# THE ROLE OF A SPATIAL PLAN IN INTEGRATED DEVELOPMENT PLANNING By Peter Robinson (Department of Town and Regional Planning, University of Natal)

#### 1. INTRODUCTION

Attempts to plan the development of small countries or re= gions, whose inhabitants are mostly poor and living in rural areas, requires emphasis on both spatial and sectoral aspects of development as well as on the processes of development. National and regional plans of the past three decades have often failed to include any spatial dimension, and where this has been included; it has seldom been integrated with sectoral and budget planning, thus rendering the document impotent. This paper contains some thoughts about the role of a spatial development plan and its relation to sectoral plans and regional development processes. It sets out an approach by means of which planners might tackle spatial planning in Southern Africa's rural areas, which include but are not confined to the Black Homelands.

At the outset an attempt will be made to explain what is meant by the term *spatial planning* and to indicate what such a plan can achieve. The following sections examine the components of a spatial development plan and draw some conclusions about the relevance of the proposed approach in Southern Africa.

#### 2. SPATIAL PLANNING

According to Botswana's Planning Consultant to the Village Development Programme, spatial planning provides a physical, geographic dimension to development planning. It takes cognizance of the fact that human activities are carried out at particular locations, and that development strage= gies must be appropriate to the distribution of population and resources, and the type and level of economic activity within a particular area.<sup>1)</sup>

Spatial planning is, therefore, concerned with :

- The type and range of services and opportunities avai= lable to residents of various settlements;
- equitable access of the population to basic community services such as clean water for domestic use, health, education and public transport;
- equitable access to basic consumption needs like food, clothing and shelter;
- physical access of the population to productive resour= ces:
- the design of communications networks appropriate to the needs and potentials of individual settlements and regions<sup>(2)</sup>,
- the ways in which resources are allocated among sectors in combination to generate development;
- and finally, by considering the needs of districts as a whole, together with the physical relationships between settlements, spatial planning seeks to avoid over-invest=

ment through the duplication of services.<sup>3)</sup>

# 3. SPATIAL vs. SECTORAL?

The relationship of spatial to sectoral planning is described by John Friedmann as follows:

"Spatial planning provides criteria of location for sectoral planners who, in turn, proceed to co-ordinate their projects in accord with the principles and poli= cies set forth in the spatial development plan."<sup>4</sup>)

Implied here is that while spatial and sectoral planners need to co-operate closely, the spatial plan should precede the sectoral plan. In Botswana, the Spatial Development Plan for the Ghanzi District, which represents a pioneering attempt to introduce an explicit spatial perspective to the district's development planning, was prepared after the Dis= trict Development Plan  $(1977-82)^{5}$ ; a sequence which appears to be circumstantial rather than intended.

It is arguable that a preferable arrangement would foster an iterative relationship, in which both the spatial and economic planners were members of a joint planning team along with the planners of health, education and social services; of agriculture; physical infrastructure; and representatives of departments responsible for labour and finance.<sup>6)</sup> Under these circumstances, spatial and sectoral planners could continually inform and contribute to each other's planning. This is illustrated in Figure 1. In Transkei for example, where a similar arrangement is in operation, spatial aspects of alternative, broad economic strategies were examined at a formative stage in the preparation of the Development Strate= $gy^{7}$ ; and, subsequent to its completion, a physical development strategy was outlined, consistent with the economic strategy<sup>8</sup>.

#### 4. ROLE OF A SPATIAL PLAN

Spatial planning's potential contribution to the process of development planning has yet to emerge. In any particular situation, its importance relative to other planning perspectives will depend upon the type of problems facing an area, and the priorities that are set by district decision-makers and planners.<sup>9)</sup> Nonetheless, it is valuable to ask : What will the spatial plan do?

To quote the Ghanzi spatial plan, its main purpose -

"is to chart an investment strategy that will build upon the opportunities offered by the more positive aspects of the district's spatial orga= nisation, while seeking to lessen the constraints to social and economic development resulting from its more negative aspects".<sup>10</sup>

In particular, the spatial plan will provide a settlement strategy for the region or district; it will identify

some of the critical problems and issues, particularly those of a spatial character, and it will bring these issues to the attention of district authorities; it will propose plans of action to tackle these issues;<sup>11</sup>) it will specify<sup>'</sup> how different departments should allocate their funds spa= tially; and finally, it will seek to integrate planning at the national (or macro) level with planning initiated at the local (or micro) level.

At the end of the day, however, the role of spatial plan= ning will be defined by its practical contribution to spe= cific development issues.  $^{12}$ 

## COMPONENTS OF A SPATIAL DEVELOPMENT PLAN

In order to fulfil the purposes set out above, a spatial development plan should contain a statement of goals and objectives; a position statement; analysis and interpretation; identification and evaluation of alternative strategies; choice of a strategy; and a framework for implementation.

#### 5.1 STATEMENT OF GOALS AND OBJECTIVES.

In the case of a small independent country, or an autonomous region, these will be the so-called national goals and ob= jectives. As such they must necessarily have been chosen by the government or authority concerned and must enjoy the political support of both the authority and the represented The choice of goals is essentially a politi= communities. cal one and the planner's role in goal setting is limited to that of assisting in the formulation with a view to avoiding inherent conflicts between goals, and to ensuring that goals are stated with sufficient clarity to give the ensuing plan a clear direction. In the case of a spatial plan for a sub-region or district, goals and objectives will be derived from national or regional level plans. The ra= tionale being that the spatial development plan seeks to implement national/regional goals in a specified geogra= phical area.

The statement of goals and objectives thus becomes the starting point for planning as well as the mechanism giving the plan an overall direction. In this sense a distinction may be drawn between goals and objectives *for* the plan, and goals, objectives and targets *of* the plan. The latter ema= nate from the planning process itself, are specific to the area being planned, and later become the backbone of the plan's proposals.<sup>13</sup>

# 5.2 POSITION STATEMENT.

The purpose of a position statement is to describe the existing situation in such a way as to provide the statistical framework about which the spatial development plan as well as the interrelated sectoral plans will be drawn up. It involves describing the salient features of the physical terrain and space economy so as to relate the area to its wider context (here, the Southern African space economy) emphasizing the inter- and intra-regional structure. The position statement will include an assessment of the area's human and natural resources; projection of the main socio-economic variables; identification and inter= pretation of trends and their causes; and it will form the basis of an assessment of the existing situation in terms of critical issues, constraints and opportunities.<sup>14</sup>  (a) More specifically, a position will deal with all topics about which either spatial or sectoral plans are concerned. These may be termed *decision areas* and include :

- population
- employment creation
- agriculture and forestry
- industry and commerce
- transport and communications
- physical infrastructure
- water resources
- mineral resources

- housing
- education
- health
- rural development
- urban development
- tourism and conservation
- roles of: central govern= ment and decentralized authorities;
   public and private sectors;
   women and youth<sup>15</sup>

Clearly a wide coverage of this nature will generate far more data than it is appropriate to include in either the position statement or in the plan. The appropriate level of detail will be limited to such data as are required to enable an informed decision-maker to read and understand the plan. Other relevant data and source material should be included in a separate technical appendix.

(b) For each decision area objectives need to be establish= ed.<sup>16)</sup> These can be derived from two sources : firstly from national goals and objectives contained in existing planning documents, and secondly, from the objectives of relevant go= vernment departments such as education, health, works, and so on. The advantage of the latter source of objectives lies in its ability to relate objectives to on-going projects and departmental budgets, thereby reducing the possibility of conflicts between the current activities and directions of a department, and those put forward in a plan. On the other hand, in situations where departments do not have clearly identifiable objectives, or where objectives have been inherited from a previous administration holding sub= stantially different goals and approaches to development, this method is likely to be counter-productive.

Whichever way objectives are set up they need to be stated explicitly and translated to become time and place specific. In this way the extent of the development plan's success in any area can later be monitored by measuring the extent of achievement towards the targets set out for each objective.

During this stage of the planning process, planners need to work in close co-operation with political decision-makers at the appropriate level, with other representatives of the community(ies) concerned and with officials in those government departments whose activities are reflected in the posi= tion statement. As suggested above, the setting of goals and objectives is a task to be carried out in consultation with the community, its representatives and their officials. The guiding principle is that of planning development with a community, rather than planning for it.<sup>17)</sup> It is vital to recognize that successful planning in rural areas depends upon local involvement and planning must, therefore, become integrated with local political processes. These processes are interpreted here in the sense of local participation and leadership rather than party politics.

(c) The next step in drawing up a position statement is to choose statistical indicators to give some quantitative mea= sure of the existing situation in respect of each objective. There are likely to be several indicators for each objective. The choice of indicators should be guided in the first place by the need to present a comprehensive yet concise picture of the existing situation. Secondly the choice of sta= tistical indicators will be limited by the availability of data. However, this constraint has a spin-off in iden= tifying gaps in the data base which need to be filled be= fore the next plan is drawn up.

(d) An essential feature of the position statement is the projection of the main socio-economic variable such as po= pulation, labour force, employment opportunities and con= sumption requirements. Added to which is the identifica= tion of committed investments for specific development pro= jects. In many cases this information will be available from departmental budgets.

The task of honing down broad, long-term goals into placespecific, achievable objectives and of selecting criteria for their quantitative assessment, where feasible, is often difficult and always time consuming. This task will need to be recycled several times before a clear picture is achieved.

(e) Once statistical indicators have been selected, the actual situation can be described. A useful method of presentation is the position statement chart which pro=vides both a summary and a means of focussing attention on the critical statistics. See Figure 2. However, it needs to be read in conjunction with such tables, pro=jections and maps from which the statistics were drawn.

#### 5.3 ANALYSIS AND INTERPRETATION.

The position statement does not, in itself, undertake any evaluation of the existing situation. Spatial planning, as described above, is concerned with the geographic lo= cation of development, and in turn with the kinds of op= portunities and services various settlements provide for *their residents.*<sup>18)</sup> Consequently analysis starts with the identification of assettlement pattern. For it is against this background that the physical infrastructure, along with the provision of basic utility, social and commercial services must be assessed. A settlementservice hierarchy can subsequently be established which relates population served to a wide range of facilities and services provided by both private and public sectors. This will facilitate allocation of priorities to areas experiencing particular pressures such as the lack of postal services, piped water, electricity, storage facilities and so on.

Trends in the distribution of population, of services and of economic activity need to be established; and this analysis should reflect sectoral, spatial and temporal changes. This can be supplemented by an assessment of the local space economy according to surfaces of eco= nomic welfare, nodes of activity and flows of people, goods, capital and information.<sup>19</sup>

Arising from this type of analysis it may prove useful to undertake an intra-regional delimitation of sub-districts within the area of concern.<sup>20)</sup> The particular character= istics of each will contribute to identifying specific pro= blems, allocating priorities and selecting of appropriate policies. This phase of the plan formulation is drawn together in a statement indicating :

- (a) pressure points and bottlenecks in the development process;
- (b) spatial development problems relating mainly to the geographic distribution of population, services and economic activity which act as constraints to the social and economic development of the district.<sup>21)</sup>
- (c) potentials and opportunities for development.

# 5.4 IDENTIFICATION AND EVALUATION OF ALTERNATIVE POLICIES

This phase involves listing the range of policy options within each decision area for every sub-district, and sub= sequently choosing the optimum combination of policies for individual sub-districts and for the planning region as a whole. A fundamental principle here is to ensure that *every* sub-district, including those which appear less pro= mising, be designated for one or other program, even if it is no more than being considered in planning rural transport networks that will make them more accessible to local cen= tres and via these centres to the larger world outside.<sup>22</sup> The reasons for including all sub-districts and settlements in the planning proposals are 1

- (a) to offer some hope and encouragement to people living in areas with little immediate potential;
- (b) to show that their needs have not been overlooked by the planners; and
- (c) to deliver some benefit, albeit small, to the entire population of the planning region.

Investigation of alternative policies depend in the first instance upon the choice of priorities for investment (sectoral) as well as location (spatial) decisions. Prio= rities will necessarily vary between different parts of the planning region and, therefore, need to be specifically al= located in each of the sub-districts delimited during the previous phase. A guiding principle might well favour those projects or fields of action which offer the greatest chance of either short run success or which address day to day difficulties and basic needs of a particular community.<sup>23)</sup> Secondly, the identification of alternative courses of ac= tion must take into account that the pressure points, the problems and the potentials identified earlier, are often interrelated. Furthermore, the inter-linkages of alterna= tive *policies* and the implications need to be explored fully.

An adapted version of the position statement chart offers a useful device for relating objectives (grouped into deci= sion areas) to area-specific priorities. See Figure 3. This idea can be taken further by listing alternative policy options for each objective and identifying the most suitable package of policies for all sub-districts. See Figure 4.<sup>24)</sup> Tables of the type described here (Figures 2, 3 and 4) can provide a spatial framework for sectoral targets set up by the economic planners.

Inevitably conflicts will arise in attempting to select the most appropriate package of policies for each sub-district. A useful approach to the resolution of such conflicts is found in a technique known as *analysis of inter-connected decision areas* (AIDA). This helps to pinpoint conflicts among the policy options both within and between decision areas, and it assists in identifying sets of feasible po=licy combinations.  $^{25)} \label{eq:sets}$ 

Alternative policy packages then need to be tested and evaluated. This is usually performed on a continuous basis during the generation of alternative policies, draw= ing on a range of widely known techniques.<sup>26</sup>)

A final assessment should be made to determine the degree of achievement of proposed policy packages in terms of relative attainment of objectives; distribution of bene= fits and costs; and feasibility of trained manpower and finance.

## 5.5 CHOICE OF A STRATEGY

Once again this is a matter for the political decisionmakers who are required either to select one of several policy packages presented by the planning team (in situa= tions where alternatives exist), or to approve a proposed set of policies, which then becomes the *Plan*.

It would be incorrect to regard a voluminous collection of data, interspersed with unrelated analysis, implicit as= sumptions and policy proposals as an acceptable plan. The appropriate form of a spatial development plan<sup>27)</sup> is one containing :

- (a) an introductory section setting out the purpose and context of the plan;
- (b) adequate description and analysis of the area concerned to enable a person similar to the *informed decisionmaker* referred to above, to follow the logic of the document without being plunged into a maze of unnecessary detail. In this regard, the position statement chart supplemented by a concise description and appropriate tables would constitute the desired level of detail;
- (c) assessment of the area's problems, priorities and potentials;
- (d) the plan's policy proposals;
- (e) directives for implementation; and
- (f) a technical appendix containing other relevant material.

Misconceptions also arise about the noun *plan*. A plan is certainly more than a map. In the sense used in this paper, a plan comprises a set of written statements formulating policy and general proposals regarding development, the location of investment and the use of land in the study area - in short, a strategy. It may contain maps, diagrams, tables, graphs and other descriptive material considered necessary; and it whould identify, as *action areas*, those sub-districts or decision areas requiring urgent or intensive planning action.<sup>28)</sup> As such, a spatial plan provides the context and sets directions for more detailed action area plans. At the same time it initiates action designed to promote development.

#### 5.6 FRAMEWORK FOR IMPLEMENTATION

In situations where there has been little organised plan= ning, the spatial development plan itself may need to set in motion the means of its own implementation. Elsewhere the existing framework for implementation and monitoring may need to be adapted. In either case this will involve drawing up an implementation program with an appropriate time horizon; and establishing administrative machinery, information flows and legal provisions necessary to carry out and monitor the plan at national, intermediate and local levels. The design of this framework for imple= mentation creates the opportunity to integrate the spatial and sectoral aspects of development planning. Such a framework should also set up the channels through which active support can be given to development planning by way of allocation of funds in both national and departmental budgets.

#### 6. CONCLUSIONS

This paper has focussed on the method and techniques for preparing spatial plans which can be integrated with secto= ral development plans for rural areas in Southern Africa.

However, planning does not take place in a technical vacuum. Planners have a role to play in placing beore decisionmakers the most appropriate choice of proposals for solving development problems; in ensuring that their plans *are* im= plemented; and that they achieve what they set out to do. If planners are to play a meaningful role, and particularly in regard to the development of rural areas in Southern Africa, they will need to focus their attention far more sharply than before on the realities of the situation. These are that :

- there exists a high level of absolute poverty;
- the majority of the poor are black people, living in rural areas;
- birth rates are generally higher than 2,5% per annum;
- despite rural-urban migration there is an absolute increase in the number of people living in rural areas;<sup>29)</sup>
  urban and rural problems are enextricably interwoven.<sup>30)</sup>

In the face of these stark facts, it becomes clear that ru= ral development planning cannot be neglected<sup>31)</sup> and that there is an urgent need for rural development to become part of a national (or perhaps a sub-continental urban and rural strategy. 32)

If the approach to spatial planning described in this paper is to be relevant it will need to focus on these realities and relate to the development processes in operation. As such this approach needs to be set in a wider context --one which, while it may not necessarily fulfil the role of a theory in explaining the processes of change and supplying a useful conceptual framework for their interpretation, nonetheless takes as its starting point the day to day needs of people living in rural areas and the structural charac= teristics of their widespread poverty. Among the broad strategies adopted for planning in developing countries du= ring the last three decades, 33) the most appropriate for Southern Africa appears to be the Basic Needs strategy. This focusses attention on the provision, within one gene= ration, of such basic consumption needs as adequate food, shelter and clothing, and of access to community services like clean drinking water, education, health and public transport.<sup>34)</sup>

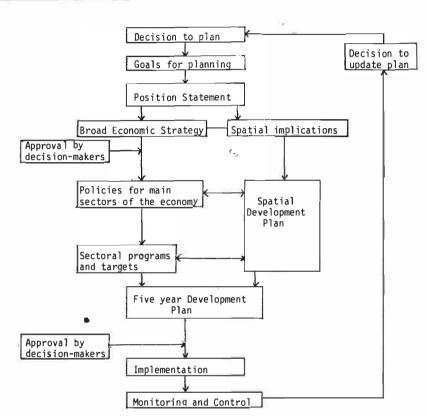
In that this paper is essentially a technical note for practising regional planners, its value lies in outlining an operational means of assessing the different levels to which basic needs have been met within each sub-district of a region or country; and in establishing a framework within which an integrated approach to development planning can take place.

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- FIGURE 1 Sequence of operations in the planning process
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| FIGURE 2. POS     | ITION ST | ATEMENT CHART (exa                   | ample) |  |      |             |             |     |              |           |
|-------------------|----------|--------------------------------------|--------|--|------|-------------|-------------|-----|--------------|-----------|
| DECISION<br>AREAS | OBJECTI  | OBJECTIVES                           |        | STATISTICAL INDICATORS   |      | UB-DIS<br>B | TRICTS<br>C | D   |              | 18.5      |
| 1. EDUCATION      |          | ICREASE PRIMARY<br>CHOOL ATTENDANCE  |        | % 7-13 YEAR-OLDS<br>ENROLLED   | 57   | 68          | 85          | 61  |              | 20<br>200 |
|                   | EA       | ROVIDE EDUCATION                     |        | NUMBER OF SETTLEMENTS<br>WITHOUT SCHOOLS                                 | 26   | 35          | 15          | 32  | 5 <b>4</b> . |           |
|                   | St       | TTLEMENTS                            |        | % POPULATION LIVING FURTHER<br>THAN 3 KM FROM NEAREST<br>SCHOOL          | 10   | 15          | 8           | 25  | æ            |           |
|                   |          | ICREASE ADULT                        |        | % OVER 16 YEAR-OLDS<br>ILLITERATE  | 24   | 18          | 5           | 20  |              | •         |
|                   | AN       | ICREASE TECHNICAL<br>ID VOCATIONAL   |        | NUMBER OF TECHNICAL/<br>VOCATIONAL SCHOOLS                               | 5    | 1           | 6           | 2   | 3 <b>4</b> 5 |           |
|                   | ED       | DUCATION                             |        | NUMBER OF TECHNICAL/<br>VOCATIONAL SCHOOL PLACES PER<br>1 000 POPULATION | 10   | 8           | 30          | 12  |              |           |
|                   |          | PROVE QUALITY OF<br>RIMARY EDUCATION |        | <pre>% PRIMARY TEACHERS WITHOUT<br/>POST MATRIC QUALIFICATION</pre>      | 65   | 23          | 15          | 47  | 5925         |           |
|                   |          |                                      | 1.5.2  | TEACHER/PUPIL RATIO  | 1:30 | 1:42        | 1:21        | 1:3 | 5.`          | £?        |
| 2. HEALTH         |          | DUCE INFANT                          |        | NUMBER OF INFANT DEATHS/<br>1 000 LIVE BIRTHS                            | 136  | 125         | 140         | 132 | -            |           |
|                   |          |                                      |        | NUMBER OF CLINICS PER 1 000<br>POPULATION                                | 0,5  | 1           | 0,75        | 2   | 122          | •         |
|                   |          |                                      |        | NUMBER OF MIDWIVES PER<br>1 000 POPULATION                               | p,1  | 0,5         | 0,2         | 0,8 | :(•):        | •2        |
| etc.              |          |                                      |        | NUMBER OF HEALTH EDUCATION<br>OFFICERS PER 1 000<br>POPULATION           | D    | 0,2         | 0           | 0,5 |              | 8         |

Based on M. Foster 1979, see reference 16.

6

# FIGURE 3. PRIORITIES IN SUB-DISTRICTS

| DECISION AREA | OBJECTIVES   |   | PRIORITIES (high, medium, low)<br>SUB-DISTRICTS |   |   |    |  |    |     |              |  |
|---------------|--|---|---|---|---|----|--|----|-----|--------------|--|
|               |  | A | В   | С | D | Е  |  |    | 30) | - 20         |  |
| 1. EDUCATION  | 1.1 INCREASE PRIMARY SCHOOL<br>ATTENDANCE              | Н | Н   | L | н |    |  | ş. |     |              |  |
|               | 1.2 PROVIDE EDUCATION FACILITIES IN<br>ALL SETTLEMENTS | н | м   | м | M |    |  |    |     |              |  |
| 2. HEALTH     | 2.1 REDUCE INFANT MORTALITY                            | н | М   | Н | L |    |  |    | ÷.  |              |  |
|               | 2.2 REDUCE MALNUTRITION                                | н | м   | Н | М | •3 |  |    | 25  | 348          |  |
| 3. AGRICULTU  | 3.1 INCREASE PRODUCTION OF SUBSISTENC<br>CROPS         |   | Н   | м | н |    |  | 2  | 34  |              |  |
|               | 3.2 INCREASE LOCAL STORAGE FACILITIES                  | м | L   | М | М |    |  |    |     | 8.00<br>2013 |  |
| 4. TRANSPORT  | 4.1 etc.   | 1 |   |   |   |    |  |    |     |              |  |
|               | 4.2  |   |   |   |   |    |  |    |     |              |  |

Based on M. Foster 1979, see reference 16.

# FIGURE 4. POLICY OPTIONS

| OBJECTIVES                  | POLICY OPTIONS                                    | SUB      |   |   |   |          |    |
|-----------------------------|---|----------|---|---|---|----------|----|
|                             |   | Α,       | В | С | D | <br>2.52 | 25 |
| I.1 INCREASE PRIMARY SCHOOL |   |          |   |   |   |          |    |
| ATTENDANCE                  | A. INCREASE NUMBER OF PR<br>PLACES IN EMSTING SCH |          | ٠ |   | • |          |    |
|                             | B. REDUCE SCHOOL FEES AN<br>OF BOOKS              | D COST • | ٠ | ٠ | ٠ |          |    |
|                             | C. BUILD MORE SCHOOLS                             |          |   | • |   |          |    |
|                             | D. BUILD SCHOOLS IN UNDE<br>PROVIDED AREAS        | .R- ●    |   |   | ٠ |          |    |
|                             | E. IMPROVE CURRICULUM                             | 1        | ٠ |   |   |          |    |
| 1.2 etc                     |   |          |   |   |   |          |    |
| 1.L EUG                     |   |          |   |   |   |          |    |

Based on M. Foster 1979, see reference 16.

35

7