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The Third Conference of Directors of Agriculture, Livestock Production and Fisheries, held in Lae (Papua New Guinea) from 31 January to 6 February 1974, had in its Agenda included consideration of a subject that is extremely interesting, so much so that it occupied the attention of participants for two working days: rural development.

In a clear, precise and very well informed speech, Professor David W. Brown, Professor of Agricultural Economics at the University of Tennessee, dealt first of all with rural development, from a decision-making perspective. This speech, which gave rise to numerous comments from participants, showed how complex are the problems, the objectives to be attained and the limiting factors in matters of development. But Professor Brown took particular care to provide solutions to these problems, or at least to indicate the manner in which they were to be "tackled".

Professor E.K. Fisk, of the Australian National University, whom the South Pacific Commission also called in as a consultant, showed that there were inherent difficulties in development involving changes that were too rapid, particularly in the island territories of the Pacific.

Now it happened that only a few days before my departure from Noumea, M. René Poudevigne, Head of the Department of Agriculture in the New Hebrides, sent me a document, which in any case it was not possible to translate into English and issue as a working paper during the Conference. It was however presented by the author and discussed at great length.

It is this paper that we are happy to distribute as an Information Circular, bearing in mind the fact that it is general in scope. Actually, the method described has been used in South America, among teams that were multi-disciplinary, and even multi-national (Franco-Brazilian and Franco-Venezuelan). These teams, attached to the Planning Divisions of the countries concerned, were entrusted with the work on regional development planning. Necessary adjustments will have therefore to be made if this method is to be adapted wholly or in part to Pacific island territories.

Preparing a plan or even a simple programme of regional development actually involves inter-action between several disciplines. Specialists, such as geologists, agriculturalists, forestry officers, town-planners, demographers, economists, doctors, and sociologists, are required to take part both in preliminary studies and in the development of the plan itself. But the danger must be avoided of having these studies end up in a series of papers that are too specialized. What is required is a synthesis of the plan, to be then submitted to the people who make the decisions, often politicians, who would then have to indicate their options.

The matter of directing a multi-disciplinary regional study, and co-ordinating the elements of information contributed by each of the disciplines, is indeed a basic problem in regional planning. The importance of each item of information will vary according to the territory or region concerned.

Reminding ourselves that studies on regional development, carried out on the pattern described below, have already been undertaken in mainland countries over vast land areas, we should make the requisite modifications in respect of rural planning in Pacific islands.

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SOCIO-ECONOMIC DIAGNOSIS AND REGIONAL PLANNING  
BY DEFINING AND STUDYING HOMOGENEOUS ZONES

by

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Regional planning, in matters of socio-economic development or space utilization, should be based on a preliminary diagnosis, as complete and as clear as possible, so that all the requisite information may be collected and submitted to the "decision-makers" in such a manner as to justify the alternative(s) proposed and facilitate the choice of one from among them.

As map presentation is obviously the clearest, it may be said that:

- the preliminary analytical studies carried out should result in the preparation of a diagnosis map;
- the study of this diagnosis map, on which may be seen all the problems of the region, should lead to the preparation of an action map, the basis in a way of area planning or development strategy;
- the programming, co-ordinated and timed, of action to be taken in order to work out strategy, constitutes the plan proper. It may be developed according to the modern method involving rationalisation of budgetary choices.

The moment a region considered is of a certain size, with a certain diversity in its physical features, its infrastructure and the human activities carried out in it, it becomes difficult to make a generalized study of it.

Of course, the regions involved in a planning project generally have some basic features determining their nature, and the overall position, such as:-

- over-or under-population
- industrial facilities
- standard of living or gross output
- specific historical or sociological traditions, etc..

It is however necessary, if the approach is to be improved, to break down the problem into simpler and smaller elements and, for this purpose, to split up the region into homogeneous zones, i.e. elemental zones, in which the factors and problems as a whole are similar enough to justify a uniform approach and set of measures. That is to say, the diagnosis map will indicate in respect

of each homogeneous zone its characteristic problems. Similarly, the action map will indicate a programme or a coherent set of measures likely to promote its development.

The first part of the study or diagnosis will therefore consist in defining the homogeneous zones and indicating the principal problems in each case.

Such an operation, which is relatively simple when one takes into account only a factor described by one or two "indicators", a variation which makes zoning possible, becomes more complicated when one takes into consideration the problems as a whole determining the socio-economic situation of the region. This is especially the case when several experts, comprising a multi-disciplinary team, take up this task.

In this case, it is necessary to undertake successive syntheses leading finally to the diagnosis, which is the ultimate one.

It is the procedure involved in this method which is described in the attached diagram, involving precisely the employment of various specialists, whose work is successively compared and co-ordinated.

### FIRST PHASE : DIAGNOSIS

#### PART I : STUDIES AND ANALYSES : PRIMARY ZONING

##### 1st area of study : natural factors

- Climate
- Terrain
- Soils
- Hydraulic resources
- Underground resources (mines and quarries)
- Spontaneous flora and fauna
- Natural tourist centres and resources.

Each of these factors are conducive to a determination into clear-cut zones, the comparison of which during an initial meeting point provides the first basis for zoning : natural zones.

The same zonal pattern, expressed in terms of evaluation rather than description, leads to an indication of potential zones.

## 2nd area of study : present utilization of space

The various activities utilizing the natural resources as described are then studied simultaneously. These are primary sector activities : agriculture, fisheries, forestry, the exploitation of mines and quarries.

Each of these activities is described by means of one or several "indicators" which facilitate demarcation into specific zones, such as intensity of agricultural development (ratio between area used for agriculture and total agricultural area), system of land use, average size or structure of holdings, farming methods, existing equipment for irrigation and drainage, etc.

This will lead to the development of a new zoning sequence:-

- agriculturally homogeneous zones
- zones that are homogeneous from the forestry point of view
- mining areas
- fishing zones (coastal or deep-sea).

By comparing these maps, one can define space utilization zones.

## 3rd area of study : infrastructure and equipment

Equipment available and communication facilities are considered simultaneously in a study of the infrastructure. This makes it possible to describe the manner in which the region studied is connected with outlying regions and how the different zones within it are connected among themselves and serviced internally. The existence of the following facilities will be indicated on the map, with a description in each case: roads, railways, inland waterways, shipping, airlines, telephone, telegraph, radio, electric power plants and distribution networks, and gas - and oil - supply networks. This would make it possible to highlight infrastructure zones, differentiated either through the fact that the facilities available are considerable to a greater or lesser extent, or that there is a lack of certain facilities.

## 4th area of study : human factors - status and requirements

The study of the region's human factors will be simultaneously carried out in the following directions, the object being to:-

- describe the population and its development (demographic studies) using the criteria normal to this science: density, death rate, birth rate, population pyramid, distribution of economically active population, family structures, etc.
- to describe its manner of settlement and space occupation (housing, general town-planning studies).
- to evaluate its needs and the extent to which they are satisfied: food, health (endemics); educational and cultural needs (schooling/technical training); and social needs (existence of social tensions - agricultural problems, unemployment, delinquency, etc.).

The study of human factors will also result in zoning:-

- firstly, the descriptive procedure, goes from demographic and housing zones to zones of human occupation of space and, should this be possible on the basis of the information available, to demographic development zones (areas in which the population is growing or diminishing, overpopulated areas, etc.) a knowledge of which is often more significant than "snapshot" slides.

- Secondly, zoning according to the needs of the population: need zones.

#### 5th area of study : economic survey of the present position

This comprises two parts:-

##### (a) Description of secondary and tertiary sectors

- Employment - industrial structure - types of industries existing in the region - zones with established industries.

- Structure of tertiary sector - services existing in the region, organization at different levels, zones which are centres of population.

##### (b) Economic evaluation of the different activities

- Types of enterprises: agricultural - industrial - tertiary.
- Economic efficiency.

- Economic indicators and index numbers to be used in evaluating the zoning carried out earlier.

## PART II : SUCCESSIVE SYNTHETISATION

### 1st meeting point : space utilization zones

A comparison of papers concerning the first-line synthesis (natural zones - development zones - infrastructure zones - human occupation zones and demographic development zones) leads to a second-line synthesis which results in tracings of currently occupied zones.

### 2nd meeting point : present economic zones or homogeneous zones

These currently occupied zones, determined mainly on the basis of physical or technical considerations, are considered in conjunction with the results of economic studies. Thus, they are compared with the industrialized zones and the zones with tourist facilities, and the whole will be evaluated or clarified through economic values (index numbers) intended to assess the viability and competitiveness of human activities, as well as the implications of the same for the population (gross income or value added per Labour Unit, etc.).

This will produce the present economic zones which, precisely, are the homogeneous zones to be determined, a description of which constitutes the diagnosis.

### 3rd meeting point : the diagnosis

It is now possible to consider each of the homogeneous zones in turn and prepare relevant evaluations concerning development factors, according to whether the aspect is positive or negative. Depending on the sophistication of the information and the analysis concerned, one may be satisfied with a qualitative analysis, classifying the factors under two categories (+ and -), or give them an index number (from 1 to 5 for instance, or from - 2 to + 2) according to whether their position in the zone is favourable to a greater or lesser extent.

Minimum consideration will be given to:-

Physical factors	:	physical features and relief climate ground and underground resources.
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- Human factors : density - health structure/status of the population  
population dynamics (including immigration/emigration)  
level of education and professional training
- Technological factors : technical level of economic sector activities  
existence of adequate infrastructure
- Financial factors : availability or otherwise of local resources access  
to external sources
- Social factors : social tensions, land tenure, etc.

Such an evaluation brings out the problems of the zone, generally with a very clearly predominating problem.

## 2ND PHASE : ALTERNATIVES

### PART I : DEFINING ALTERNATIVES

Although it may be said, generally speaking, that the dynamics of development will consist, for each homogeneous zone determined, in :

- rectifying as best possible the unfavourable factors; and
- taking maximum advantage of favourable factors;

in such a way as to best meet the recognized requirements of its population. Naturally, there might conceivably be numerous variants and degrees involved.

It must in fact be taken into account that:-

- the zone under consideration is not an isolated one in relation to the region as a whole;
- the region itself is part of the national complex;
- means are always limited, and one will necessarily be constrained, from considerations that are not always technical, to distribute them as best possible between:-
- trying to meet immediate requirements; and
- preparing for the future;



Or between:-

- social investments; and
- productive investments, etc.

The "technician" planner is thus obliged to submit to the "decision maker" (generally a politician) not a solution arrived at solely on the basis of the analysis, but different variants or alternatives between which the latter will be expected to choose. The alternatives represent, in a way, the strategy of development.

Once the option(s) is(are) specified, the study and implementation of the relevant methods of operation are again to be determined by the technician, and constitute the tactics of development.

#### (1) Study of Techno-Economic Development Possibilities

This is the phase of work in which technicians and economists must be as imaginative as possible, mindful of what the inhabitants of the region say, the various ventures undertaken, the official bodies, etc.

In the approach outlined above (rectifying unfavourable factors, taking advantage of favourable factors, meeting the recognized requirements of populations) it is appropriate:-

- to compare the potential of the different zones;
- to assess the external pressures affecting the region, whether they are a result of international or inter-regional competition over marketing, attraction exercised by neighbouring regions in the process of rapid development, or national planning provisions which include regional programmes or require that the region's development follow certain general trends; and
- to assess the technical means and financial resources that may be activated.

#### (2) Last Meeting Point : Zoning for Action

The comparison of the diagnosis map and the needs map (demarcated during the study of human factors) on one hand and the studies of techno-economic possibilities - described in the preceding paragraphs - on the other hand, makes it possible, first for the region as a whole and then for each zone, for the development alternatives to be proposed, care of course being taken to ensure that these are presented in a coherent manner.

The indication on the "homogeneous zones map" of the trends and actions proposed, constitutes zoning for action.

Many parallel action maps may be prepared, corresponding to different hypotheses and different consistent sets of propositions (or alternatives).

## PART II : FROM ALTERNATIVES TO PLANNING

Going from alternatives to planning, i.e. from strategic objectives to the tactical measures through which they may be achieved, constitutes the programming activities proper, which have already been dealt with in a certain number of papers.

The use of a graph, which shows qualitatively and semi-quantitatively the transition from alternatives to the basic action taken, is one possible method.

### Intermediate Programmes

Generally, discussing and choosing alternatives, considering operation methods, and the approval and provision of means contemplated in planning, takes a fairly long time.

It would be a pity, from many points of view, to have the knowledge one has acquired of the region grow out of date while the diagnosis is being worked out, and to stifle any interest created in the region as a result of the surveys and the contacts between those conducting them and the local people.

This is why, at the same time as the alternatives are submitted, a work programme for the intermediate phase is generally put forward. This programme comprises:-

- supplementary or more detailed studies for which the need might be felt, while the diagnosis is being determined;
  - action that is undeniably beneficial, such as is implicit, for instance, in all the alternatives and hypotheses.
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