51 per cent. of total investments for 1964-73), which are essential in a sparsely populated country split up into numerous regions, directly affect urban employment. No clear-cut conclusion can be drawn, however, from an examination of the allocation of investments by sectors, since more than a third of the investments in infrastructure and transport is earmarked for transport, where demand for goods and services is negligible. The demand in the chemical and building materials industries—branches the proportionate development of which ought, in Madagascar, to be the largest—is usually high. It is, however, difficult to say what effects this demand has on employment, first because these branches constitute only a small part of industry as a whole⁴ and secondly because

¹ *Plan quinquennal 1964-1968*, op. cit., p. 104.

² Ordinance No. 62-024 of 19 September 1962 (*Journal officiel de la République malgache*, 28 Sep. 1962, pp. 1960-1963). See also D. ROBSON: "Le code des investissements—son utilisation pratique", in *Cahiers de l'Institut de science appliquée*, op. cit., No. 156, Dec. 1964 (Series F, No. 20), pp. 41-50.

³ They do not specify either the number of new jobs—whether in relation to the capital invested or not—that entitles an undertaking to preferential treatment or the kind of activities to be developed first, for example because of their effects on other sectors. A similar observation may be made about the functions of the Office for Industrial Development and Promotion set up by Decree No. 66-327 of 2 August 1966 (*Journal officiel de la République malagasy*, 27 Aug. 1966, pp. 1893-1896).

⁴ According to the plan (*Plan quinquennal 1964-1968*, op. cit., p. 95), in 1968 they represented only 11 per cent. of the value added—as against the 80 per cent. for the food industry, textiles, leather, wood and paper—among the manufacturing industries.

no data are yet available on inter-industrial exchanges in Madagascar that would give an accurate picture of the demand for goods and services within industry.

Number of jobs created in towns

According to the plan¹, in 1973 wage employment in the private sector should reach 345,000, an increase of 188,000 over 1960. Three-quarters of wage employment is in the secondary and tertiary sectors; so the plan apparently envisages the creation of more than 130,000 new jobs in these sectors. However, the number of jobs to be created as a result of expanded production is 28,400 for the industrial sector and 6,500 (including 3,500 temporary jobs) for infrastructure and transport² for the period 1964-73. The plan does not give exact figures for the rest of the private sector (commerce, services), which seems unlikely to provide some 100,000 jobs, although tertiary activities are to double between 1960 and 1973.³

At all events, if the plan's estimates—according to which 17,000 new wage-earning jobs (including about 13,000 urban jobs in the private and public sectors) are to be created each year—were to materialise, the number of urban jobs would increase at the same rate as the population of towns with more than 2,000 inhabitants (about 6 per cent. annually), and the proportion of wage earners in relation to the total population would rise appreciably. Even at the beginning of the ten-year period the number of new jobs would be commensurate with the absolute annual increase of the urban population (about 55,000 persons, including dependants, in 1964).⁴

However, as regards employment in the manufacturing industries (the only sector on which recent data are available), at the end of 1966 the number of jobs created in several branches fell below the targets, which were surpassed only in the chemical industries (see table VI). This delay in achieving the targets is due to the use of production methods different from those provided for when the plan was drawn up; as regards investments and production, there has been greater success in approaching the targets.⁵

Action taken to promote artisan crafts is being carried out chiefly in the large provincial centres, where the production units are to be

¹ *Plan quinquennal 1964-1968*, op. cit., p. 30.

² *Ibid.*, pp. 87 and 104.

³ *Ibid.*, p. 22.

⁴ There were 730,000 persons living in towns in 1960.

⁵ The fact that only a limited number of urban jobs have been created accounts for the transfer of unemployed town-dwellers to various developed rural areas (see above, pp. 232 and 235). As already mentioned, some human investment experiments in rural areas (compulsory reforestation work, elimination of idleness) also affect the urban population (see above, pp. 229-230).

TABLE VI. JOBS CREATED SINCE 1964 IN THE MANUFACTURING INDUSTRIES

Manufacturing industry	Jobs created by 31 December 1966	Plan targets for 1968 (number of new jobs)
Light metallurgy	370	1 215
Building materials	125	500
Chemical and pharmaceutical products, etc.	750	386
Tobacco	200	244
Food industries	820	2 816
Textiles and leather	1 795	2 313
Wood, paper, printing	640	2 264
Oil refining	160	160

Source: documents of the Ministry of Industry and Mines.

regrouped in artisan centres. According to the plan, the number of artisans (employers, workers and apprentices) should rise from 6,950 in 1964 to 10,000 in 1973, and the value of their production from 2,650 million to 6,300 million Malagasy francs; the establishment of semi-industrial production units bringing together an appropriate number of artisans should meet employment needs. However, the measures provided for in the plan, in which the Economic and Technical Centre for Artisan Crafts plays a key part, are intended rather, as regards both arts and crafts, to raise production through better training and up-to-date tools and to improve marketing.

General features of training policy

The shortage of technicians and skilled workers—and, more generally, the discrepancy between the types of job offered and the training received—and the appearance of a certain number of unemployed graduates, account for the importance attached by the Government to the formulation of an appropriate training policy.

As regards general education, the reform of primary education¹ affects chiefly the rural areas. The introduction of modern teaching methods in secondary schools and the recruitment of nationals to take over a proportion of the teaching posts hardly seem likely to prevent an increase in the number of unemployed graduates. Better results in this

¹ Introduction of a short course of four years for acquiring basic knowledge and a grasp of concrete problems, which will make it possible to reduce the cost of education and to increase the rate of school attendance by 1973 to 78 per cent. for children under 12 years of age and to 62 per cent. for children aged 12 years and over.

respect may be obtained by partly reorganising higher education (training of engineers and technicians, and the establishment of the National School for Supervisors to train middle-grade and top-level staff of undertakings, the National School for Social Development to give further training to administrative staff promoted as a result of national independence, and the National School of Administration, etc.). The introduction of school and vocational guidance at the provincial level and the establishment of a national psychotechnical centre to facilitate selection for training should also contribute.

With a view to adapting technical and vocational training to actual needs, the plan¹ proposes that more general training should be given from the outset, specialisation taking place later according to the requirements of the private sector and the industrial programme, with the co-operation of firms. At the base of the existing structure there are 90 "school workshops", which provide elementary training in metalworking, woodworking and building; 15 apprenticeship centres with technical and commercial sections; and three well-equipped technical schools, which give courses leading to a technical diploma. It appears, however, that training needs have been underestimated and, because of the relatively high cost of technical training², that even the targets set by the plan may not be achieved. The planned conversion of "school workshops" in order to provide training for small service businesses especially affects rural areas. At the level of the apprenticeship centres, some sections of which are crowded and others empty, school guidance would help to meet existing needs, but it is essential that the number of teachers and the percentage of examination successes should increase. Five new technical schools are to be set up in the provinces by 1973. Lastly, facilities for training within the undertaking are still confined to a few large firms and public bodies.

It hardly seems that this situation, which shows that vocational training as now organised is not adapted to requirements³, can be corrected by the end of the first plan. Such training is intended to be expanded considerably after 1969, and the Government is now working out the general lines of the second plan in this respect. Meanwhile the authorities favour a system of accelerated vocational training for adults, which will cost less and produce faster results; in November 1966 the Employment Service started an initial experiment by training 35 young persons in general mechanics, electricity and secretarial work, for whom it will find jobs.

The powers of the Training and Employment Committee have been so defined that it can draw up a manpower training programme to meet

¹ *Plan quinquennal 1964-1968*, op. cit., p. 139.

² The annual cost of each pupil at an industrial technical school is now over 74,000 Malagasy francs.

³ As mentioned earlier (p. 226), this has resulted in a shortage of about 100 workers in certain skills and about 1,000 mechanics.

estimated requirements and, for that purpose, carry out at least once every five years, in the public, semi-public and private sectors, an exhaustive inquiry on the employment situation and staff structure; make policy proposals concerning fellowships and training leave; keep under review, by means of annual sample surveys, the development of employment by occupational and geographical sectors so that adjustments to the training programme can easily be made; and study measures to promote the training of instructors.

Over the past few years, several studies on qualified staff have been carried out¹, which provide a basis for the work of the Committee on this task, made all the more urgent by the fact that training takes time. By analysing the census now being taken of employees in the public and semi-public services, it will be possible to draw up a medium-term civil service employment programme; the economic census undertaken by the National Institute of Statistics and Economic Research in 1967 in the modern sector is to include a detailed questionnaire on the employment of all technical and office staff. The studies carried out stress that since the shortage of technical and middle-grade staff is likely to constitute a serious check on development, a number of problems must be solved concerning teaching itself (recruitment of teaching staff, teaching methods and handbooks, raising the status of education) and its organisation (introduction of vocational training, co-ordination between the training institutions for the public, private and co-operative sectors, adaptation of the certificates awarded and the duration of the studies to the country's requirements and available facilities), particularly with a view to reducing costs.

General appraisal

It is difficult and perhaps premature to assess the results of the measures taken, since their impact, particularly in rural areas, will be felt only after some time. Furthermore, Madagascar is only now carrying out its first real development plan, so that only some of the results are known.² Nevertheless, it is worth while trying to assess the economic effects of the measures taken since independence.

¹ R. GRANGER: "Etude sur les cadres moyens à Madagascar: besoins et facilités de formation", prepared for U.N.E.S.C.O. in 1962 (document UNESCO/SS/Afrique/Cadres moyens/6); an inquiry carried out in 1962-63 by U.N.E.S.C.O. under the aegis of the Training and Employment Committee and relating mainly to supervisory staff (PAUVERT inquiry); "Rapport sur les moyens et les objectifs de la formation dans le secteur privé à Madagascar" (MASSA-BOUGNOL-LAVAGNE report), 1964-65; C. MAZURE: "Planification perspective de la formation du personnel technique des niveaux moyen et supérieur", in 1967.

² The four-year (1958-62) and the three-year (1959-62) programmes, which were based on wholly inadequate statistics, cannot be called planning in the strict sense; rather, they were a series of measures taken in privileged areas; the amount of the investments was very modest (less than 23,000 million C.F.A. francs for the three-year programme).

Rural employment

Labour investment has the advantage of not creating financial difficulties. The supervision of grass-roots projects is entrusted to traditional public bodies and technical services to a large extent, and it is impossible to estimate the time they devote to it; it is only in the future that technical supervisors will be recruited from among the working population and that it will be possible to attempt a calculation of the cost. In the budget for 1967 only 192 million Malagasy francs was allocated for these projects, plus 15 million for the necessary studies and supervision. But the total value of the human investment provided for by the 1964-68 plan (14,000 million francs) indicates a small total of working days, and the results of the campaign against idleness are still problematic.

The civic service, on the other hand, is a costly institution: the maintenance of 1,500 pioneers in 1966 already entailed an operational budget of 232 million Malagasy francs. The average cost of each recruit will doubtless decrease with the expansion of the service, and admittedly the amount of investments earmarked by the plan for the leadership scheme and the civic service together is comparatively small (100 million¹ out of 165,000 million Malagasy francs); but, in relation to the gross product per head (22,600 Malagasy francs in 1966), the cost of each recruit is a heavy burden for the country. The civic service is a long-term training investment rather than a measure to increase employment. The same holds true for the rural leadership scheme, of which the operational budget is nevertheless smaller, while its effects in combating under-employment will apparently be greater, though they cannot yet be evaluated.

The development of the large farming areas by the development companies is a more extensive operation, representing in the original estimates of the plan a total investment of nearly 16,000 million francs over ten years. Its effects on employment are obvious. At the end of the experiment, the gross annual money income of the farmers should be between 50 per cent. (in the case of SAMONGOKY and SOMALAC) and 350 per cent. higher (Fiherenana area) than it was at the outset. In the Middle-West operation the income of the migrants, who probably had very little work in their home area, and of the peasants already in the area, should be six times higher than that of an agricultural worker. At all events, there will be a sharp decrease in underemployment; progress, however, can only be kept up if marketing is satisfactorily organised, particularly by co-operative methods, and if food industries are set up.

Lastly, the establishment of state farms is a useful measure both because such farms provide seasonal workers with employment and because they help to increase the income of the neighbouring farmers.

¹ To these estimated expenses should be added outside assistance from France and the United States.

However, generally speaking, the numerous steps taken by the Government to organise rural areas cannot produce rapid results because of the time needed to train agricultural supervisors.¹ No figures are available at present on the actual increase in the gross domestic product of the agricultural sector (crop growing, livestock raising, forests), which would make it possible to examine the results as a whole at the macro-economic level. The plan ² provides for an increase in agricultural production of 57 per cent. between 1960 and 1973, i.e. an annual exponential growth rate of about 3.53 per cent. However, before 1960, that is before any of the measures described in this study had been adopted, the increase was between 2 and 3 per cent. annually. So the expected increase is slight, though the rate of 3.53 per cent. compares favourably with the growth rate of the rural population, which, making allowance for the drift from the land, is about 2 per cent. The margin between these two rates provides a rough estimate of the expected decrease in rural under-employment between 1960 and 1973.

This result, which may seem slight, is being obtained at the cost of a definite effort to benefit the rural sector. The proportion of investments in this sector was 23 per cent. between 1964 and 1968; it is still to reach 21.3 per cent. between 1969 and 1973. These figures put Madagascar fairly high up the scale of developing countries in this regard. Moreover, over half the investments earmarked for infrastructure and transport (51 per cent. of total investments between 1964 and 1968 and 52.5 per cent. between 1969 and 1973) is intended for basic facilities essential to an increase in rural production.

Urban employment

Increased urban employment depends primarily on whether the production targets are achieved. For industry the objectives are ambitious: the gross domestic product is to rise by 198 per cent. between 1960 and 1973. Industrialisation is probably proceeding at a satisfactory rate, partly because of the adoption of the Investment Code; but the number of jobs created by 31 December 1966 in the manufacturing industries was only 4,860, whereas the target for 1968 is 9,898. Making allowance for the methods used, heavy investments will therefore have to be made in industry if the proposed rise in employment, which would make it possible to cope with the growth of the urban population ³, is to be achieved. In the short term, at any rate, industry apparently will not be able to provide a large number of jobs.

¹ Up to now the number of agricultural supervisors trained has not reached 60 per cent. of the target in the plan (Commissariat général au Plan: *Deuxième rapport sur l'exécution du plan quinquennal 1964-1968*, p. 59).

² *Plan quinquennal 1964-1968*, op. cit., p. 22.

³ See above, p. 239.

The outlook is much vaguer as regards commerce and services, where the plan apparently envisages the creation of 100,000 jobs, though without indicating how they are to be distributed. Assuming that labour productivity will remain constant, the objective of doubling the gross domestic product in these sectors between 1960 and 1973 corresponds roughly to the creation of about 100,000 new jobs, since in 1960 they accounted for about 94,000 wage earners. But it is not at all certain that productivity will in fact remain constant¹, since the plan provides for the establishment of a large co-operative sector, which will market nearly half of the agricultural produce, and proposes "a more efficient use of the present infrastructure".² Furthermore, a doubling of production in these sectors is merely deduced³ from their direct link with agriculture and industry; there is an obvious risk that this assumption will prove false, in which case urban unemployment will increase.

In view of that risk, it should be observed that the National Institute of Statistics and Economic Research found in an inquiry covering 92 industrial undertakings that production capacity in 1965 was insufficiently used and that nearly all the undertakings would be able to meet a 50 to 200 per cent. increase in demand.⁴ For that, of course, domestic purchasing power would have to increase and export outlets expand, which means that the products would have to be competitive in price and quality. Industry would also have to have access to enough skilled labour to introduce multi-shift work. However, since it is difficult to increase investments, the possibility of expanding employment by a more efficient use of industrial production capacity should be examined.⁵

It might seem surprising that only 17 per cent. of the total investments provided for in the plan for 1964-68 is earmarked for industry—a small percentage in comparison with the plans of many developing countries and, above all, three times less than the proportion earmarked for infrastructure and transport, sectors which, as the plan⁶ acknowledges, will create only a small number of jobs. However, the country's infrastructure requirements are particularly high—as are its needs in the agricultural sector—and it does not seem desirable to alter, in favour of industry, the sectoral distribution of investments, which is, according to the estimates, to be much the same for the period 1969-73 (17.5 per cent. for industry).

¹ It is, moreover, impossible at this point to calculate output figures, particularly for commerce and the services, and therefore impossible to keep a close tag on the development of employment in relation to that of production.

² *Plan quinquennal 1964-1968*, op. cit., p. 25.

³ *Ibid.*, p. 22.

⁴ I.N.S.R.E.: *Note sur la conjoncture 1966* (1966), p. 3.

⁵ In some cases the purchase of cheaper machines might also be considered.

⁶ *Plan quinquennal 1964-1968*, op. cit., p. 104.

On the other hand, there does not seem to be much possibility of increasing the total amount of investments. First, the ratio of investments to the gross product per head, which is 0.26 in the plan for 1964-68, is already quite high. Secondly, it will be difficult to increase public and semi-public investments¹ because of the larger number of services provided by the Government and its growing administrative expenses (especially in the field of education) and because government revenue² will be kept down as a result of structural changes in imports and tax advantages granted to new industries. Apart from the flow of foreign capital, which is hard to forecast, only private investment may increase as a result of political stability and the gradual monetisation of the economy.

Accordingly, it hardly seems that the increase in the urban employment provided for by the plan can be exceeded. The qualitative improvement of the labour force, for its part, would involve, besides the measures taken by the Government, giving skilled manual work a higher status than it now has, a gradual rise in the wages of workers with vocational training culminating in the award of a diploma³, and a restructuring of wage scales to upgrade the occupations that are most necessary for development.

Impact of the economic situation

The stumbling blocks to the employment policy in Madagascar are structural obstacles that cannot be rapidly overcome: inadequacy of the leadership that is essential to the varied experiments undertaken in rural areas; lack of capital and uncertain foreign markets, which, together with the shortage of skilled manpower, check the development of the secondary sector and, consequently, the tertiary. The success of the measures taken by the Government under a planning policy that is only in its earliest stage depends on the economic situation, and it is appropriate, therefore, to see briefly whether that situation has been propitious so far and what the future outlook is.

Bearing in mind that the first measures described in this study were adopted in 1960, one notes that from 1953 to 1960 the gross domestic product at market prices rose from 88,000 million to 124,000 million Malagasy francs, representing an increase of 52 per cent. and an annual growth rate of 5.98 per cent.; from 1960 to 1966 it rose from 134,000 million to 170,000 million francs⁴, that is the growth rate was only

¹ These amount to 55 per cent. of the investments in the plan for 1964-68.

² From 1964 on, government revenue amounted to 20 per cent. of the gross domestic product.

³ The low-wage policy applied in some undertakings to workers trained on the job has a detrimental effect on productivity and at the same time does not prevent labour costs from remaining at a high level.

⁴ I.N.S.R.E.: *Situation économique au 1^{er} janvier 1967*, p. 87.

3.95 per cent. This slackening growth of the domestic product is reflected in the balance of trade, 80.6 per cent. of imports being covered by exports in 1950 and only 69 per cent. in 1966. In estimating that the percentage will be 82.5 in 1968 and 90.5 in 1973, the plan seems to be optimistic. After having improved markedly from 1950 to 1960, the terms of trade have since become worse.¹ The structure of imports, in which consumer goods clearly dominate to the detriment of capital goods, is a matter of more serious concern. This predominance is partly due to the consumer habits of European skilled personnel, who, moreover, send home a considerable portion of their wages, correspondingly diminishing local savings and reinvestment possibilities.² Although Madagascar's association with the European Economic Community provides it with more outlets for exports, it has gradually deprived the country of the preferential treatment it enjoyed on the French market, and new efforts will have to be made to increase output and to diversify production in order to cancel out the drop in revenue brought about by aligning national prices to world prices.

The present situation, therefore, particularly as regards foreign trade, is not propitious to a rapid take-off of the economy. Furthermore, rural production was adversely affected from 1960 to 1965 by extremely poor weather, which caused a fall in the purchasing power of the peasants and a momentary stagnation of trade. Lastly, it is hard to assess the impact of many scattered investments in rural areas, and it is only with considerable difficulty that infrastructure investments will achieve the plan's targets. For these various reasons, a fast rise either in traditional employment or in wage employment in the near future cannot be predicted.

Nevertheless, in a country that will easily be able to feed four times more inhabitants once the possibilities for the development of agriculture and livestock raising, which are greater than those of many African countries, are fully exploited, employment problems in the long run will probably not prove to be critical.

APPENDIX

Compilation and use of data on employment in Madagascar

The data available on employment in Madagascar are not wholly reliable. Those on the total population and the active population are based on administrative censuses, the value of which is doubtful and which give rise to overestimates; on censuses of towns, which are

¹ Based on 100 in 1950, the index reached 141 in 1960 but only 105 in 1966. Owing to the drop, the increased volume of exports (+ 4.5 per cent. since 1962) was not enough by the end of 1966 to maintain the Malagasy purchasing power at the level it had reached in 1962 (see I.N.S.R.E.: *Situation économique au 1^{er} janvier 1967*).

² See R. RAJAONARIVONY: "Les échanges extérieurs de Madagascar et son développement", in *Cahiers de l'Institut de science économique appliquée*, No. 156, Dec. 1964 (Series F, No. 20), op. cit., pp. 109-121.

more reliable but which, since they were spread over the years 1959 to 1964, lack uniformity; and on a sample survey of age pyramids, which was carried out in 1962-63 in rural communes and the value of which is uncertain. The projections made by the National Institute of Statistics and Economic Research are based on an age pyramid drawn up from the books kept by hamlets (*boky*) on the inhabitants and their possessions. More accurate data will be made available by the sample population census limited to 30,000 persons that was taken in 1966.

Data on manpower in the private sector are based on the index of "establishments exercising an economic activity" and on the files kept by the National Family Allowances and Industrial Accidents Fund (C.N.A.F.A.T.). On these bases, each year the Directorate of Labour and Social Legislation in the Ministry of Social Affairs takes a census of wage employment by means of a questionnaire. The available data are supplemented by the statistics of the National Institute of Statistics and Economic Research and of the Ministry of Industry and Mines, and by the reports of survey missions, particularly those on training requirements. Generally speaking, the use of data for manpower planning is limited, owing especially to their lack of co-ordination and the lack of precision in the classification by occupational category; moreover, not all undertakings belong to C.N.A.F.A.T. Besides the above measures, the Employment Service is responsible for centralising data on the employment situation and manpower movements and for carrying out studies on any employment problems that may arise.¹ It keeps statistics on labour supply and demand, but its provincial offices are still scantily staffed.²

As for the public sector, a census of state employees has been taken since the country's independence and the results of a recent census of public and semi-public services will be available shortly.

Taken as a whole, the available data give a comparatively satisfactory over-all picture, and thanks to the work now under way improved manpower planning should soon be possible. The definition of the functions of the Training and Employment Committee is a big step forward in this respect. At all events, such data as were available were used for drawing up the plan for 1964-68. With a view to formulating the "national plans by sectors of activity", each of the 37 sectors had to examine, in particular, its manpower requirements and to state the qualifications required for middle- and lower-grade staff and, where appropriate, the possibilities for human investment. When the national plans were co-ordinated and adjusted, the quantitative and qualitative manpower requirements were recapitulated, taking the probable trends of internal migration into account, and the targets for the various sectors revised, for example if the need for supervisors exceeded available training facilities.³

¹ Decree No. 64-495 of 18 November 1964 to set up the Employment Service (*Journal officiel de la République malgache*, 28 Nov. 1964, p. 2612).

² Besides, the formalities required are optional for domestic servants and are compulsory for the recruitment of unskilled workers only if ten or more workers are engaged (section 10 of the Decree).

³ See *Rapport sur le développement de Madagascar*, op. cit., pp. 50-55.