

No.

Japan International Cooperation Agency

The Democratic Socialist Republic of Sri Lanka
Ministry of Plan Implementation, Ethnic Affairs and National Integration

**The Master Plan Study
For
Southern Area Development
In
The Democratic Socialist Republic of Sri Lanka**

Final Report

Master Plan Report

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February 1997

Nippon Koei Co., Ltd.
International Development Center of Japan
System Science Consultants Inc.

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List of Reports

<u>Volume</u>	<u>Title</u>
1	Executive Summary Report
2	Master Plan Report
3	Sector Report 1 : Agriculture and Fishery
4	Sector Report 2 : Industry, Tourism and Services
5	Sector Report 3 : Water Resources
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PREFACE

In response to a request from the Government of the Democratic Socialist Republic of Sri Lanka, the Government of Japan decided to conduct a master plan study for Southern Area Development and entrusted the study to the Japan International Cooperation Agency (JICA).


JICA sent to Sri Lanka a study team headed by Dr. Tsuyoshi Hashimoto, Nippon Koei Co., Ltd. between August 1995 and December 1996.

The team held discussions with the officials concerned of the Government of Sri Lanka, and conducted field surveys at the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Democratic Socialist Republic of Sri Lanka for their close cooperation extended to the team.

February, 1997



Kimio Fujita

President

Japan International Cooperation Agency

**The Master Plan Study for the Southern Area Development
in
The Democratic Socialist Republic of Sri Lanka**

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ABBREVIATIONS

BOI	Board of Investment
BOO	Build-Own-Operate
BOT	Build-Operate-Transfer
CBO	Community Based Organization
CLEER	Coastal and Lagoon Environmental Education and Research
CTB	Ceylon Tourist Board
CWE	Cooperative Wholesale Establishment
DCC	District Coordinating Committee
DDHS	Divisional Director of Health Services
DER	Department of External Resources
DNP	Department of National Planning
DOA	Department of Agriculture
DTET	Department of Technical Education and Training
DWLC	Department of Wildlife Conservation
EIA	Environmental Impact Assessment
EIT	Employer Initiated Training
EPZ	Export Processing Zone
FD	Forest Department
FO	Farmers' Organization
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GIS	Geographic Information System
GRDP	Gross Regional Domestic Product
GSMB	Geological Survey and Mines bureau
ICOR	Incremental Capital Output Ratio
IDB	Industrial Development Board
ILO	International Labour Organization
IRDP	Integrated Rural Development Program
ISDN	Integrated Services Digital Network
ISU	Investor Support Unit
JICA	Japan International Cooperation Agency
KDN	Kanneliya, Dadiyagala and Nakiyadeniya
LUT	Land Utilization Type
M&E	Monitoring and Evaluation
MCPCIM	Ministry of Cooperatives, Provincial Councils and Indigenous Medicine
MFAR	Ministry of Fisheries and Aquatic Resources
MFPEANI	Ministry of Finance, Planning, Ethnic Affairs and National Integration
MPIEANI	Ministry of Plan Implementation, Ethnic Affairs and National Integration
NAITA	National Apprentice and Industrial Training Authority
NFMP	National Forestry Master Plan

NGO	Non-Governmental Organization
NITE	National Institute for Technical Education
NSC	National Steering Committee
NWFP	Non-Wood Forest Product
O&M	Operation and Maintenance
OFCs	Other Field Crops
PDHS	Provincial Director of Health Services
PIP	Public Investment Program
R&D	Research and Development
RDA	Road Development Authority
RDD	Regional Development Division
RISC	Regional Industries Services Committee
SAVEC	Southern Area Vocational Education Commission
SCC	Sectoral Coordinating Committee
SDA	Southern Development Authority
SDF	Skills Development Fund
SEAP	Second Agricultural Extension Project
SEDZ	South-East Dry Zone
SLT	Sri Lanka Telecom Corporation
SMI	Small and Medium Sized Industry
TVEC	Technical and Vocational Education Commission
UAU	Urban Administrative Unit
UNDP	United Nations Development Program
UNESCC	United Nations Educational, Scientific and Cultural Organization
VTDC	Vocational Training and Development Commission

Abbreviation of Measures

Length

mm	=	millimeter
m	=	meter
km	=	kilometer

Area

ha	=	hectare
km ²	=	square kilometer

Volume

l	=	lit = liter
m ³	=	cubic meter
MCM	=	Mm ³ = million cubic meter

Weight

mg	=	milligram
g	=	gram
kg	=	kilogram
t	=	ton = MT = metric ton

Energy

kcal	=	kilocalorie
TOE	=	tons of oil equivalent
kW	=	kilowatt
MW	=	megawatt
kWh	=	kilowatt-hour
Gwh	=	gigawatt-hour
MVA	=	megawolt-ampere
MMBFOE	=	million barrels of fuel oil equivalent

Others

%	=	percent
°C	=	degree Celsius
cap	=	capita
mil.	=	million
no.	=	number

CHAPTER 1

Chapter 1

INTRODUCTION

1.1 Background

(1) Study background

The Government of the Democratic Socialist Republic of Sri Lanka has been placing high priority on the development of Southern Area in pursuing more balanced socio-economic development of the Nation. A few reasons account for this priority. First, Southern Area is comparatively less developed due mainly to the sluggishness of traditional economic activities represented by coconut, rubber and tea, and unbalanced public investments in the past. Second, Southern Area nevertheless has diversified potentials including well established agriculture, various mineral resources, tourism resources, and human resources of high educational attainment. Third, Southern Area suffers from high unemployment and out migration rates, causing social problems both within and outside of Southern Area.

Many projects and programs have been implemented in Southern Area in recent years, often supported by various international aid organizations. Effects of these projects / programs are not without disputes due to lack of coordination and misplaced development resources. To rectify this situation, the Government of Sri Lanka, under the previous administration, established in September 1990 the High Level Committee for the Southern Area Integrated Development. This priority policy for Southern Area has been taken over by the present administration, and the National Steering Committee has been established for the Southern Area regional development. Further, the establishment of the Southern Development Authority (SDA) has been approved by the cabinet.

To substantiate this priority policy for Southern Area, the Government of Sri Lanka requested the Government of Japan for technical cooperation to prepare an integrated regional development master plan for Southern Area. In response to this request, the Government of Japan has decided to implement this technical cooperation and entrusted the implementation to the Japan International Cooperation Agency (JICA), the official agency responsible for the implementation of the technical cooperation programs of the Government of Japan. The implementing arrangement for this technical cooperation was agreed between the Ministry of Finance, Planning, Ethnic Affairs and National Integration (MFPEANI) and JICA, and signed by respective representatives on February 2, 1995.

(2) Study area

The Study area to be covered by this technical cooperation comprises the entire Southern province consisting of districts of Galle (16 divisions), Matara (14 divisions) and Hambantota (11 divisions), the southern part of Sabaragamuwa province (two divisions in Ratnapura district), the southern part of Uva province (six divisions in Moneragala district) and the southern part of Eastern province (one division in Ampara district) for a total of 50 divisions. The Study area has 10,951 km² and the estimated population of 2,610,218 in 1994.

(3) Study objectives

The objectives of the Study as agreed upon between MFPEANI and JICA are the following:

- 1) to prepare an integrated regional development master plan with the target year of 2015 for the Study area defined above, out of which priority/emergency projects and programs shall be shortlisted, with a view to
 - (a) promoting the regional growth and narrowing of inter-regional income disparities,
 - (b) diversification of the regional economy, and
 - (c) expansion of employment-absorptive capacity; and
- 2) to make recommendations necessary for the effective implementation of the master plan, including investment promotion measures and institutional/ budgetary arrangements

1.2 Work Progress and Report Organization

(1) Work progress

First fieldwork

The JICA Study Team started the first field investigation work on 29 August, 1995. At the beginning, the Study Team had a series of discussions with the Regional Development Division (RDD), MFPEANI and other government agencies and local governments. Based on the Inception Report prepared in Japan, the schedule, objectives, methods and other related matters of the Study were discussed. The Study Team met the members of the National Steering Committee for the Southern Area Development on August 31. Minutes of Meeting were prepared based on these initial discussions and signed by the representatives of MFPEANI and the JICA Study Team on September 4.

The Study Team had a series of discussions with NGO representatives, change agents and social mobilizers on various occasions as well as RDD and local governments on how to effect a bottom up approach to the master planning. Based on the discussions, several initiatives were taken during the first stage as outlined in subsection 2.1.2.

Members, both Sri Lankan and foreign, of the Study Team in charge of different sectors visited many government agencies and their local offices in Southern Area as well as local governments to collect data and materials necessary for the Study. Limited field surveys were also conducted to generate additional data. The Study Team officially visited the Provincial Council for Southern province and District Secretariats of Galle, Matara, Hambantota and Moneragala.

The Progress Report was compiled including most of the outcomes during the first field investigation period. Due to the security conditions in Sri Lanka, however, the Report was prepared mostly in Japan, instead of Sri Lanka as originally planned.

Second fieldwork

The second field investigation work was conducted from 16 January through 15 March, 1996. The JICA Study Team collected additional data and information from various agencies, exchanged views on development prospects of Southern Area with government officials and other experts as well as local people, and formulated projects and programs.

To convey preliminary proposals contained in the Progress Report widely and to receive comments on them, a national level workshop was convened in Hikkaduwa on 9-10

February. Some 60 representatives of government agencies and Colombo-based institutes and organizations as well as JICA Study Team members participated in the workshop, and active discussions took place.

As part of local consultation processes, a series of workshops were conducted as follows:

<u>Date</u>	<u>District</u>
February 26	Moneragala
February 27	Hambantota
March 8	Galle
March 9	Matara

Division secretaries, representatives of NGOs/CBOs, district officers and representatives of aid organizations and institutes were invited to each workshop. Participants discussed mainly on preliminary project proposals distributed in advance. Informal dialogues with NGOs/CBOs and other private sector representatives took place after the formal session.

Most of the discussions were reflected in the revision of preliminary project proposals and formulation of additional projects/programs. The intensive participatory survey initiated during the first field work period continued through this period, but its outcome had not come out for timely incorporation in any project proposals at that stage. The Interim Report was compiled based on these activities outlined above and submitted in mid-March.

Third fieldwork

The third field investigation work started in June. During the absence of the JICA Study Team from the field, the Interim Report submitted in March was distributed widely to various government agencies, their regional offices and local governments. RDD, making use of the counterpart setup of the National Steering Committee with its Technical Subcommittees, reviewed the Interim Report and asked comments on it from the Technical Subcommittees.

At the initial phase of the third fieldwork period, the JICA Study Team had a series of meetings with the Technical Subcommittees and discussed by sector on proposed projects and programs contained in the Interim Report. Sector experts of the Study Team subsequently worked with members of respective Technical Subcommittees to resolve issues identified at the initial meetings.

Cooperation with NGOs continued throughout this phase of the Study. Three tasks were undertaken : (1) to review selected projects proposed and elicit comments on them by local

people, (2) to formulate a few projects meeting grassroots needs of local people, and (3) to propose a participatory mechanism to facilitate the Master Plan implementation.

During this period, the counterpart setup shifted substantively from RDD to newly created SDA. The JICA Study Team communicated with members of SDA on various occasions including meetings of the Water Resources Committee of SDA, the 17th Asian Remote Sensing Conference, and a demonstration of regional information system for Southern Area as well as individual meetings between sector experts.

In parallel with revision of the draft Master Plan contained in the Interim Report, in-depth studies were conducted on selected projects. The Draft Final Report has been compiled consisting of a revised Master Plan, all the sector reports, and a project report containing results of the in-depth studies and the initial environmental examination as well as project profiles. Upon the submission of the Draft Final Report, coinciding with the visit by a representative from the JICA head office, the Sri Lankan side and the JICA side had a series of meetings on the Study. A national seminar and district workshops were convened to present and discuss on the Master Plan proposals as follows.

	Date	Venue
National seminar	November 30	Colombo
District workshop for Matara	November 27	Matara
Galle	November 28	Galle
Moneragala	December 2	Hambantota
Hambantota	December 3	Hambantota

Minutes of Meetings upon the Submission of the Draft Final Report were prepared and signed by the representatives of the Ministry of Plan Implementation, Ethnic Affairs and National Integration (MPIEANI) and the JICA Study Team on December 4. Among the agreement between the both sides was that comments by the Sri Lankan side on the Draft Final Report be submitted to the JICA Sri Lanka office by January 15, 1997.

(2) Final Report

The Final Report has been compiled in Japan, incorporating comments by the Sri Lankan side on the Draft Final Report. Upon a request by RDD the deadline for the submission of comments were extended to February 17.

The Final Report consists of 12 volumes as follows.

1. Executive Summary Report
2. Master Plan Report
3. Sector Report 1 : Agriculture and Fishery
4. Sector Report 2 : Industry, Tourism and Services
5. Sector Report 3 : Water Resources
6. Sector Report 4 : Transportation, Telecommunications and Energy
7. Sector Report 5 : Urban and Spatial Development
8. Sector Report 6 : Land and Environment
9. Sector Report 7 : Social Development
10. Sector Report 8 : Administration, Finance and Institutional Framework
11. Participatory Development Report
12. Project Report

In addition, a GIS Map Book has been prepared in limited copies, containing most maps produced by a geographic information system used for the Study.

(3) Organization of the Master Plan Report

The remaining part of the Master Plan Report is organized in the following way. Chapter 2 described the planning system for preparing the Master Plan for the Southern Area development and proposed institutional arrangement for the Master Plan implementation.

In Chapter 3, Southern Area's position and challenges are clarified, and on that basis three alternatives for the Southern Area development are presented and evaluated. A most desirable yet realistic alternative for the Southern Area development is defined conceptually by combining the three alternatives.

In Chapter 4, objectives and strategy for the Southern Area development are established. First, the overall regional development objectives and the basic strategy are established. Objectives and strategy by sector defined in line with the overall objectives and the basic strategy follow.

In Chapter 5, frameworks and scenario for the Southern Area development are presented. Frameworks consist of spatial frameworks covering artery network, land use, water balance and urban hierarchy, and socio-economic frameworks for value-added, employment and population. The Southern Area development scenario is described with three phases.

In Chapter 6, a long list of projects and programs is presented. Anchor projects/programs are earmarked that characterize the Southern Area development, due to (1) strategic importance to transform the spatial and the socio-economic structure of Southern Area, and/or (2) comprehensive coverage of a wide range of people to improve their living conditions. Phasing of development projects/programs is given in the form of an indicative investment schedule.

Finally in Chapter 7, an action plan is presented. It recommends actions to be taken subsequent to the master planning, consisting of (1) adoption and promotion of the Master Plan, (2) re-structuring/strengthening of implementing arrangements with SDA, and (3) further project development and implementation of priority projects.

CHAPTER 2

Chapter 2

DEVELOPMENT PLANNING AND IMPLEMENTATION PROCEDURE

2.1 Planning System

2.1.1 Participatory planning and development

(1) Definitions and basic conditions of participatory development

Development concepts

Concepts of development have been diversifying. Up to 1960's, development was almost a synonym of economic growth, which in turn was discussed in relation to public investments in various infrastructure facilities as a prerequisite to the growth. An implicit assumption was that sufficient public investment would induce private sector development activities for growth. This turned out to be true at most for limited segments of the private sector, and did not lead to broad based development activities by the majority of people.

This concept of development is of course largely outdated. High economic growth, even when it was achieved led mainly by the limited segments of the private sector, was often accompanied by environmental degradation and various social problems. More importantly in the developing world, such an approach to development or economic growth relying on "trickle down" effects was proved to be ineffective to alleviate the widespread poverty.

Wide recognition of inherent environmental value in recent years has further fostered a better understanding of development. The development in this context may be defined as the creation of a better human environment: better in the sense of assuring a wider range of opportunities and higher levels of self-realization by individual human beings at present and in the future.

Encompassing all these diversifying concepts, the development in an ultimate sense is now understood as the human development, i.e. the development of capacity/capability of individual human beings or self-realization. It is clear then there is no development without participation.

Participatory development

Human development cannot take place in a vacuum. Ordinary human beings need media to develop themselves or environments to set their development. These media or environments are offered usually by a community they belong to in the form of social system. The social system is shared largely by all the members of the community. The members help each other within their social system for, in short, social development.

Participation in the planning process is naturally the first step of participatory development. People naturally participate more actively in development activities they have planned by themselves. The planning process, however, is continuous with a feedback process. Implementation of development activities would be monitored by themselves, and results would be reflected in planning for subsequent actions. Thus, the participation in the planning process is the basic form of participatory development.

Participatory planning

Participatory planning is planning by the bottom-up approach. It represents a development process that starts from, and works for the poorest sectors of a society. Planning by government agencies is necessarily of the top-down approach, even when they pay the utmost attention to the poorest. A realistic question is how to effect participatory development within the framework of public sector development planning.

There are inter-related issues: (1) how to define a region as the planning unit, and (2) how to link between the region and its constituent communities with respect to planning procedure (how) and development activities (what) to be planned. Usually, a planning region like Southern Area is defined much larger than communities. This is more than just a pragmatic decision for efficient resource use. Any development activities planned at the regional level would necessarily affect smaller communities. Conversely, communities and their members may achieve self-realization at higher levels, if they participate in planning for development activities in the larger region.

Participatory planning for and within a community could meet the immediate requirements of the community. Long-term effects of such a responsive plan, however, may be limited. Communities and their members may achieve self-realization at higher levels, if they are linked through planning to a larger region. Then, possible functions of the top-down approach would be to clarify such links and help to provide larger and wider opportunities to communities and their members. That is, with respect to "what" to plan, a realistic solution would be an appropriate mix of the bottom-up and the top-down approaches.

With respect to "how" to plan, three fundamental conditions would have to be satisfied for the top-down approach to incorporate the bottom-up mechanism.

- (1) Information should be open as to planned development activities and their possible effects;
- (2) Opportunities should exist for dialogues between the planners (top-down) and the participants (bottom-up); and
- (3) Judgments made by decision-makers upon recommendation by the top-down planners should reflect ideas and opinions of those to be affected by planned development activities.

(2) IRDP experiences and regional development approach

IRDP experiences

Sri Lanka has rich experiences in participatory development and planning through the integrated rural development program (IRDP), which has been implemented at the divisional level since mid-1970s. In Southern Area, three IRDPs have been implemented for Moneragala, Hambantota and Southern province (Galle and Matara districts). Performance of the IRDP varies widely among different districts. The Hambantota IRDP in Southern Area is widely accepted as one of the most successful. Common evaluation of the IRDP is that it has achieved a varying degree of success in improving the livelihood of people in rural areas, but it did not lead to a sustainable growth of local economies at a higher level.

The participatory approach taken by the IRDP consists generally of the following:

- (1) to identify needs through local participation,
- (2) to formulate projects to meet the identified needs, and
- (3) to implement the projects with local participation.

The following weaknesses are generally pointed out for most IRDPs:

- (i) Needs identified were confined largely to immediate needs - typically the alleviation of poverty (or income generation) and employment creation;
- (ii) Projects were confined mostly to small livelihood type projects and limited physical and social infrastructure projects to support the livelihood; and
- (iii) Local participation in implementation was often limited to the involvement in physical works - typically labour-intensive construction.

Regional development approach

The most fundamental idea of participatory approach is to motivate people to develop themselves. Physical and social infrastructure provides a tool for the people to develop themselves. If the tool is more effective, the people may develop themselves to a higher level of self realization. This is where the need for regional development approach comes in.

The following are generally expected by the regional development approach:

- (1) Needs are identified in a comprehensive manner, covering both immediate needs and longer term requirements consistently;
- (2) Projects are formulated in a mutually complementary way for higher overall effects;
- (3) Local participation in planning is ensured as an iterative process through dialogues between planners (top-down) and participants (bottom-up); and
- (4) Local participation in implementation is facilitated by people motivated for development through the participatory planning.

2.1.2 Planning system for Southern Area development

- (1) Organizational set-up for Southern Area master planning

The Master Plan Study for Southern Area Development has been carried out by a team of consultants appointed by JICA in close collaboration with the agencies concerned of Sri Lanka Government as well as local governments, local communities/people and NGOs/CBOs. The Regional Development Division (RDD) of the Ministry of Plan Implementation, Ethnic Affairs and National Integration (MPIEANI) acts as the main counterpart agency to JICA for the execution of the Study. It is also a coordinating body in relation with other government agencies and NGOs/CBOs concerned for the smooth conduct of the Study.

The Management Group of the National Steering Committee (NSC) for the Southern Area regional development was designated as the Steering Committee for the Study. The Management Group consulted with Technical Sub-Committees and District Sub-Committees of NSC as necessary. The Southern Development Authority (SDA) was established by the enabling Act No. 18 of 1996 to plan, coordinate and monitor development activities in Southern Area. SDA has become effectively the counterpart agency for the Study during the later stage.

(2) Bases of master planning

The Study was carried out on the basis primarily of readily available secondary data and study reports, but limited surveys were also carried out to generate additional data. Planned and on-going projects/programs were reviewed and reflected in the master planning. To allow this, the Study Team liaised closely with related government agencies through NSC and/or the SDA task force.

Another important base of the Study was communication with local governments, education/research institutes, NGOs/CBOs and the private sector as well as local people. In fact, the Study represented a JICA effort to effect a bottom up planning mechanism within the top down framework of the official development assistance.

Local input to the Study was provided by Sri Lanka experts and assistants recruited by the Study Team, social mobilizers, change agents, NGOs/CBOs and other individuals who worked in collaboration with the Team as well as local governments and district/division offices of government agencies. In addition, to supplement the readily available secondary data, a survey was entrusted to the expert team of the Colombo University, selected through a competitive bidding, to collect and compile basic socio-economic data by division. Other methods and set-ups used to effect a bottom up or participatory planning are described below.

(3) Participatory mechanism

Establishment of a participatory mechanism for the Study had dual purposes. One was to generate useful primary data/information on existing conditions and needs at the grassroots level. The other was to establish a representative body of concerned people for monitoring and evaluation of the master planning process and the plan formulation. These are inter-related as the participation should be continuous through the entire planning process, and the generation of data at grassroots level through participatory surveys is just the first step.

For these purposes, several initiatives were taken during the first stage. They include initial focus group discussions, key informant interviews, setting up of an advisory board, initial (extensive) participatory appraisal, and in-depth participatory appraisal.

Advisory board

A participatory mechanism should encompass various levels of input and expertise. These range from initial dialogues with local people, community leaders and government officials for needs identification, through an intermediate process of bringing together the people and

others concerned to analyze the assessment results, to an upper level process for project/program formulation.

To allow people to participate in all the levels, setting-up of an advisory board and conduct of participatory appraisal were determined through discussion with RDD, a preparatory meeting with Colombo-based NGOs and other dialogues. The Study Team decided on the most effective composition of the advisory board as follows:

- 1) community-based organizations (CBOs),
- 2) NGOs (both Colombo-based and local),
- 3) divisional secretariats,
- 4) local elected officials, and
- 5) private sector (large and small enterprises).

Participatory appraisal

An initial participatory appraisal was conducted during the first stage by selected social mobilizers and change agents. Sample villages were selected to represent different geographic area, agro-ecological zones, occupation groups and ethnic groups. Focus group discussion was used as the main method.

An in-depth participatory appraisal was planned and initiated also during the first stage to analyze causative factors and differences between communities necessary to formulate specific projects/programs. It was conducted by the Study Team in collaboration with selected NGOs. The appraisal covered four villages in each of the five districts.

(4) Continuous participation

Participation from the very beginning of the planning is a basic condition for participatory planning. Continuous participation is even more important. This is clear enough in the light of the three fundamental conditions to be satisfied for the top-down approach to incorporate effectively the bottom-up mechanism as clarified in the previous subsection. Information related to planning and its preliminary outcomes was made open on several occasions, and various opportunities were provided for dialogues between the top-down planners and the participants at different levels.

The participatory setup established during the early stage of the master planning was maintained in the subsequent stage. In particular, the same NGO consortium was

mobilized to work with the JICA Study Team to have dialogues with local people and local government offices. Specific tasks carried out by this setup are the following:

- (1) to review selected projects proposed by the JICA Study Team and elicit comments on them by local people,
- (2) to formulate a few projects meeting grassroots needs of local people as identified during the early stage, and
- (3) to propose a participatory mechanism that may be sustained through the implementation phase of the Master Plan.

The third task is considered a first step to institutionalize the participation procedure for the Master Plan implementation and further planning and plan revision/updating.

2.2 Institutional Framework for Southern Area Development

2.2.1 Need for improved institutional framework

(1) Need to institutionalize planning process

The Southern Area development would be supported by both HOW and WHAT : how to plan and implement the development (i.e. development administration), and what to be planned for development (i.e. projects and programs). The Master Plan for the Southern Area development has been prepared by a hybrid approach of the bottom-up and the top-down procedures : effecting participatory planning within the top-down mechanism.

The master planning by such an approach is considered as the first step to effect participatory planning and development. To ensure continuous participation, the master planning process needs to be institutionalized to constitute essential part of improved development administration.

(2) Existing planning and budgeting procedures

In Sri Lanka, there exists a bottom-up planning process formally established. The Government's planning process starts with Divisional Secretaries. Each Divisional Secretary compiles requests for funding and sends them to the District Secretary for non-devolved issues and to the Provincial Secretary for devolved issues. Each District Secretary combines divisional requests into district level requests for submission to secretaries of line ministries after coordination at the DCC.

Each line ministry combines, sorts out, and prioritizes district level requests to prepare an investment plan, which is sent to the Department of National Planning (DNP) in MFPEANI. DNP examines the investment plans of line ministries for submission of selected projects/programs to the Cabinet of Ministers for preliminary approval.

Then the investment plans are sent to the Department of External Resources (DER), which is in charge of checking possible funding from foreign donors. If funds are available for any projects, DNP produces project documents consisting of a detailed description of each project and budget allocation including both consolidated fund and aid portions. The project documents are submitted to the Cabinet for final approval. The Public Investment Program (PIP), a five year rolling plan, is prepared by DNP including all the approved projects.

Plans covering devolved issues are required to go through an additional process which takes place simultaneously with the process outlined above. Provincial investment plans compiled on the basis of divisional requests are sent to the Ministry of Cooperatives, Provincial Councils and Indigenous Medicine. The plans are then presented to the Finance Commission. With recommendation by the Finance Commission, the plans are submitted to the President for subsequent ratification by the Parliament. The plans ratified by the Parliament are also included in the PIP.

(3) Direction for improvement

Planning and budgeting procedures for public investments in Sri Lanka are well established for both devolved and non-devolved functions, except that there exist needs to further clarify functional division between the Central Government and Provincial Councils. The existing multi-tier administrative system, however, suffers from the inadequate monitoring function and the weak coordination especially at the central level as described above. Also the provincial administration is constrained by insufficient human resources and weak financial position. Coordination at the district level at present is difficult due to the large number of membership of the DCC and the SCC and the lack of regional perspective. These monitoring and coordination functions would be best performed at the regional level.

Expected functions of SDA are to plan, coordinate and monitor development activities of government agencies and to guide private sector investments in Southern Area as well as to take the initiative in formulation and implementation of certain types of projects. Thus SDA would be in the best position to strengthen the administrative system for Southern Area, which in turn would provide a model case for development administration with proper planning, coordination and monitoring at the regional level.

In association with the establishment of SDA, the existing administrative structure should be streamlined. Given the problems in the existing development administration outlined above, three major functions need to be strengthened: (1) planning and coordination, (2) fund management, and (3) monitoring and evaluation. In line with the recent devolution policy of the Government, development planning and administration at local/regional level should be improved for these functions. Also, local participation should be encouraged and substantiated especially for the planning, and the monitoring and evaluation functions.

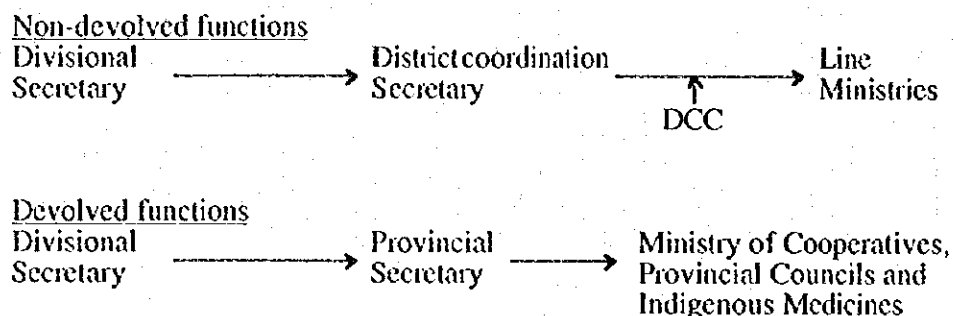
2.2.2 Institutional framework with SDA and local participation

(1) Alternatives for planning and coordination

Within the existing development administration, Divisional Secretaries would be most instrumental for effecting participatory or bottom-up mechanism. A Divisional Secretary at present has the dual line of command: (1) division representative of the Central Government for non-devolved functions, and (2) representative of the provincial government for devolved functions.

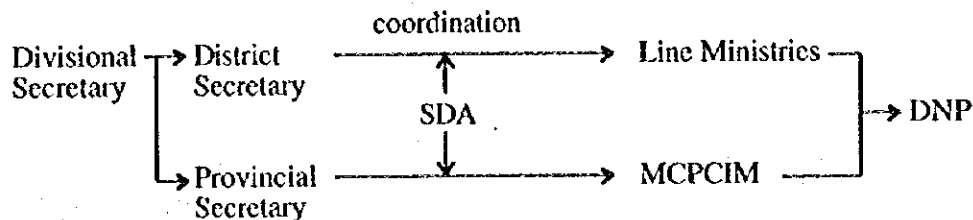
Municipal councils, urban councils and pradeshiya sabhas fall under the category of local governments. They are organized on the basis of Divisional Secretariat divisions. Limited functions have been devolved to local governments of different types. Local governments have limited capacity, and the respective Provincial Ministry works as "the friend, philosopher and guide" to them to compensate for such shortages.

Starting with a Divisional Secretary, the current development planning up to Central Government agencies proceeds as follows.

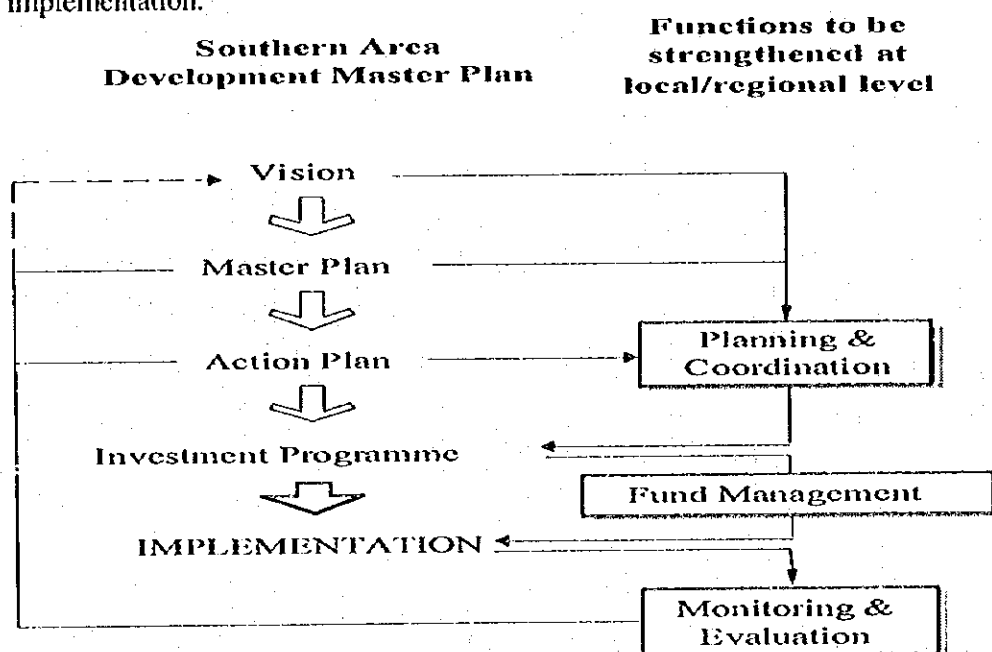


The establishment of SDA may introduce another channel of project planning and promotion linking local/regional proposals directly to DNP through SDA. Line ministries may see SDA as an additional leverage to promote their projects.

A better alternative will be for SDA to function as a main planning and coordinating body for all the projects/programs proposed within Southern Area at division, district and provincial levels. The existing development administration can still function for both devolved and non-devolved issues under such an arrangement as illustrated.



Alternatively, SDA may take over effectively the functions of DNP for planning and coordinating development activities at the regional level. In this case, the Master Plan for the Southern Area development would provide an effective tool for SDA to perform its functions. The Master Plan with the vision and action plan would guide SDA to plan and coordinate development activities to prepare an investment program, which would be approved by the Cabinet and constitute a part of the PIP in the same way as presently conducted. The investment program would be used to manage development fund for project implementation.



(2) Strengthening of local participation

Local participation should be much strengthened at the division level. At present, the Division Coordinating Committee is convened regularly with participation of some NGOs/CBOs and representatives of the private sector. Their representation, however, is rather informal, and they take part in ad hoc discussions without substantive proposals on their part.

Representation of local people and communities at the Division Coordinating Committee should be formalized. NGOs/CBOs registered within the respective division should select their representatives through a democratic process. They should be encouraged to submit specific proposals to the Committee. Improving the quality of input to the planning process at the local level is another essential condition for the Southern Area development.

(3) Fund management

SDA is expected to be instrumental in managing public investment fund according to the investment schedule. Functions of SDA would be different for various types of projects / programs.

For multi-sector projects involving several agencies, SDA would function as a coordinating agency. In this case, project funds may be released directly to different agencies under SDA coordination, and project implementation may be monitored also by SDA.

Fund management by SDA should also facilitate more effective use of transfers from the Central Government to local governments, ensuring coordinated implementation of related local projects or project components by different agencies. One way for this is to open a common fund account for all related local projects through which proper disbursement would be made consistently without delays or duplications.

Various livelihood development and other types of local projects may be implemented with local participation. Any implementing agencies for these projects should adopt the "conduit system" through accredited NGOs for channelling funds to relevant project components. SDA may assist the NGOs for loan agreement, contract of loan and memorandum of agreements.

(4) Monitoring and evaluation

As indicated above, SDA would be in the best position to monitor the disbursement of public investment funds and implementation of various projects/programs. Monitoring and guidance should extend naturally to private sector investments as well. Further, SDA may perform monitoring of development performance. Monitored results may be evaluated in the light of the Master Plan, and policy measures or remedial actions recommended. The Master Plan itself should be reviewed and updated occasionally by SDA. For these activities, regional socio-economic data base may be established and maintained also by SDA.

In addition to coordination with government agencies, establishing and maintaining communication channels with local people and communities would be another function of SDA. Activities to be conducted may include: (1) publicity campaign through mass media, seminars/workshops, other public participation events and documentation to different audiences, (2) education to re-orient the value of people, and (3) information dissemination. More useful information for Southern Area development includes that on investment opportunities, support programs available, market information and extension information.

2.2.3 Recommended organizational structure of SDA

SDA's organizational structure proposed by the Task Force has two major problems: 1) lack of functional (or sectoral) directors within SDA and 2) difficulty to foster an integrated view of Southern Area for regional development. Also, some important sections are missing from the present proposal.

(1) Sectoral Development Division

First recommendation is that SDA should be organized along sectoral lines, not zonal boundaries. It will be effective to create the Sectoral Development Division which has the Agricultural Development Unit, Industrial Development Unit, Commercial Development Unit and Infrastructure Development Unit.

(2) Regional Planning Division

The Regional Planning Division as a staff function of SDA should be created to ensure the integrated regional development. The division will utilize information acquired by the four sectoral development units for its regional planning.

(3) Participatory Development Unit

It is recommended to establish the Participatory Development Unit, headed by Additional Director Participatory Development. SDA should have its own discretionary funds to finance some projects for the Southern Area development. As elaborated later, one of SDA's recommended functions should be financing development projects formulated by local communities or NGOs. Project proposals are first screened and selected by the provincial ministries responsible for the local development issues. SDA will then decide which proposals be actually funded by SDA based on its own financing policy or guidelines in line with the Master Plan. This Unit will handle all matters related to this procedure. If

this scheme is institutionalized, local communities and NGOs will have not only funds to implement their own projects but also opportunities for on-the-job training in development activities.

(4) Investor Support Unit

Another recommended section which is not included in the Task Force's organizational structure is the support service section to private investors, namely the Investor Support Unit (ISU), headed by Additional Director Investor Support. The main responsibility of ISU is to provide private investors with useful information. For hiring of employees, ISU will provide investors with referral service by which investors can reach, for example, a job placement center in order to find out what kind of human resource are available to them. Another key service of ISU is land acquisition support service for investors. ISU will help investors find their business sites. Some other support services will also be available. Financing service will be provided through a joint venture company to be established by SDA for this particular purpose. ISU is important because investors once satisfied with ISU's services may become strong investment promoters themselves in favor of Southern Area. As proved elsewhere, referral by the satisfied investors is a very effective means of investment promotion.

(5) Investment Promotion Unit

Another section to be recommended is the Investment Promotion Unit, which will carry out 1) image building of Southern Area as a new investment destination and 2) investment inducement through direct contacts with prospective investors. Image building activities include advertisement through media, attendance to investment exhibitions, arrangement of investment promotion missions, and arrangement of general investment information sessions. Investment inducement activities are aiming at direct contact with investors such as sending direct mails, investment promotion missions and sessions for specific industry sectors, and company visits.

Figure 2.1 shows the recommended organizational structure of SDA. The Business Center newly established by SDA may effectively function as these two units proposed above. A few additional notes will follow.

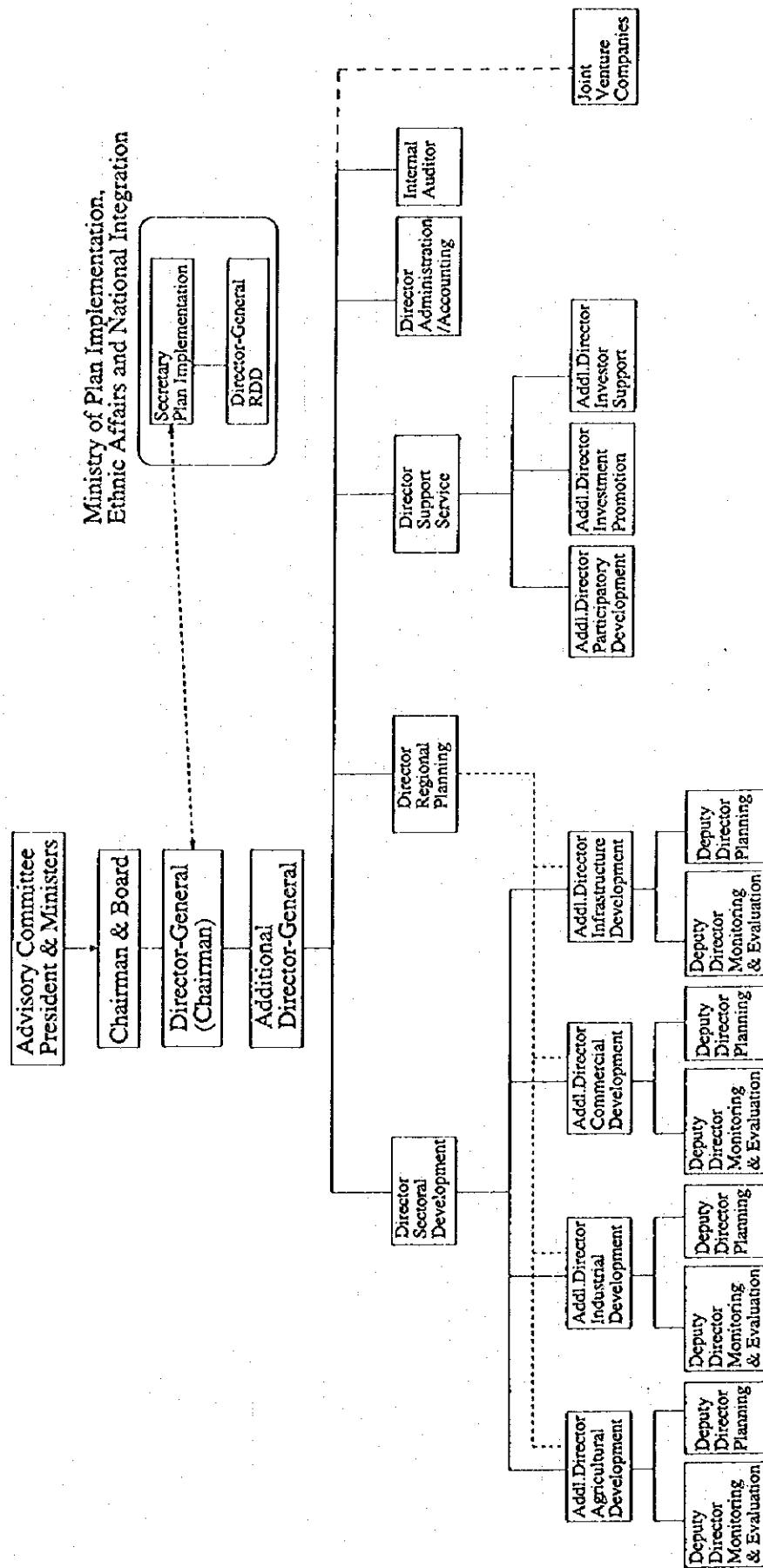
Under the current plan, SDA will depend largely on the joint consultancy company for the necessary sectoral expertises. Although private sector expertises should be helpful, such

an independent consultancy company should not be the body responsible for sectoral coordination. There should be SDA's internal sections each of which has its clear policy for the sector concerned so that it can supervise and coordinate sectoral development from the public standpoint. In-house expertises need to be strengthened in order for SDA to perform planning and coordination functions properly.

Industrial zoning is on SDA's agenda. It should be noted, however, that zoning itself does not guarantee that private investors will come to invest in the designated zones. On the contrary, such zoning could hinder investment if some restrictions are placed on the land use.

One restriction should be posed with regard to the joint venture companies to be established by SDA's equity participation. SDA may participate in companies in the infrastructure sector or any business of public nature such as telecommunications, but should not participate in the productive sector such as textile and agro-processing. If SDA enters businesses of very private nature, its investment in kind can be equal to subsidies for such companies. In these cases, the benefit of SDA's investment will not be extended to the public.

Figure 2.1 Recommended Organization of Southern Development Authority of Sri Lanka (SDA)



CHAPTER 3

Chapter 3

ALTERNATIVES FOR SOUTHERN AREA DEVELOPMENT

3.1 Southern Area's Position and Challenges

Regional development of Southern Area would have to make effective use of various resources the Area has and contribute to the attainment of national development goals. Planning for the Southern Area development, therefore, starts with the clarification of the resources and characteristics of Southern Area in relation to the national development. In this section, the position of Southern Area in the national socio-economic and spatial development is clarified, and other salient features of Southern Area are highlighted.

3.1.1 Southern Area in national socio-economy

Characteristics of Southern Area in national socio-economy may be summarized in four main points. Southern Area is comparatively less developed and more dominantly agricultural/rural, has high unemployment rates, and has some dominant plantation crops and other characteristic crops. Each of these characteristics is described.

(1) Comparatively less developed

The gross regional domestic product (GRDP) of Southern Area was 10.0% of the gross domestic product (GDP) of Sri Lanka in 1995. The latter is dominated by Western province having its GDP share of 45.7% in the same year. The per capita GRDP of Southern Area was 69% of the national average, while that of Western province was 172% in 1995. Other areas except Southern Area and Western province had collectively the per capita GRDP at 75% of the national average in the same year. Thus Southern Area is less developed than the rest of the Country even if Western province is excluded, as summarized below.

	(Index, 1995)		
	(A) GDP or GRDP	(B) Population	(C) Ratio (A)/(B)
Sri Lanka	100	100	1.00
Southern Area	10.0	14.5	0.69
Western Province	45.7	26.5	1.72
Other Areas	44.3	59.0	0.75

(2) More dominantly agricultural/rural

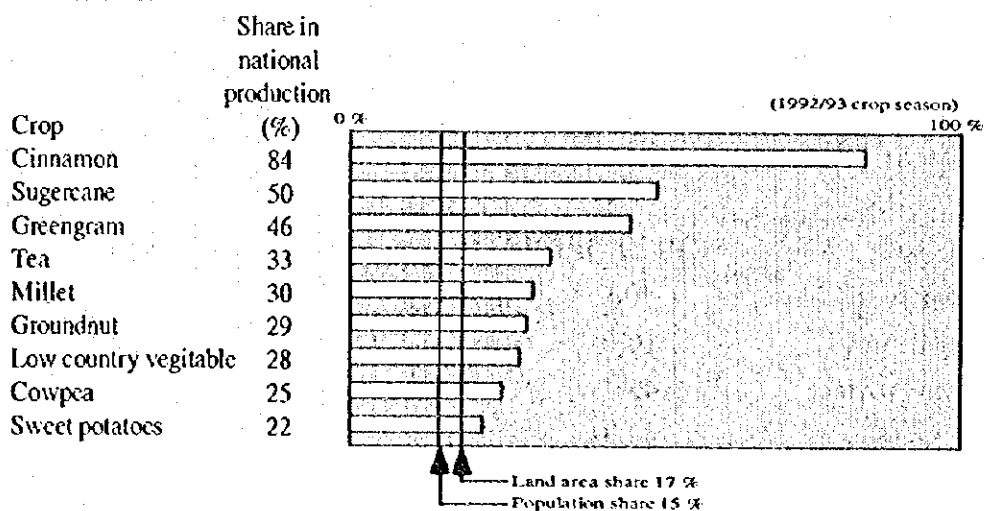
Southern Area is more dominantly agricultural/rural with limited industries of modern type. The employment in major industries in Southern Area was about 10% of the total employment nationally in the same category in 1995, much smaller than its population share. Value-added in manufacturing in Southern Area claims even smaller share (5.5% in 1995) in the national total value-added in manufacturing. Thus industry is less developed in Southern Area, and its productivity is lower than the national average.

(3) High unemployment rates

There exist several estimates of unemployment rates in districts of Southern Area presumably based on different definitions of unemployment. The labour force and employment in Southern Area have been estimated at 956,803 and 794,111 in 1994, respectively to make the unemployment rate 17.0%. Consistent estimates for Sri Lanka are 6,873,000 labour force and 5,970,000 employment, representing the unemployment rate at 13.1% in the same year.

(4) Comparative advantages in certain crops

Agriculture in Southern Area has been dominated by the plantation sector and paddy cultivation. Close to 50% of agricultural value-added is derived from paddy, tea, rubber and coconut (47.1% in 1992). Southern Area, however, contributes dominant shares to the national production of certain crops as illustrated below. This is indicative of potentials that Southern Area has.



Source : JICA Study Team (Agriculture Sector Report)

3.1.2 Southern Area in national spatial development

Characteristics of Southern Area in national spatial development may be summarized also in four main points. Southern Area has lower urbanization ratio than the national average, without well developed urban centers, and strong physical connection with the Colombo metropolitan area. Southern Area has affected transmigration patterns in the Country in a few significant ways. These points are clarified.

(1) Low level of urbanization

The ratio of urban population to the total population of Sri Lanka has been low, and actually decreased from 22.4% in 1971 to 21.5% in 1981. This low urbanization is due partly to the definition of an "urban area" by administrative division. It is also true, however, that rural areas in the Country have maintained larger population supported by the social welfare policy of the Government. Resettlement schemes to the dry zone and the Mahaweli development also contributed to the high growth of rural population.

Level of urbanization is particularly low in Southern Area. The ratio of urban population to the total population was 20.4% in Galle 11.1% in Matara and 9.8% in Hambantota in 1981, respectively lower than the national average. The urbanization ratios are even lower in peripheral divisions in Southern Area.

A separate estimate of urban population is provided by a recent study conducted by the UNDP technical cooperation for the urban sector in Southern Area. Using a functional definition of urban areas, the estimated urban population in 1994 is 34% of the total population in Southern Area.

(2) Lack of well developed urban centers

Urbanization in Sri Lanka is characterized by the high primacy of Colombo, simply as a result of the lack of sizeable urban centers other than this capital city. The largest urban center in Southern Area is Galle with the total urban population of 76,863 at the 1981 census. The municipality of Galle has an estimated population of 102,000 in 1994. Other urban centers having an estimated population over 30,000 in 1994 are Bentota (32,500), Hikkaduwa (33,400), Habaraduwa - Ahangama (60,000), Deniyaya (30,000), Weligama (37,500), Matara (57,500), Tissamaharama (43,000) and Embilipitiya (33,000). The district capital of Hambantota has an estimated 1994 population of 25,000, and Monaragala

8,500. Population distribution in Southern Area as a whole is dispersed, although population density by district varies from some 600 per km² in Galle and Matara, and 200 per km² in Hambantota to smaller than 100 in Moneragala and the smallest in Ampara.

(3) Strong connection with Colombo

Physical structure of the Southern Area development is such that the Area is strongly connected to Colombo with the coastal road as the main artery supplemented to a limited extent by the coast line of the Sri Lanka Railways. Other links are not well established, and as a result access to most areas is poor.

(4) Major area affecting migration patterns

Southern Area has affected the migration patterns in Sri Lanka in a few significant ways. In Sri Lanka as a whole, rural-to-rural migration has been dominant, but Galle and Matara have been main sources of rural-to-urban migration into Colombo and its vicinities. More recently, those migrated to the Colombo area have been increasingly moving back to rural areas either of their origins (U-turn phenomenon) or in suburbs of Colombo (J-turn). Another typical pattern is the migration from the wet to the dry zone, both by settlement schemes and voluntarily in search for lands.

3.1.3 Southern Area's salient features

In addition to the comparative characteristics of Southern Area described above, Southern Area has some salient features uncomparable with most other regions. At least, five features should be noted.

(1) Diversity in physical features

Southern Area has very diversified physical features. Southern Area contains all the three climatic zones, including the climatically most severe region known as the south-east dry zone (SEDZ). Vegetation ranges from tropical rain forests remaining in northern hilly areas to savannah in parts of the dry zone. Disturbed tropical seasonal forests are widespread in the dry lowland, and scrub-jungles constitute a common feature in the SEDZ. Mangroves are found in association with lagoons.

Topographically, Southern Area is hilly to mountainous toward the north and north-west (up to 800 m above sea level), while the terrain is undulating and becoming flat towards the south and south-eastern coastal belt, which widens eastward making a broad plain in the SEDZ. Wetland and marshes are found along the coast. Southern Area has various forms of water bodies, including tanks, reservoirs, lakes, lagoons and other coastal waters.

Southern Area has five major soil groups : red-yellow, podsoic, reddish brown earth, non-calcic brown, alluvium and low humic grey soil. These are suited to a variety of crops, depending on water availability.

(2) Long and varied coastlines

The second salient feature of Southern Area is provided by 300 km long coastlines. From Bentota to Matara, the coast is characterized by a series of headlands, pocket beaches and embayments. The coast from Matara to Tangalle contains rocky areas. This coastline is subject to severe erosion. There are a number of lagoons lying in this area. Outlets of most lagoons are closed during the southwest monsoon period due to sediment deposits caused by powerful waves. From Tangalle to the Yala National Park, the coastline consists of large dune formations and stable beaches.

(3) Bio-diversity

Sri Lanka's isolation as an island nation has led to the evolution of many unique or endemic species found nowhere else in the world. The Country's bio-diversity is the greatest in Asia per unit area and of global significance.

The bio-diversity in Southern Area is supported by Sinharaja Forest Reserve, Bundala and the Yala National Parks and other reserves. The fauna of Southern Area include deer, buffalo, wild boar, elephant, leopard, crocodile, bear, local and migrant birds.

(4) Mal-distribution of water resources

The fourth feature of Southern Area represents a mixed blessing. Southern Area is endowed reasonably with water resources, but their distribution both in time and space poses various problems.

Rainfall patterns in Southern Area are affected by southwest monsoons bringing heavy rains and northeast monsoons responsible for major rainfalls in the dry zone. In the northern part of the wet zone, the total annual rainfall exceeds 3,000 mm, while it is around 2,000 mm in the coastal area of the wet zone. In the dry zone, duration of rainfalls during the Maha season (the northeast monsoon period) varies, but the dry season is longer and more prominent. Bimodal patterns of rainfall distribution are observed in both the dry and the intermediate zones. The annual precipitation varies between 1,750 mm and 2,500 mm in the intermediate zone, and it is less than 1,750 mm in the dry zone.

In all the zones, annual precipitation varies widely year by year. During the period from 1950 to 1980, where most consistent data are available for most meteorological stations, annual precipitation varied between 495 mm and 1,643 mm in Hambantota, between 1,751 mm to 3,896 mm in Kalutara, and between 2,031 mm and 4,069 mm in Labuduwa.

(5) Rich socio-cultural and historical inheritances

Southern Area has rich socio-cultural and historical inheritances that date back to as early as 200 B.C., when the Kingdom of Ruhuna was founded. Southern Area played a vital role in building the nation and establishing Buddhist culture. In this evolution process, Southern Area has accommodated a variety of socio-cultural and religious developments. Such a diversity is potentially a vital source of energies, and historical sites and remains provide various tourism resources.

3.1.4 Southern Area's challenges

As clarified in the preceding subsections, Southern Area has rich socio-cultural value and rich natural resources, but Southern Area is less developed with high unemployment rates. The Southern Area development is expected to solve the latter problems, but just to generate a sufficient number of employment opportunities and to catch up with the rest of the Country would not pose challenges to Southern Area.

The high unemployment rates mean a large pool of educated and trainable people. Some kind of crops seem quite promising as indicated above. Much room exists for improving physical structure of Southern Area. Physical diversity and bio-diversity can be effectively utilized to support various socio-economic activities. All in all, Southern Area is so unique that it is well qualified to pursue an original development paradigm of its own. The pursuit of such a development paradigm would be a real challenge for the Southern Area development.

3.2 Alternatives for Southern Area Development

3.2.1 Definition of development alternatives

To plan for the long-term development of Southern Area, three broad alternatives may be conceived as follows.

Alternative I : Indigenous resources based development

Alternative II : External resources/market driven development

Alternative III: Support industry/services oriented development

These are distinct alternatives conceptually but not mutually exclusive. Certain socio-economic activities may fall under two or three alternatives as clarified later. These alternatives are presented here to clarify a range of choices for the Southern Area development. Each alternative is described.

(1) Indigenous resources based development

The basic concept of this alternative is to utilize indigenous resources by and for the benefits of local people and communities. This represents a most authentic approach to regional development. This alternative naturally fits best to local conditions.

If this alternative simply means the continuation of what has been taking place in Southern Area for decades, high growth rates cannot be expected. This alternative calls for the introduction of some innovative elements based on indigenous resources. Most essential indigenous resources, other than human resources, are land and water resources that would support various agricultural activities. Southern Area produces already a variety of characteristic crops suited to local conditions, that can be processed within the region if their production is expanded. They include citronella, cardamom, gingelly, lemongrass, chillies, peppers, and various fruits as well as cinnamon and cashew.

Population distribution would be more dispersed under this alternative, as comparatively more employment opportunities may be created in rural areas and small towns by agro-processing industries and agriculture-related services. This alternative may not justify early development of the Galle port, since those agro-products indicated above typically have small volume and high value such as condiments, pharmaceuticals and cosmetics.

(2) External resources/market driven development

The basic concept of this alternative is to introduce external resources to develop mainly industries as a driving force for regional development, and to produce goods primarily for exports. This is a high growth, high industrialization alternative. It is expected to generate a large number of employment opportunities, but may not induce much the development of indigenous industries and related services.

This alternative would require large amount of public investments to improve various infrastructure facilities in one or at most a few growth centers with high potentials. Population would naturally concentrate in these centers. This alternative thus may entail more serious social and environmental problems.

Under this alternative, the Galle port would be important both to import various raw materials, intermediate and capital goods, and to export products. With associated improvements in various urban facilities and functions as well as strengthened links with Colombo, a supplemental transshipment function of the Galle port may become viable.

(3) Support industry/ services oriented development

Under this alternative, such socio-economic activities would be encouraged that would serve other regions as well as Southern Area. A typical example is a sub-contracting firm to serve a major industry in the Colombo area. Other linkage type industries may also fall in this category including engineering and even software industry. Specialized health and education services may be established at selected locations to serve the Country as a whole, such as Ayurvedic medicine and environmental education capitalizing on the natural resources of Southern Area.

Another important activity under this alternative is inter-regional trade. The Galle port would be important more as a regional port serving mainly domestic transport needs. Spatial development under this alternative would be characterized by stronger links with other regions.

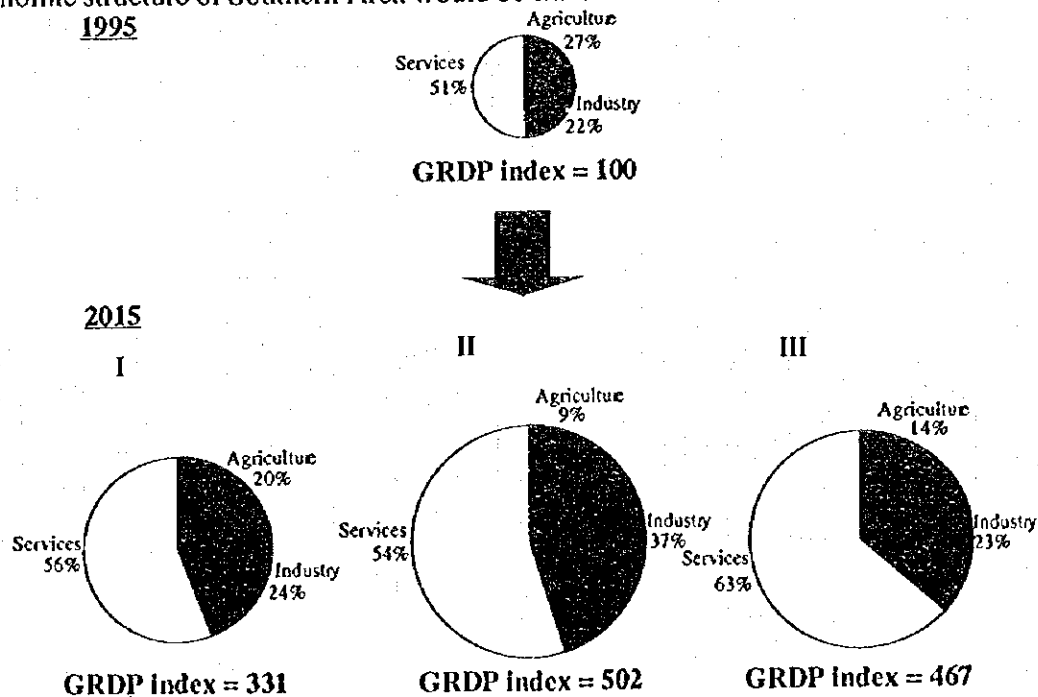
3.2.2 Evaluation of development alternatives

Some aspects of the development alternatives presented above have been quantified. The socio-economy of Southern Area under the three alternatives has been projected to the year 2015 on a consistent basis. Results are summarized in Table 3.1.

GRDP growth rates by sector are shown below for the three alternatives and compared with the GDP growth targets for Sri Lanka specified by the current Public Investment Program (PIP, 1995-99).

	Southern Area Alternatives			(% p.a.) Sri Lanka Targets
	I Indigenous resources	II External resources/market	III Support industry/services	1995-99
Agriculture	4.8	2.4	3.0	3.9
Industry	6.5	11.2	8.4	10.0
Services	6.7	8.8	9.5	6.9
GDP/GRDP	6.2	8.4	8.0	6.9

Economic structure of Southern Area would be transformed under the alternatives as shown.



Source : JICA Study Team

The three development alternatives are compared in Table 3.2. Each alternative has advantages and disadvantages. Alternative II for external resources/ market driven development would attain the highest economic growth and generate the largest employment opportunities, followed closely by Alternative III for support industry/service oriented development. Income disparities between farmers and non-farmers would be reduced most significantly under Alternative I for indigenous resources based development. Social and environmental problems would be most serious under Alternative II, and most manageable under Alternative I.

Alternative II may require the largest amount of public investments, while Alternative III may call for higher levels of development management in the forms of training and extension as well as better planning and coordination of inter-related development activities.

Table 3.1 Socio-Economy of Southern Area Projected to Year 2015 Under Three Alternatives

(1) GRD		(Unit : Rs. Million in 1982 prices; % share in parenthesis)							
		1995				2015			
				Alternative 1		Alternative 2		Alternative 3	
Agriculture	4,658			11,865	(21.0)	7,405	(8.7)	8,354	(10.5)
Traditional	2,194	(27.3)		3,962		2,955		2,955	
Non-traditional	2,464			7,903		4,450		5,399	
Industry	3,773	(22.1)		13,391	(23.7)	31,755	(37.1)	19,019	(23.8)
Factory type	3,052			11,812		29,444		17,107	
Micro/cottage	721			1,979		2,311		1,912	
Services	8,605	(50.5)		81,170	(55.2)	46,336	(54.2)	52,494	(65.7)
Trade & tourism	3,509			13,579		19,666		23,607	
Banking, insurance	858			3,999		6,917		6,917	
Transport, communications	1,889			6,058		8,805		8,805	
Others	2,349			7,534		10,949		13,165	
Total	17,036	(100.0)		56,425	(100.0)	85,497	(100.0)	79,866	(100.0)
(2) Employment		(Unit: 1,000; % share in parenthesis)							
						2015			
		1995		Alternative 1		Alternative 2		Alternative 3	
Agriculture	353.4	(44.5)		373	(40.0)	343	(26.5)	351	(29.5)
Industry	161.2	(20.3)		178	(19.1)	385	(29.7)	253	(21.3)
Services	279.5	(35.2)		382	(40.9)	567	(43.8)	584	(49.2)
Total	794.1	(100.0)		933	(100.0)	1,295	(100.0)	1,189	(100.0)

Table 3.2 Comparison of three Development Alternatives (of Alternatives Development Scenarios)

	Alternative I Indigenous resource based development	Alternative II External resource/market driven development	Alternative III Support industry/service oriented development
Definition	To utilize indigenous resources by and for benefits of local people/communities	To introduce external resources as a driving force for development aiming at export markets	To provide various support services to other regions
Advantages and disadvantages	+Natural, benefit a wide range of local people -Low growth without innovations	+High growth, large employment opportunities -Limited linkage effects, undesirable social and environmental effects	+Higher growth than (1), social and environmentally more desirable than (2) -Volatile against changes in external conditions
Typical activities	Traditional farming, simple agro-processing, agricultural-related services	Industrial crops, commercial poultry, footloose and port/airport-oriented industries, industry-related services	Subcontracting and linkage industries, inter-regional trade, specialized health and education services
Spatial development	Dispersed population distribution	Concentration in a few urban centers	Stronger links with other regions
Galle port	Difficult to justify in near future	Important for import and export, and possibly also for transshipment	More important as a regional port
Indicative growth rate of economy	6.2% p.a.	8.4% p.a.	8.0% p.a.

3.3 Southern Area Development Alternative

The three development alternatives have been presented to clarify the range of choices for the Southern Area development. One alternative may be better suited to some areas, and another to some other areas. One alternative may be pursued more easily in the short to the medium terms, while another alternative may take time for full implementation.

The most desirable yet realistic alternative for the Southern Area development may be defined by combining the three alternatives in time and space. This means combining favourable elements of the different alternatives in consideration of locational conditions and phasing of development. Existing development policies the Government and possible institutional setups for development planning and administration are other aspects to be considered in defining the Southern Area development alternative.

Initially, the Southern Area development may be based primarily on the indigenous resources, but selected elements of the other two alternatives would be injected in some areas to generate more employment opportunities, while diversifying and adding depth to the regional economy and protecting/enhancing social and environmental value. While the productivity of traditional activities would be improved, some innovative elements should be introduced based on indigenous resources.

Home gardens may represent such a resource. Home gardens covering as much as 10% of agricultural land in many divisions may be rehabilitated to convert them into commercially viable production system (e.g multi-storey farming) with selected crops of high value-added and marketability. Many characteristic crops already existing in Southern Area fit to this scheme such as cinnamon, cashew, coffee and various fruits. Vegetables and pulses may also be combined. Some herbal medicinal plants may fit as well.

Paddy-based mixed farming is another way to enhance agricultural productivity. Higher value pulses and vegetables may be combined with paddy under irrigated conditions. It may contribute also to increase paddy yields through improved profitability of farming.

Another innovation may be to establish integrated farming systems by revitalizing/strengthening the traditional farming system by small holders, which combines crops and livestock. Buffalo and goat raising in the backyard may also be combined with crop cultivation.

The external resources/market driven development would be applicable initially only to the Galle area. More sub-contracting and foot-loose type industries may be established, if key infrastructure facilities are improved such as roads, water supply and telecommunications. Subsequently, some port or airport oriented industries would also establish. The latter may include jewellery, toys, pharmaceuticals, cosmetics, apparel and leather products. Some of them may locate in a few other urban centers.

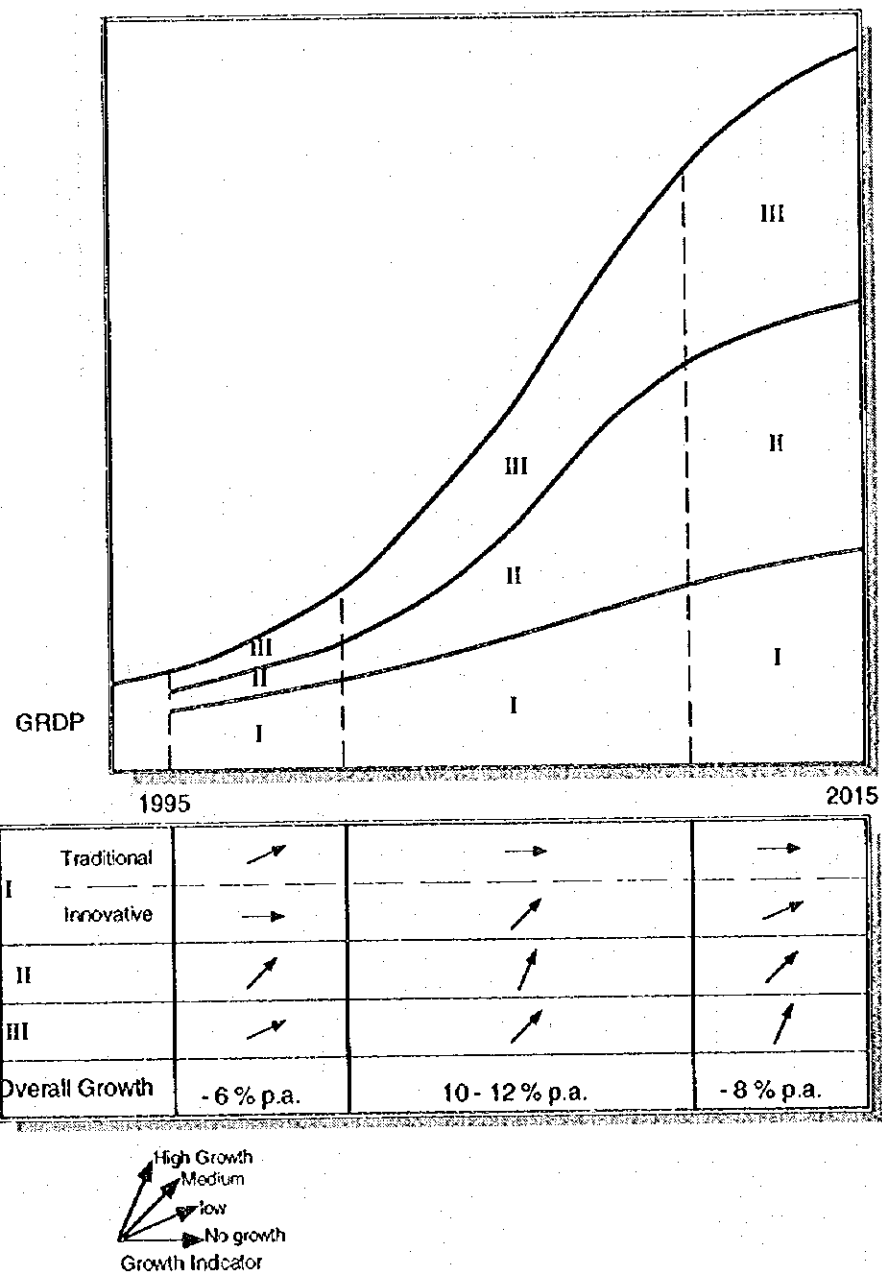
A few activities of the support industry/services oriented development may also be established initially in a few locations where some specialized functions are expected to develop on the basis of local resources. They may take forms of specialized health and education services such as Ayurvedic medical care, environmental education services and a hotel school. Tourism development linked with tourism resources in other regions may also fall in this category.

These support industry and services would diversify subsequently. They may include engineering and even software industries as well as various linkage type industries. Inter-regional trade and related services based on the Galle port would become increasingly more important.

For the Southern Area as a whole, dominant types of activities would change over time. In the short to the medium term, activities of the indigenous resources based development would constitute the main body of the Southern Area development. Growth rates during this period would be low. In the medium term, activities of the external resources/market driven development would lead Southern Area to attain high growth rates. In the medium and the long term, activities of the support industry/services oriented development would diversify and eventually lead the Southern Area development in terms of growth at respectable rates.

These processes of the Southern Area development is schematically illustrated in Figure 3.1. The more specific scenario for this development is described in Section 5.3 with development phasing.

Figure 3.1 Conceptualized Process of Southern Area Development



Source : JICA Study Team

CHAPTER 4

Chapter 4

OBJECTIVES AND STRATEGY FOR SOUTHERN AREA DEVELOPMENT

4.1 Existing Regional Development Policies and Objectives

(1) National development policies and objectives

Regional development is becoming increasingly more important part of the national development policies. It is not, however, clearly defined as a development objective by the present administration. The Public Investment Program (PIP) 1995-99 stipulates as a medium term objective the equitable distribution of the fruits of growth among all classes of people together with the objectives of accelerating economic growth itself and ensuring a higher quality of life for all.

More specific regional development policies of the Government are spelled out in the PIP 1995-99 under a broader sector of human settlements. The regional development approach is described as an extension of the integrated rural development program (IRDP) which has been applied extensively at the district level since late 1970's.

Referring specifically to the Southern Area development, the PIP 1995-99 defines the regional development "with a greater emphasis on better coordination of national and regional level development efforts with a focus on addressing urgent issues such as unemployment, poverty, and incomes". It clarifies the need "to develop a system through which sector programs are identified within a framework of an integrated regional strategy so that investments in complementary sectors may be identified ensuring optimal allocation of resources.

(2) Regional development policies and objectives

In line with the broad development policies at the national level for regional development as indicated above, the Government has selected the South as the priority region to effect these policies as described in Section 1.1. Although specific measures are yet to be worked out the basic policy of the Government for regional development has been well established. The PIP 1995-99 states:

The Government intervention in regional development includes devolution of powers and functions to the provincial level, decentralization of administrative machinery, and creation of an institutional framework for the realization of both social and economic development objectives.

Two important policy documents are available for the Southern Area development. "A New Future for Ruhuna : a Regional Strategy for Development of the Southern Area of Sri Lanka" was prepared by RDD-MPIEANI under the UNDP technical cooperation, revising an early version. The Presidential Task Force for Southern Area Development compiled "South 2001". None of these however, have established clearly defined objectives for the Southern Area development. "South 2001" states as challenges that the Southern Area development "must create not only economic wealth but a wealth of employment opportunities and improve living conditions and the quality of life for all sections of society".

4.2 Southern Area Development Objectives and Basic Strategy

4.2.1 Problem structure of Southern Area

(1) Problem structure analysis

Southern Area faces various problems which combined would work as constraints to further development. Many of these problems are inter-related through a complex of cause-effect relationships. A problem structure analysis is a method to clarify these inter-relationships in a macroscopic way. The analysis would allow to maintain a broad perspective without getting into details to identify more important factors and more essential problems to be addressed in development planning.

A problem structure analysis has been conducted for Southern Area. Issues and problems were enumerated based on the analysis on existing conditions by sector. Some problems were combined into broader problems, less important problems eliminated, and causal relationships among more important problems analyzed. Results are shown in Figure 4.1.

(2) Problem structure of Southern Area

The problem structure of Southern Area has been constructed in such a way that more fundamental factors are arranged on the left and observed phenomena on the right. Objectives for the Southern Area development may be defined to address to the most critical issues and problems observed as a result of complex interactions of various other problems, while strategy would be better defined on the basis of the fundamental factors.

Fundamental factors

More fundamental factors causing an array of problems in Southern Area may be the following (Figure 4.1):

1) Exogenous factor

- Unfavourable geographic location of Sri Lanka - The Country itself is located relatively far from developed countries and the fast growing economies of East and Southeast Asia.

2) Physical/natural factors

- Poor access from Colombo - despite the proximity from and the strong link with Colombo of the Southwestern coastal areas, most areas have poor access from Colombo.
- Maldistribution of water resources - the distribution of water resources is skewed both in time and in space.

3) Social/institutional factors

- inadequate development planning and administration - planning is weak at local levels and non-existent at the regional level; the devolution is yet to be substantiated.
- Lack of proper management and use system for water and land resources - the modern hydraulic engineering approach may not be effective, while the traditional system has been neglected.
- Relative negligence by past administrations - this still has lasting effects despite the priority policy for the South by the present administration.
- Conflicts between traditional and modern societies - a transition from the rural agriculture - based society to a more urban-oriented society is causing various social problems.

Problem interactions

Social and institutional factors seem to be more dominantly affecting the development situations in Southern Area. Relative negligence by past administrations has resulted among others in lack of clearly established development policies and plans, inadequate infrastructure facilities, underutilization of mineral and tourism resources, and insufficient accumulation of agricultural research. The lack of coordination for project planning and implementation is another outcome.

Conflicts between traditional and modern societies appear in various forms. Among them are lack of population concentration, subdivision of land ownership, dominance of plantation agriculture, and weakened people's organizations. The dominance of plantation agriculture, subdivision of land ownership, and insufficient accumulation of agricultural research are in turn factors for low agricultural productivity as well as unestablished land use rationality and the water problems mentioned above.

The inadequate infrastructure facilities together with lack of clearly established development policies and plans are main reasons for insufficient direct investment from overseas, underdeveloped modern industry and stagnated traditional industry, and further, undifferentiated service industry. Also the underutilization of mineral and tourism resources and the low agricultural productivity contribute directly and indirectly to these conditions of industry and services. The resultant immature economic structure accounts for low income and insufficient employment opportunities.

The lack of proper management and use system for water and land resources is a fundamental cause of major environmental problems observed in Southern Area. Sustainable bases for various socio-economic activities have been undermined.

Critical problems

Most critical problems facing Southern Area are the results of the problems outlined above. They may be categorized in three types : economic, social and environmental. Economic problems are represented by insufficient employment opportunities, low income and small market as well as lack of capital accumulation within the region. Social problems are represented by high unemployment rates, high out-migration rates, and resultant formation of the socially deprived. Environmental problems include soil erosion and deforestation, coastal zone degradation, salt water intrusion, water pollution and soil salinization.

4.2.2 Southern Area development objectives

Objectives for the Southern Area development are defined to address the most critical problems in economic, social and environmental aspects. The first objective represents a major and more immediate concern in the social aspect. As the objective for a long-term development, it may be expressed as follows.

- 1) To create a sufficient number of high earning employment opportunities for growing and increasingly more educated labor force.

The second objective is defined related directly to environmental and socio-cultural concerns. It is expressed as follows.

- 2) To preserve/enhance the unique natural and socio-cultural resources of sufficient diversity as a sustainable basis for various socio-economic activities.

The third objective representing the economic aspect goes beyond the regional concern. As long as Sri Lanka continues to take open policy as she should, the Country would have to establish industrial and trade niches of her own. Southern Area should contribute to this.

- 3) To contribute to realizing open and competitive economy of Sri Lanka within an increasingly borderless world through establishment of viable economic activities.

4.2.3 Basic strategy for Southern Area development

More effective strategy for the Southern Area development may be defined by addressing to more fundamental factors causing various problems as analyzed above. Other than the exogenous factor beyond control, the basic strategy is defined related to the physical/natural factors and the social/institutional factors identified in subsection 4.2.1.

The first strategy component is to cope with the physical constraint facing Southern Area.

- 1) Strengthening of links with Colombo and improvement of access to inland areas and the south-east dry zone (SEDZ).

The second strategy component is concerned with water and land resources, representing natural and institutional factors.

- 2) Integration of water resources development and management system with land use system from the upstream for watershed management consistently to the downstream.

The third strategy component addresses itself to the critical social/ institutional factor identified.

- 3) Revitalization and effective use of traditional/indigenous systems to be supported by modern infrastructure and services for higher land productivity, more efficient water management, sustainable agricultural and fishery practices, effective marketing and processing, diversified tourism and other services, and better social services delivery.

The fourth strategy component is related directly to the institutional factors.

- 4) Streamlining of development planning and administration in line with the devolution policy and the establishment of the Southern Development Authority particularly for:
 - better coordination and fund management,
 - more effective monitoring and evaluation, and
 - institutionalization of participation.

4.3 Objectives and Strategy for Economic Development

4.3.1 Agriculture

(1) Constraints to agricultural development in Southern Area

Maldistribution of water resources

The most fundamental constraint facing Southern Area, particularly its agricultural sector, is the maldistribution of water resources both geographically and seasonally. The wet zone suffers from flooding and other problems related to excess water particularly in downstream areas of major rivers. In the dry zone, rainfall is scarce and unreliable, and the total annual precipitation varies considerably year by year. To rectify the situation, various trans-basin water diversion schemes have been proposed. Most of them involve the construction of large dams and a long water conveyance system. Viability of these schemes has been disputed not only from economic and technical points of view but also from the viewpoints of environmental effects and social implications.

An associated problem is the salt water intrusion in river estuaries in the wet zone and on limited coastal lands in Hambantota district as well as into groundwater in coastal areas. The saline intrusion has caused considerable damages to paddy fields, and affected the intake of water supply.

A solution to problems of water maldistribution may create new problems. Some trans-basin water diversion schemes may inundate large areas of productive land. Another typical case is the problem of acid sulphate soil in the Nilwala Ganga downstreams caused by over-drainage of marshy paddy land. Diversion of water to paddy fields has caused damage to the natural drainage system and water quality of lagoons along the coastline.

Soil erosion and degradation

Soil erosion and land degradation have become severe constraints to the plantation sector particularly in northern part of Galle and Matara districts. This is due largely to the lack of knowledge on basic soil conservation techniques and measures such as construction of bands and provision of drainage facilities. Baring land in tea plantations is another reason for soil erosion. Increase in chena cultivation practised illegally in forest areas is also reported as a cause of soil erosion.

High soil acidity due mainly to acid sulphate soil in the Nilwara basin causes low productivity. Soil salinization is another form of land degradation in coastal areas and lowlands in the dry zone.

Maintaining vegetation cover on land is more difficult in the dry zone. Intense rainfalls after an extended dry period cause severe erosion. In the dry zone, salinization of soil is another form of soil degradation.

Land constraints

Agricultural land in the wet zone has been almost fully occupied. Land availability may even be decreasing due to urbanization, coastal erosion and saline intrusion, soil erosion and related factors.

Land tenure situations constitute another major constraint to increasing agricultural productivity. Unclear or unestablished land titles and ownership discourage farmers to make investments on lands they cultivate. Also, poor maintenance of irrigation systems due to unclear land titles is reported.

Land fragmentation in small holdings is another constraint. In 1982, the average size of paddy fields of small holding was only 0.45 ha in Galle and Matara districts.

Marketing constraints

Markets are not well established for various field crops, and prices fluctuate considerably both seasonally and annually particularly for minor export crops and field crops including vegetables. These are constraints to crop diversification. Farmers continue to cultivate paddy dominantly despite its low profitability.

Poor conditions of rural roads in Southern Area pose another constraint to marketing agricultural products. It makes transportation costs higher particularly in the Maha season. Production losses are also high for fresh products such as green leaves of tea, banana and vegetables. This is partly due to inadequate packaging.

Constraints to livestock development

The traditional production system is a major constraint that hinders better utilization of farm animals. Farmers keep growing numbers of animals, but pay little attention to the condition of animals and their productivity. Neglect of feeding by farmers as well as feed shortages have led to low reproduction and high mortality rates.

Increasing conflicts with crop cultivation constitute another major constraint for livestock farmers especially in Hambantota district, where grazing lands are decreasing due to settlements. Many farmers keep livestock, but allow them to graze freely, resulting in crop damages.

Institutional constraints

No irrigation fee is collected at present from farmers even for operation and maintenance of irrigation systems. This results in low irrigation efficiencies and undermines the sustainability of any irrigation system relying on limited government supports. Present government policy is to charge farmers' organizations for the operation and maintenance at the tertiary level. This may encourage crop diversification in existing paddy fields, but structured supports in this direction are still largely lacking.

Agricultural research facilities are relatively well arranged in Southern Area, but most of them suffer from shortages of research officers. Applied agricultural research is lacking particularly for rain-fed farming of various crops and alternative irrigation technologies. Agricultural instructors (or field extension workers) are well distributed among districts in Southern Area except Ampara district, but their activities are constrained by inadequate transportation and other facilities.

Credit allocated to the agricultural sector is only 8.5% of the total lending, and dominant portions are directed to the public sector and to marketing and processing activities. Credit availability is particularly limited for small holders.

(2) Objectives for agricultural development

In line with the overall objectives of the Southern Area development, objectives for agricultural development address to social, economic and environmental aspects. The social objectives of agriculture refer specifically to farmers' income and farmer organizing / empowerment. They are expressed as follows:

- 1) To increase farmer income by enhancing agricultural productivity through (i) improvement of crop yield levels, (ii) crop diversification, (iii) utilization of proper level input, (iv) intensive use of agricultural land such as inter-cropping and mixed and multi-story farming, and (v) integrated farming combining crops with livestock/poultry;
- 2) To stabilize farmer incomes by providing supportive measures such as irrigation and drainage facilities, reliable market information, education and

training for marketing, packaging and processing, improved farm to market roads, post-harvest facilities and crop insurance;

- 3) To diversify farmer income sources and raise the labor productivity through effective use of indigenous resources in sustainable manner; and
- 4) To create commercially viable farmers through strengthening of village level farmer organizations, each of which would have production specific commercial activities.

The economic objectives of Southern Area agriculture represent concerns for food self-sufficiency, export earnings and support for agro-industries. They are spelled out as follows:

- 5) To produce proper level of food crops for increasing regional and national population, and raise production of export oriented crops to increase export earnings; and
- 6) To supply sufficient quantity and quality of raw materials to agro-based industries.

The environmental objective of Southern Area agriculture is established as follows:

- 7) To promote environmentally sound and sustainable agricultural practices such as agro-forestry, organic agriculture, and various forms of integrated farming, multi-storey farming and paddy-based mixed farming.

(3) Strategy for agricultural development

Crop agriculture

Paddy yield should be further increased through the on-going SAEP (Second Agricultural Extension Project) and sufficient supply of farm input. The system of DOA's paddy seed supply to farmers' self multiplication should be strengthened. As far as water and land resources are available, new irrigated land should be developed to increase production of paddy and other field crops (OFCs). Paddy research and extension priority should be given to maximization of crop profitability and minimization of production cost. In this regard, the use of Margossa (natural pesticide), popular in Southern Area, is a good example for reducing production cost.

Crop diversification in the paddy land should be further promoted under the SAEP. For expansion of OFCs, seeds and credit supply system should be improved. The best strategy for OFCs is to encourage private sector involvement in seed production, research, extension, marketing and processing.

Rainfed crop agriculture should be shifted to more intensive one particularly in the dry zone through establishment of clear land use policy and crop selection strategy as well as supply of the extension and farm input services. Promising crops, among others, would be sugarcane, cashew, pineapple, maize, pulses, kurakkan and oil seeds (gingelly, sunflower, mustard and castor). Crop diversification including inter-cropping and multi-story farming should also be promoted in the rainfed agriculture to decrease risks from drought and to promote land conservation.

Private sector investment should be promoted for processing/ marketing of feed for livestock sector as well. Cultivation of export oriented crops such as melon and vegetables should also be promoted.

Plantation and minor export crops

Productivity of plantation and minor export crops should be improved through the expansion of on-going subsidy and credit schemes for new planting, replanting, rehabilitation, nursery development and factory rehabilitation together with supply of extension services. Further extension for expansion of citronella production should be promoted mainly in the intermediate zone.

Multi-story/mixed farming systems should also be promoted in these sectors to diversify farmer income sources. Combination of cocoa with rubber, and cassava, sweet potato, ginger, pineapple, mulberry and legumes, etc. with coconut have already been developed in the Country. Integrated farming combining crops with livestock/ poultry should also be promoted further. Sericulture is promising in the intermediate zone of Moneragala and Hambantota districts.

Home garden farming should be made into a commercially viable production system through selection of high value crops and extension and farm inputs supply services. Promising crops for home gardens would include fruits trees such as mango, citrus, and rambutan, minor export crops such as cardamom, pepper, cocoa and vanilla, and vegetables.

Fruits and other crops

High value fruits production such as mango, citrus, pineapple, avocado and banana should be increased through strengthening of research and extension services. More research works should be carried out covering new fruits and new varieties of existing fruits.

Shift of present subsistence-level farmers to sugarcane and cashew production should be further promoted in the dry and intermediate zones. Particularly for sugarcane, however, clear policy on self sufficiency of sugar and land use to avoid excessive mono-cropping should be established prior to the new area development.

The possibility of commercial growing of medicinal herb materials should be studied, since most of them are now harvested from forests with imports constituting one third of raw materials used. There is potential to increase tourists who have interest in 'ayurvedic health care' in Southern Area.

Irrigation and drainage

On-going projects/programs for rehabilitation of irrigation/ drainage systems and its O&M improvement should be continued to support agricultural production increase. Alternative irrigation technologies should be introduced to improve water use efficiency for various crops other than paddy. Farmer organizations responsible for O&M of the whole system in the case of minor schemes and of the systems below the distributary canals in the case of major schemes should be strengthened for their water management in a sustainable manner.

Livestock and poultry

For cattle and buffalo, the development strategy should focus on increase in animal productivity, and not on increase in animal population. Cow milk production should be increased and stabilized for the present milk marketing channel. Buffalo milk production should also be increased and stabilized for Southern Area's famous curd processors who still have sufficient processing capacity. For processing hides, the private sector would have an opportunity to invest into leather and leather products. In order to achieve these, animals with higher genetic potential should be used, better production and management systems applied, improved veterinary services provided and good quality animal feeds with sufficient quantity supplied (such as grasses, feed grains and protein supplements). A clear land use policy needs to be established for grassland. Feed production by the private sector should be promoted. Increased goat raising in the backyard by small holders would enhance the raw material base for leather products industry.

Poultry industry both for layers and broilers should be further expanded to supply rapidly growing markets. For this, private sector investment to this industry should be accelerated.

Local production of fodder crops such as maize, sorghum and soybeans should be increased to supply feed ingredients for the feed industry, and decrease import of these products and save foreign exchanges. Proper utilization of by-products and crop residuals should be promoted particularly in the dry zone where those are limited at present. Use of sugarcane top and rice straw would improve animal productivity to a certain extent.

Marketing

Farmers' commercial ability should be enhanced by providing training on marketing aspects including cultivation practices for quality improvement (use of improved seed varieties, pest controls, etc.), post harvest and processing technologies, marketing structure and utilization of credit facilities.

Marketing facilities including storage facilities and road network should be further improved. Private sector investment to storage and transportation facilities should be promoted mainly for marketing of high value crops both for export and domestic markets.

(4) Policy directions for agricultural development

Agricultural development in Southern Area is prescribed to a certain extent by policies at the national level related among others to agricultural research, extension, credit and farmers' organizations. Expected policy directions to facilitate the Southern Area agriculture are suggested.

Research

Researches would be conducted mainly through field experimentation focusing on the following works.

- 1) Development of lower cost technologies suitable for area specific conditions such as most economic use of chemical fertilizer and organic manure, least cost pest control including application of natural pesticide, use of less labor input.
- 2) Development of technologies for crop diversification in tree crops and rainfed agriculture sector including technologies for inter-cropping and/or multi-story

farming practices, high value new crops and new varieties suitable for combination will be selected; potential for combination with livestock/ poultry and herbal medicine plants will also be examined.

- 3) More experimental works to be undertaken for the selection of promising varieties of fruits, horticulture crops, local and exotic vegetables; experimental works will also cover to develop sorjan cultivation system having potential to expand in the coastal wet land.
- 4) Special research works for the development of proper practices for protection of soil erosion in the wet zone and proper land use and crop cultivation technologies in problem soils with high acidity in the wet zone coastal areas.

Extension

Agricultural extension service should be strengthened in the following manner.

- 1) An effective research extension linkage should be in place to identify problems of farmers and to provide feed back for research. It is desirable to link extension not merely to research but also to input supply functions (including credit). Extension workers need to know that inputs are available in time to farmers and it is necessary to organize farmers into functional groups to increase their access to inputs and services.
- 2) While extension should become involved in managing these farmer organizations, it can provide the necessary leadership and management training and advice to enhance the success of the group. These leadership and training extension activities may be beyond the capability of field extension officers, but they can identify the groups that need assistance and then coordinate the provision of these services by extension specialists.
- 3) Knowledge and skills of extension staff should be upgraded regularly with proper training programs.
- 4) The role of the extension system is far wider than merely communicating technical messages received from the top. Its task is to comprehend and appreciate the relationship between production, financial resources available and technological practices. Limitations and difficulties faced by farmers have to be presented to the administrative system and alternative solutions

discussed with farmers. To achieve this, a farmer centered farming system approach is needed in the extension system.

Credit

Agricultural credit is a key development factor in converting subsistent agriculture to commercial agriculture. However, credit to the agricultural sector is poorly provided as mentioned.

The mere distribution of loans by banks will not give anticipated results unless farmers are properly guided for effective use of credit. Therefore, an integrated and well coordinated extension program should be implemented. One of recommendable systems to be introduced in the South is a group loan system for the solution of present problems encountered in agricultural credit. The Southern Development Authority would support this type of credit schemes negotiating with relevant bank authorities. From this point of view, strengthening of FOs ability for handling of credit will become essentially important. In this regard, more training both to farmers and officers related to the credit should be provided.

Farmers' organizations

Under the Agrarian Services (Amendment) Act No. 4 of 1991, farmer organizations have become legal entities with a properly constituted mandate. The institution of formal farmer organizations is foreseen as to give practical effect to the government policy of devolving greater management responsibilities to farmers and thereby promote self reliance within farming communities. In terms of the Act, the farmer organizations are empowered to undertake a wide range of activities. Included are:

- 1) to prepare and implement the seasonal and annual agricultural work plan for the area,
- 2) to undertake village level construction works and repair and maintenance of minor irrigation works,
- 3) to distribute agricultural inputs such as planting materials, fertilizer and agrochemical, and marketing of products,
- 4) to foster close cooperation between relevant institutions and the farming community for greater efficiency in implementing the plans and programs, and

- 5) to carry out other related projects which are deemed beneficial to the community with prior approval from the Commissioner of Agrarian Services.

At present, however, most FOs are weak to undertake these activities. Several special programs for strengthening FOs have been carried out in the past, and some are on-going at present. Farmers should be well organized for O&M of their irrigation command, receiving agricultural credit and handling marketing activities both for farm inputs and outputs.

4.3.2 Fishery

(1) Constraints to marine fisheries

Marine fisheries development is faced with (1) poor infrastructure, (2) low levels of skills and technology, and (3) inadequate knowledge of the resources. These problems are described below.

Poor infrastructure

Two main factors have contributed to the poor conditions of fisheries related infrastructure: lack of coastal engineering application and lack of coherent policies for fisheries development. Some harbours have been silted up, and anchorages located in some lagoons and estuaries have entrances that are difficult for fishing boats to cross during some months of the year because of sand bar formation. The lack of coastal engineering studies before construction and inadequate maintenance are the primary causes of this situation.

The "open gate policy" of the previous administration has led the on-shore facilities in fishery harbours to a state of neglect. Most facilities such as ice plants and workshops have been leased to the private sector at low rents. The fishing industry suffers from low service levels such as insufficient ice supplies, shortages of fresh water, and difficulties in procuring fishing gear, engine spare parts and other input. The poor landing facilities result in delays in turn-around time and damages to fish quality, and discourage the private sector to invest in export-oriented deep sea fishing.

CFHC services for maintenance and operation of harbours and anchorages are inadequate. This is due to their exclusive reliance on the government budget, as no harbour charges apply.

Low skill and technology levels

Coastal fisheries rely on limited technological options --- typically pelagic gill netting. Off-shore fisheries suffer from inadequate vessel design particularly for fish hold and crew accommodations as well as inadequate gear such as insufficient quantity of long lines and smaller mesh sizes. Limited technology and inadequate gear are due in turn to difficulties in procuring input, as no service centers/shops are stocking some fishing gear and engine spare parts.

Off-shore fisheries are constrained also by the lack of basic communication and safety equipment. Also most fishermen have not received adequate training in navigation, seamanship and safety.

Inadequate knowledge of resources

The present system for collecting and compiling fisheries statistics does not appear to be adequate for a continual assessment of stocks. There is also no system of monitoring fish production especially from off-shore areas which are attracting increasing number of vessels.

(2) Constraints to inland fisheries

Inland fisheries development suffers from after-effects of the withdrawal of the government patronage in 1990. Major effects constraining inland fisheries are the following.

- 1) Non-stocking of reservoirs, suspension of extension and training programs and stoppage of producer subsidy have resulted in the decline of freshwater fish production.
- 2) Most facilities of breeding stations leased to the private sector have been neglected or destroyed.
- 3) The Aquaculture Development Division of MFAR created in 1994 by the present administration faces shortages of skilled and trained staff.
- 4) The Udawalawe fish breeding station brought under the Aquatic Development Division suffers from shortages of equipment and pond facilities, as the half of its pond facilities leased to the private sector is used only for ornamental fish production.

(3) Strategy for regional fisheries

Inland fisheries

The development of inland fisheries overcoming the constraints described above, would require increasing fingerling production for stocking using the two stations at Udawalawe and Muruthawela in Southern Area and also encouraging private producers who would sell their fingerlings to the State, fishermen organizations and others. The two stations have to be rehabilitated and strengthened. Outgrower system using seasonal tanks and other water bodies for nursing of fry to fingerlings should be encouraged to meet the demand for fingerlings and to optimize the use of space and facilities at the stations.

The Udawalawe and Muruthawela stations have the potential to produce large quantities of fish spawn, and fingerlings of good quality. Due to lack of machinery and facilities as well as trained staff, however, they are not optimally used. Material supports such as improvement of hatchery units, nets and pumps should be provided in order to allow them to offer better services to the people in Southern Area.

Integrated fish culture in conjunction with poultry rearing and home gardens in seasonal tanks and unutilized ponds, tanks and ditches adjacent to homestead should be encouraged either individually or collectively. Women participation in this system will be encouraged.

Infrastructure of fishery harbours and anchorages

Existing fishery harbours and anchorages have to be rehabilitated, and quayside or on-shore services such as sheltered marketing areas at the landing places, ice plants for supplying ice, fuel storage and repair facilities have to be rehabilitated and/or introduced where necessary to meet the increasing requirements for fish production.

Human resource development

Considering the need to increase the efficiency of fishing vessels (day and multiday boats) in offshore waters using new technology, and the need for training of new entrants to the fishing industry, a number of training programs for skippers, technicians and fishermen will have to be introduced. Small fisherfolks should be organized and trained to enter into larger scale marine fisheries operation. Training is also required in the inland fishery sector for extension workers, fingerlings outgrowers and rural farmers interested in fisheries.

4.3.3 Industry

(1) Constraints to regional industrial development

Some of the constraints discussed below are policy induced and can be removed with appropriate policies. Others derive from the nature of the resource base and the existing level of industrialization in Southern Area. These have to be taken into account in devising a regional industrialization strategy.

Small regional market

There is little industrial development in Southern Area. The existing manufacturing base is largely of micro/cottage type with a large concentration in handlooms and coir products. Factory type employment is in a few garment and textile firms that were established under the 200 Garment Factories Program and in the Koggala EPZ during 1991-93. Further development of local resource based industries is severely constrained by the limited raw materials, government monopolies, and unnecessary interventions in domestic markets and exports.

Southern Area has limited comparative advantage in foot loose industries. Availability of skilled workers is considered an advantage but the labor costs do not change by location due to government regulations. Availability and the price of infrastructure does not provide advantages to the regional industries.

The small size and the agrarian structure limits the demand for manufactured inputs, parts and components, and replacement needs of existing plants. Similarly, subcontracting to supply Colombo based industries with parts and components has not developed.

Development of product and raw material standards and reducing production costs is a prerequisite for the growth of foot loose industries. Government policy could speed this process by providing incentives to domestic procurement as opposed to imports and procurement from regional industries. Industrial deepening and faster growth in local industries will occur as the regional industrial base diversifies and the size exceed critical thresholds. This calls for a sustained government effort during the early phases of industrialization.

Mining in the South is very undeveloped. There are shortages of river sand and aggregates for construction. Government monopoly on cement has stifled all downstream industries.

Government policy discourages large projects in gem mining for social reasons and this sector will remain under similar practices in the medium term.

High costs and limited availability of input

Industrial land: Industrial land equipped with the requisite infrastructure and telecommunication is a severe constraint. Yet, two thirds of the land area in Koggala EPZ is unused five years after the costly investments in infrastructure. Similarly, there is little demand for the small industry districts advertised by IDB, RISC and Provincial Council. In the case of small industry districts, the problems derive from government's inability to give the occupants land titles years after they have built buildings on the allocated plots. In the case of EPZ, the source of the problem is the inefficiencies of public agencies operating the zone and their efforts to pass the costs of these inefficiencies to the users.

Credit: Lack and high cost of credit constitute a constraint to new investment in manufacturing. This is particularly serious for SMI's. There are different credit lines for enterprises of different sizes. Most government supplied credit is directed to micro/cottage enterprises. There are no plans to continue with SMI credit after the present program is completed in 1996.

Infrastructure: Lack of reliable electricity, telecommunication, transport, water and sewerage is a constraint to industry in all of the island. The problems are more serious in areas outside of Greater Colombo. Inefficiencies of respective government monopolies, inappropriate pricing policies, limited investment funds, and overregulation (which discourage private investment in infrastructure) all play a role. Some issues that are particularly important for industrial development are discussed below.

Restrictive government regulations

Minimum wage laws and other regulations discourage both the firms and the labor to move to locations with the lowest production costs. Minimum wage, not being regionally differentiated, prevents wage adjustments to draw industries to areas with excess labour and lower labour costs.

Problems are also posed by industry structure. Many sectors of industry in Sri Lanka are owned by the Government or are monopolies/oligopolies. Firms do not respond to market signals under these conditions and make inefficient locational choices.

Excessive social welfare systems have a similar impact on labor adjustment. With a social safety net affecting a large proportion of the population and generous levels of support

provided under this net, the workers have no incentive to migrate to regions with higher employment prospects.

Land use regulations guiding the location of industries are not explicit. Case by case decisions are made without explicit criteria. These have now been combined with a very high level of environmental standards. While the concern with environmental protection is obviously very important, it can lead to arbitrary decisions when the standards and enforcement mechanisms are not explicit. There is concern that these have, in recent years, been used as an instrument to prevent competition.

The Termination of Employment Act prevents employers from adjusting to changes in market conditions. The same applies in cases of labor discipline. These discourages firms from hiring new workers. Existing training programs are designed to get a job. Incentives to encourage employers to provide on-the-job training have been completely neglected. The latter is more relevant as it is totally demand driven. The present institutional set-up and legislation prevents this.

Lack of spatially differentiated incentives

Special incentives were provided to industries which located outside Colombo up to 1993. The incentive system was changed in 1993 and now there is no differentiation for the whole island.

The Government also provided other special incentives when an active locational policy was pursued. In the case of garments, for example, access to quotas was partially determined by the firm's willingness to establish regional operations. These have now been largely discontinued.

There has been little new industrial development in the outlying areas as a result of these two policy changes. In the case of the South, there were no new industries locating in the Koggala EPZ since 1993. Similarly, spin off of Colombo firms has also slowed down.

(2) Existing government policies

The cornerstone of national policy is to maintain macro stability. The emphasis is on reducing the public sector borrowing requirements (PSBR) to contain inflation and reduce crowding out private investment. The principal mechanism identified for this is a reduction in public expenditures. The Government will curtail its expenditure to legitimate areas of public concern: education, health, vocational training, environmental protection, and rural infrastructure. No new public sector investment will be undertaken in manufacturing.

At the same time, privatization will be accelerated to reduce the size of public sector in manufacturing. All restrictions on foreign companies will be removed.

Key macro policy instruments are a more open trade regime and flexible exchange rates. Import protection levels and their variance will be reduced. Sectors where Sri Lanka is not competitive will continue to shrink while efficient ones will expand rapidly. The Government will provide an open and transparent legal and administrative framework. The investment incentive system will be changed to introduce transparency and predictability.

The industrial development program formulated for Southern Area takes account of these national choices. These together with the regional resource base and development priorities determine the regional industrial development strategy.

(3) Policy directions for industrial development

The Government of Sri Lanka has decided to reduce the size of public sector in the economy as well as the manufacturing sector. New growth will come from private investments. Specific locations of these will not be determined by government agencies. The main policy tool available to the Government is to support private firms locate in Southern Area and promote rapid growth of industries already in the region. Some of the major support measures are briefly discussed below.

Investment incentives

The Government has targeted some sectors for manufacturing growth, though the incentive system lacks locational and sectoral selectivity. The 1995 incentive system has targeted the following four areas: 1) high technology industries including science parks and production of scientific and measurement instruments, 2) electronics, 3) light engineering, and 4) infrastructure. Some major export items (textiles, garments and precious metals) are excluded from this list on the ground that there already is sufficient production capacity in the Country. This is probably not true and would be detrimental for industrial growth in Southern Area and the Country even if the overall capacity is large enough.

Quota allocation can be rationalized to promote further export growth. Alternative systems of quota allocation can be used to generate fiscal revenue. There also are issues of utilizing access to quota markets to encourage exports to non-quota markets. These may imply creation of production capacities beyond the requirements of quota markets. In contrast, the Government seems to be trying to curtail capacity creation which are inadequate even to serve the existing quotas.

Geographically differentiated incentives could be considered to support regional industrial growth in areas outside Colombo. These could include reduced taxes on payroll in provinces and lower rates for the regulated utilities (power, telephone, water, etc.), lower interest rates for credits to provincial industries; and lower rates of corporate taxation for provincial industries. In Sri Lanka, the turnover tax is the major instrument of taxation and the Government may consider applying lower rates outside Colombo.

Regional support measures

(a) Industrial land and infrastructure

Reliable physical infrastructure is lacking all over the island. Provision of this infrastructure in selected locations will have a strong effect on attracting industries to Southern Area. Strengthening links with Colombo and possible development of the Galle port are also important. A special program is proposed to provide developed lots with the required infrastructure.

(b) Technology upgrading

The existing technology support services are geared to small and micro enterprises. They are based on the assumption that the civil servants hired by the Government, sometimes with support from international donor agencies, can provide meaningful advice to the private entrepreneurs on appropriate technologies. Such a government service is not needed under market conditions. Firms themselves will seek, locate and choose the appropriate technology. Similarly, technology upgrading is done by the firms themselves. The emphasis must shift to fiscal and other incentives that encourage firms to upgrade their technology. This includes promotion of expenditures for R&D and investments in new technology.

(c) Skill training

The large number of unemployed youth is a distinct feature of the Southern Area. Some of these could find jobs in the existing industries if supplied with the requisite skills. There are many skill training programs in the region. In manufacturing skills alone, close to 5000 youths are trained per annum in Southern Area. This is a higher number than the annual increase in manufacturing employment in the Area. There is no need to expand the existing programs.

(d) Credit and other programs

An integrated package of industrial support measures are proposed to increase the rate and level of regional industrialization. Given the reliance on the private sector with no direct government involvement, the proposed programs are designed to eliminate constraints facing

the private sector. Details of four such programs where government actions are critical are given in Project Report (a separate volume). These involve provision of infrastructure, credit, technical support and coordination between central and local government agencies.

(c) Legal and administrative measures

A comprehensive framework is provided for planning and administration of regional industrialization by the Industrial Promotion Act (No.46) of 1990. The immediate priority is to implement the provisions of this act. In the medium term, it would be useful to revise the act to eliminate some of restrictive covenants concerning approvals needed to set up new businesses and to clarify the authority for implementing the Act.

(4) Industrial support strategy for Southern Area

The industrial growth in the South will derive from the expansion of existing private sector companies and location of new private companies. The government role is confined to creating a conducive policy environment and selective facilitative support. The latter includes physical infrastructure, labor training and streamlining administration. The Master Plan does not include targets for specific sub-sectors to be developed and geographic locations. The likely developments are anticipated in an effort to provide the appropriate public support to the private sector.

Two recommended instruments for locational guidance of the new investments are provision of physical infrastructure and re-introduction of locational selectivity in incentives administered by BOI. In addition to Galle, two specific locations are identified for concentrating new investments in industrial infrastructure.

Sectorally, the short term emphasis is on further expansion of the garments industries, further processing of agricultural commodities (particularly food), and selective support for labour intensive foot loose industries. Two principal tools proposed for supporting all sectors are a directed credit scheme for industry, and skill training to increase the competitive position of Southern Area. In the case of new target industries, as in electronics, an additional instrument is proposed. This is the creation of a specialized industry-wide institute in a location in Southern Area. Promotional measures are proposed to gain the support and participation of potential foreign investors in this institute. This participation is a precondition for initiating this institute.

National level policy stability is a major determinant of private foreign investments. A streamlined administrative support system will effect the proportion of such investments that

may be directed to areas outside Colombo. The last includes support services provided through a single service center located in two or three growth centers in Southern Area.

Infrastructure provision should be substantially speeded up in three to five regional growth centers with large potential for industrial growth. Candidate centers are Galle, Hambantota and Embilipitiya. It is recommended that not only industrial but total urban infrastructure development be improved in these centers. Similarly, programs should be implemented to provide housing for the workers.

An important component of infrastructure is links with Colombo. The present road and rail system does not provide adequate access between Southern Area and Colombo, but serves as a minor artery designed to serve the local communities on the routes. These links need to be strengthened even as the administrative reliance on Colombo is reduced by locating the relevant government offices in Southern Area.

Concurrently, industrial finance must be made available at reasonable interest rates. Directed credit should be established and be made available to all regional firms, including those that agree to relocate part of their operations from Colombo or undertake their expansion in Southern Area. All financing requirements of such firms, including the part continuing production in Colombo, should be provided by the new facility.

One-stop service centers should be established in the selected urban centers to provide all functions presently performed by BOI, Customs Department, and relevant Ministries. These will be the core of the regional offices of the Southern Development Authority. It is recommended that they operate in close cooperation with the Regional Industry Service Committees.

For the medium term, these functions should be supported by establishing technology and training institutes specialized in few products. It is likely that these will include consumer electronics, leather, fabricated metal products, and gems and jewelry.

In the immediate future, the industrialization strategy calls for speeding up infrastructure provision. This carries the risk that such infrastructure will remain idle if the planned growth does not materialize. This risk is considered to be small. It can be further reduced by encouraging private sector to undertake these schemes with sufficient inducements by the Government. It is likely that there will be strong foreign private investment interest if the Government provides the appropriate regulatory environment and some further assurance against possible policy related risks.

4.3.4 Tourism

(1) Potentials and constraints for tourism development

Potentials for Sri Lanka tourism

Sri Lanka is a comfortable resort throughout the year due to mitigation effects of the sea and winds despite the high temperature and humidity. The Country is generally under the strong influence of natural conditions, particularly strong winds due to the southwest and the northeast monsoons and short intensive rain storms during transitional seasons. Sri Lanka's tourism asset is found in the people, the nature and the history as interwoven into folklores and rice-centered lifestyles which have been developed and inherited through a long history since the age of the Sinhala Dynasty.

Such a tourism asset may be represented by the people who live with the nature enduring its force, surrounded by flowers and fruit trees they have planted and cattle, dogs and other animals and birds they care. Their houses may be hidden by huge trees or dense forest under the strong sunlight creating the darkest shade and the influence of strong winds and intense rains. This may be a world where tender-hearted people, animals, birds and flowers are caring each other. Along the coast, the people live quietly with animals in the shadow of rocks protected from high waves, strong winds and blazing sunlight.

Sri Lanka's culture has been nurtured through the long history of coexistence of the people and animals under the great force of nature. This has been embedded in folklores such as Sigiriya and Kirinda, which make not only boys and girls but also grownups feel that their dreams may come true in this culture. The following images encircle Sri Lanka tourism.

Images Encircling Sri Lanka Tourism

Sri Lanka, a land of gentle people

Sri Lanka, a land filled with flowers, animals and birds

Sri Lanka, a land where you can meet elephants

Sri Lanka, a land of stories

Sri Lanka, a land where your fantasies come to life

Constraints to tourism development

In contrast to the tender-heartedness described above, life under harsh natural conditions has nurtured a strong characteristics of the Sri Lanka people to endure hardships. This may tend to be a factor for tourists to feel they are poorly received. Even the self-discipline or

self-defence against severe external conditions may contribute negatively to the sense of public duties.

Continued use of run-down houses on old streets constructed during the colonial era leave visitors with an impression of disorder. This hinders visitors from enjoying window shopping and imaging the history behind the scenes. Many towns appear similar with a clock tower standing in the center, despite a variety of lifestyles with different histories. Lack of differentiation among towns is another constraint to tourism.

Transportation means, both inter-city and intra-city, are limited. Most places can be reached by a long bus ride on narrow roads as no inter-city highway exists and railways and domestic aviation services are limited. Within a city, a bajaji is convenient but as expensive as a taxi for tourists.

Security checks on roads and at the entrances to towns pose another constraint as perceived by tourists. A sense of restrictions reduces pleasure of travelling.

Various facilities at tourism sites are inadequate, including accommodations, goods and instruments for marine and other sports, and places to show local festivals and folk dances. Tourism information is insufficient particularly at hotels and tourism sites. Service staff are not well trained, and tour guides, especially German and Japanese speaking ones are insufficient.

Littering and inadequate disposal of wastes are observed at some tourism sites. Demands for donations at historical sites and mendicancy also disturb tourists.

(2) Targets for tourism development

Foreign tourist arrivals

Foreign tourist arrivals in Sri Lanka in the year 2001 have been projected by a regression analysis. Depending on the base year for projection, estimated arrivals are between 506,000 and 957,000. The Ceylon Tourist Board (CTB), under the UNDP supported master plan, projected foreign tourist arrivals in 2001 at 874,000. For a long term planning purpose, projections by CTB are taken as the upper bounds of foreign tourist arrivals : 1,081,000 in 2005 and 1,562,000 in 2015.

Foreign tourist arrivals in Southern Area have been estimated at 103,994 in 1994, which corresponds to 25.5% of the total arrivals in Sri Lanka, 407,511 in 1994. This ratio is expected to increase due to the following factors:

- 1) limited areas for further resort development in the Colombo area and its northern coastal area with little investments expected for new facilities and redevelopment,
- 2) new investments for better tourism facilities expected in the southwestern coastal area up to Galle having good access from Colombo,
- 3) additional investments planned already beyond Galle, which will be realized in steps as the established tourism area along the southwestern coast saturates,
- 4) rich natural and socio-cultural resources in general along the southern coast and in particular the Yala and the Bundala National Parks which would attract Asian tourists as well, and
- 5) a new hotel school development in Weligama to provide quality tourism staff.

Foreign tourist arrivals in Southern Area are expected to increase to 600,000 by the year 2015. This corresponds 38% of the total foreign tourist arrivals in Sri Lanka as projected by CTB.

Tourist investments

The number of hotel rooms, including guest houses, available in Sri Lanka will increase from 13,823 rooms in 1995 to 27,478 rooms in 2005. In Southern Area, 3,277 rooms are available in 1995, and planned and on-going hotel construction will add 4,660 rooms by 2005. Demand for hotel rooms in Southern Area is projected to be 9,900 rooms in 2005 and 17,000 rooms in 2015. In addition to planned and on-going investments, further investments will be required at Rs. 2,700 million by 2005 and Rs. 13,200 million by 2015. The total cumulative investments will be Rs. 8,344 million by 2005 and Rs. 21,544 million by 2015.

Employment

The tourism sector in Sri Lanka employed directly 28,790 in 1992, which increased steadily to 35,064 in 1994. According to CTB, generation of the direct employment is at 2.53 persons per hotel room. Also tourism activities generate indirect employment at some 140% of the directly employed.

Employment in the tourism sector in Southern Area is projected accordingly as follows.

	1995	2005	2015
No of hotel rooms	3,277	9,900	17,000
Direct employment	8,291	25,047	43,010
Indirect employment	11,507	35,066	60,214

Tourism revenue

Foreign exchange earnings from tourism in Sri Lanka increased from US\$ 130.0 million in 1990 to US\$ 230.2 million in 1994. The average length of stay has not changed much.

In Southern Area, an average foreign tourist stays for eight days within the area and takes an optional tour of four days outside for a total of 12 days. The average length of stay may increase to 10 days by 2015. Foreign exchange earnings from tourism in Southern Area are estimated as follows.

	Unit	1995	2005	2015
Foreign tourists		104,000	345,000	600,000
Average length of stay	day	8	9	10
Total guest nights	1,000	832	3,105	6,000
Average daily expenditure	US\$	56.8	85.4	111.4
Regional tourism revenue	US\$ x 1,000	47,258	265,167	66,400

(3) Strategy and measures for tourism development in Southern Area

Overall strategy

Tourism development in Southern Area will proceed further along the southwestern coast in the short to medium term, but in the medium to long term, Hambantota and Matara districts will become more attractive (Figure 4.2). The Galle-Matara cluster (C-2) will be formed, if the Galle fort area is rehabilitated combined with traditional handicraft in Matara with the injection of new elements such as a cultural center.

Tourism in Moneragala district will be supported by the Maligawita statue rehabilitated by UNESCO cooperation in combination with other small historical remains and the Yala and the Lahugala National Parks. Once the security in the east is restored, the Arugam Bay resort at Pottuvil will be developed as recommended by the CTB/UNDP master plan. Then Moneragala will become another tourism gateway and a base for safari tourism. Another prerequisite is to upgrade the Weerawila airport for direct access by foreign tourists.

These and tourism resources in Southern Area will be inter-linked with each other and also resources in other regions. Important links and tourism clusters are illustrated in Figure 4.3.

Measures

Under the overall strategy, the following physical measures may be taken:

- 1) Improvement and construction of roads from Colombo to Galle for tourists bound for seacoast resorts;
- 2) Establishment of a tour route from Kandy, by Nuwara Eliya to Hambantota combining historical ruins, ancient cities and sceneries with a safari and other attractions in the South;
- 3) Improvement of the road link between Colombo and Hambantota for tourists taking part in a safari, staying in beach resorts and buying gems;
- 4) Upgrading of the Wirawila airport, expansion of air services from Colombo to Hambantota, and direct air access to Hambantota;
- 5) Construction of a resort hotel with 300-500 rooms in Hambantota;
- 6) Construction of a look-out and lodge on high ground near the road in the Sinharaja Forest Reserve;
- 7) Development of inland cultural sites with improved access, information, car parks, picnic and other facilities, and eco-cultural centers; and
- 8) Road improvement to Moneragala from the Colombo-Hambantota route and a future extension to Pottuvil.

Other measures to be taken by the CTB initiative and cooperation with related agencies to encourage private sector investments and local participation include the following:

- 1) Education and training for tourism services and management staff to improve service quality so that tourists themselves would become marketing agents;
- 2) Enhancement of public awareness for tourism's effects on employment generation and economic development so that social status of tourism service staff will be improved to facilitate manpower development for tourism;

- 3) Strengthening of CTB supports for private investors to encourage new development in response to demand increase;
- 4) Upgrading and expansion of accommodations owned by public corporations for domestic tourists to contribute to income re-distribution;
- 5) Invitation of international conferences, trade fairs and other events as opportunities to market Sri Lanka tourism and to enhance its images;
- 6) Dissemination of tourism information to major tourism markets through international fairs and other events; and
- 7) Provision of specific detailed and up-to-date information on tourism sites at major hotels and other tourism spots.

4.3.5 Trade and other services

(1) Objectives

Commercial trade

This sector's ultimate objective is to deliver commodities from the producer to the consumer as effectively and speedily as possible at a minimal cost. All available supplies should be brought into the markets (no waste of resources) and all consumer demand should be met if the goods are somewhere in supply. Delivery should be timely. At the same time, its cost should be kept as low as possible. These requirements will be automatically satisfied if the markets are sufficiently competitive. In Southern Area, this objective has yet to be fully achieved although local markets by and large are functioning well.

Consumer services

A whole variety of consumer services cater directly to consumer needs. This is a purely demand-driven sector and its objective is simply to provide services as demanded in the market. Services available in Southern Area are still limited both in scope and quality because current levels of demand do not warrant their further development.

Financial services

From the regional development points of view, the financial sector bears a paramount responsibility to be instrumental for the whole range of investments. Its objective is to make

financial resources available as needed by prospective investors (large to micro) in Southern Area at as low cost as possible.

The above objective applies equally to the formal and the semiformal financial institutions. While the formal sector primarily aims at commercial lending, the semiformal institutions, particularly NGOs, are oriented toward the empowerment of the underprivileged people and, as such, financial services are more their means than objective itself. Nonetheless, they represent a significant alternative source of credit to many small and micro entrepreneurs.

(2) Strategy for trade and other services

Commercial trade

The dictum is: leave it to the market and in the private hands; what the Government should do is to help the market operate properly. For manufactured goods, the current distribution systems are well established and functioning. They can be much improved by:

- streamlining their hierarchical structure (headquarters/warehouses -- local wholesale agent -- retailer); and
- better stock management.

For fresh food items (grains, vegetables, fish, meat, etc.), the basic strategy is to:

- make the market function better -- more efficiently and more transparently.

Specifically:

- at the national policy level, 1) deregulate food prices completely (no ceiling or floor price schemes) and 2) privatize parastatal organizations involved in marketing activities (e.g., CWE, CFC);
- also at the national level, build a new Colombo wholesale market in a new location with better facilities and larger space allowing new entry of wholesale traders; this will have a far reaching positive impact on food commodity distribution and the Southern Area will also benefit greatly;
- disseminate market information (price, traded volume, market trend) daily for the public in general and the producers in particular;
- modernize the whole system of transportation;
- recognizing the unique merits of the *pola* system in the Sri Lankan economy, give full support to its better management and functioning;

- make every effort to ensure market access for small-scale farmers in peripheral areas -- farmers' organization, better roads, their own means of transport, *pola* development in their vicinity, etc.; and
- most importantly, change the common negative perception that intermediaries are all exploitative and dispensable, to a positive one that they are providing indispensable services to society; their malpractices should not attest the wrong notion that the producer and the consumer alike will be better off without them.

Auctioning at the wholesale markets does not appear a viable option for Sri Lanka at least for the time being. Its institutionalization therefore is not recommended.

Consumer services

This subsector's strategy is to:

- respond to the market demand correctly -- leave no demand unmet and avoid oversupply.

Without any policy intervention, consumer services will exactly follow this strategy. One possible impediment, however, is finance. This issue is the main concern for the financial services subsector.

Financial services

To achieve this subsector's objective requires that two aspects be addressed separately: availability and cost.

The prevailing interest rates on loans are prohibitively high. This very high cost of finance effectively discourages serious investors to make any long-term investment. This situation must be corrected. Strategy for this is necessarily national but still highly relevant to the Southern Area development:

- reduce the national budget deficit;
- rationalize various concessional credit programs which are ineffective and yet a substantial budgetary burden; sell commercially oriented programs to private banks and tightly target non-commercially oriented ones at the intended beneficiaries; and
- for banks, reduce the default rates by strengthening loan appraisal capacity as well as debt recovery discipline.

Credits are often unavailable to regional investors even when they can afford the high financial costs. One reason for this is banks' general indifference toward the customers outside the Colombo metropolitan area. They have no incentive to make extra effort to provide credits to first-timers in far away regions when their fund sources are limited. Strategy to improve credit availability is again a matter of national policy:

- give the banks incentive to lend money to the Southern customers by reducing the statutory reserve ratio (15% currently) by 0.2--0.5% and earmarking the freed funds entirely for Southern Area; each commercial bank is required to deposit a certain portion of deposit liabilities in the Central Bank on which low interest is paid.

This small measure alone will raise a total of Rs 350 to 900 million a year which becomes available exclusively for the region.

Semiformal financial institutions mainly serve rural customers. In many localities they are the only institutions that provide banking services but not all of them are up to professional standards. A separate strategy is necessary for them:

- monitor the health of the rural financial institutions closely and regularly; and
- strengthen the management of those institutions and of the Cooperative Rural Banks in particular because of its most extensive operation coverage.

Some people advocate establishing the Southern Regional Development Bank or a venture capital company whose targets are exclusively Southern entrepreneurs. Considering the current banking practices, it is quite understandable to promote such new financial institutions with a clear regional focus. Those ideas, however, need a careful evaluation before launching. As for the Bank, the first consideration must be: is it wise to have another small bank on top of the existing banks, precluding scale economies or the benefit of cross subsidy?; isn't it more effective to reorient the existing institutions toward the region by restructuring their administration or giving new incentives?

The venture capital company for equity finance also raises serious questions of viability and effectiveness: in Sri Lanka where stock market is still in its infant stage, can the Company sell, as it likes, its holding shares of investee ventures when time to exit has come?; the Company is supposed to hold the shares for two to five years, but is this duration long enough for the prospective entrepreneurs, particularly industrialists? If some party, however,

proves those concerns groundless and launches into the project, the venture capital company will be a welcome venture itself and can definitely make a great deal of contribution to the Southern Area development.

(3) Policy directions

Commercial trade

Price deregulation : Price control schemes for agricultural crops which now nominally exist on paper should be all abolished.

Privatization : All parastatal organizations involved in marketing and trade activities should be privatized.

New Colombo wholesale market : The existing Pattah market in the heart of Colombo is antiquated and extremely congested. Its limitation in space also prevents new entry of wholesale traders, thereby restricting market competition. A ring of unauthorized "collectors" routinely collect illicit parking charge from lorries entering the place. Sanitary conditions are appalling. The market should be relocated somewhere in the suburbs together with a wide range of supporting facilities including a new bus terminal nearby. This will have a far-flung impact on the distribution and price formation of agricultural commodities.

Financial services

Reduction of statutory reserve and earmarking for the South : The current 15 % level of statutory reserve requirement should be lowered by fraction (0.2 - 0.5 %) to free funds to be utilized exclusively in Southern Area. This measure will give a strong incentive for the banks to cater to the Southern customers.

Cessation of concessional credit programs : Various concessional credit programs have turned out ineffective and yet a substantial budgetary burden. They should be terminated by selling the commercially oriented programs to private banks and tightly targeting the others at the intended beneficiaries.

Strengthening loan appraisal capacity and debt recovery discipline : In order to properly identify creditworthy projects in Southern Area and to recover as much credit as possible in case of default, banks (particularly regional branches) need to acquire the capacity of loan appraisal (and, better, of long-term development financing) and the discipline of loss minimization.

Monitoring the rural financial institutions : Despite the indispensable services they provide in rural areas, not all rural financial institutions are up to professional standards. Their financial health should be monitored closely and regularly. If needed, managerial expertise should be injected.

4.4 Objectives and Strategy for Environmental Development

As described in subsection 3.1.3, Southern Area has very unique environmental characteristics represented among others by the diversity in physical features, long and varied coastlines and bio-diversity. Regional development of Southern Area aims not only at preserving these natural resources but also at enhancing their quality and utilizing them for various socio-economic activities. The latter may be expressed as the creation of better human environment or environmental development, which is contrasted with a passive concept of environment to be merely preserved. Objectives and strategy for environmental development in Southern Area are established in this section within this conceptual framework to cope with existing problems related to environment, natural resources and land use.

4.4.1 Existing environmental and land related problems

There are various environmental and land related problems in Southern Area. They may be classified into two types: problems caused by economic and other human activities, and problems of environmental administration.

(1) Problems caused by human activities

Soil erosion and deforestation

Soil erosion is serious particularly in Galle, Hambantota and Moneragala districts as a result of deforestation, encroachment of forest reserves, land reclamation, blasting of rocks and mining of clay. Chena cultivation is another major factor for the deforestation and soil erosion in Hambantota and Moneragala districts. In Hambantota district, the area under chena cultivation has become larger, periods of cultivation are lengthened, and intervals of "rest" for the rejuvenation of the soil are shortened from 10 to two years. Natural forest cover in the Moneragala district has decreased by 70% since 1956 at an average rate of 16,000/ha annually. Mono-cropping of sugarcane and tobacco has also contributed to soil erosion and soil degradation in Moneragala district.

Deforestation and encroachment of reserves are problems also in upland areas of Matara and Ratnapura districts. Deforestation has resulted in the depletion of medicinal herbs and rare species of trees and lianas. Even the loss of fauna has been reported.

Reforestation is constrained by limited financial and manpower resources of the Government and limited land in the wet zone. Forest plantations in Southern Area are established more in the dry zone where larger area is available. Galle and Matara districts face shortages in fuelwood supply.

Coastal zone degradation

Coastal erosion has been a problem in Galle and Matara districts. The problem has been aggravated by the destruction of nearshore coral reefs, removal of sand from beaches, desultory use of coastal lowland and construction of ill-planned coastal structures. Coral and sand mining is particularly heavy in Galle district. The national road no. A2 has been more seriously threatened along the western coastal stretch of Galle district.

Water pollution

Surface water is already seriously polluted by human activities in some areas of Galle, Matara, Hambantota and Ratnapura districts. The Walawe Ganga has been polluted by discharge of effluents from the National Paper Corporation plant at Embilipitiya and a sugar factory. Other rivers are also polluted by agro-chemicals and discharges of wastewater.

Degradation of coastal and inland wetlands has also occurred particularly in Galle district due to discharge of effluents, solid waste dumping in channels, application of chemical fertilizer and agro-chemicals, and other-exploitation of wetlands. This affects the supply of drinking water and causes depletion of fish and insects, spread of weeds and depletion of some plants.

Groundwater in Hambantota districts suffers from high contents of iron and fluoride. The western part of the district yields groundwater with a high iron content, while deep aquifers of the eastern part show high fluoride levels.

Saline water and soil salinization

Intrusion of sea water is a problem in low lying areas along the coast of Galle and Matara districts, and also in some areas in Hambantota district. Paddy fields have been affected by the inflow of brackish water in Hikkaduwa Ganga, Thelwatta Ganga, Rathgana Lagoon and Urawatta Delta areas of Galle district. Paddy fields in Hambantota district have also been affected by sea water intrusion in the downstream area of Walawe Ganga.

Soil salinity is another inherent phenomena constraining agriculture in dry areas of Hambantota district. Structural measures taken to alleviate the flooding problems in

downstream areas of Nilwala Ganga have resulted in build-up of soil salinity and alkaline soil.

Gem mining

Gem mining causes various environmental problems particularly in Ratnapura and Moneragala districts. Abandoned gem pits unfilled or partially filled provide a breeding ground for mosquitoes and cause malaria. Overcrowding under unhygienic conditions in some mining areas has raised the incidence of water-borne diseases such as typhoid, paratyphoid, dysentery, ineffective hepatitis and enteritis.

Conflicts with wildlife

During the past few decades, agricultural development in the dry zone of Southern Area has removed a significant portion of forest. Existing protected area system in Southern Area cannot accommodate the elephant population throughout the year, owing to limited fodder and water resources during the dry season. As a result, the majority of elephant herds are free-ranging in developed areas outside reserves. In some areas, whole herds have got trapped or isolated in small scrub forest patches surrounded by cultivations and habitations - phenomenon known as 'pocketed herds'.

Seedlings for forest plantations are damaged by elephants, deer, and buffalo/cattle grazing as well as dry climate and other factors. The survival rates of seedlings are 20% in Hambantota district and over 80% in Moneragala district.

(2) Problems of environmental administration

Weak institutional and manpower capacity

No institution nor clear administrative mechanism exists for comprehensive protection and management of environment and natural resources. Local government or community staff specialized in the broad environmental field are quite limited. Although some provinces or districts of Southern Area have established sections or committees to deal with conservation activities, they largely lack technical staff to plan and implement specific measures. Officers of the Government stationed in Southern Area charged with local environmental conservation from the national point of view and coordination with local level activities are just overloaded.

Limited availability of environmental information

Technical studies and research output on various aspects of environment abound at research institutes and universities, including the Ruhuna University in Matara. Also, local people have extensive knowledge and indigenous techniques for wise use of their environmental resources. These experiences have not been organized and thus are not easily accessible.

Limited financial resources allocation

The two problems mentioned above may be solved, if sufficient financial resources are allocated to the environment sector. The current budget allocation to environment at national and local levels is quite small as compared with allocations to development/production sectors.

4.4.2 Objectives for environmental development

(1) National environmental objectives

The Government has recognized increasingly that the protection of environment and the management of natural resources are major elements in socio-economic development of Sri Lanka. The Government has been considering the integration of principles of environmental economics into the national planning process to improve resource accountability in socio-economic development.

Along this line, national environmental objectives over a medium term have been established as follows (public Investment 1995-99):

- 1) To identify and allocate roles and responsibilities of institutions dealing with environmental resources, and to strengthen them with authority;
- 2) To monitor the environmental resources to identify, isolate and quantify changes taking place along with economic development and social changes;
- 3) To take appropriate measures by way of policies, systems and methods for maintaining better environmental quality; and
- 4) To encourage public participation in environmental management through their active involvement in development and resource exploitation.

(2) Environmental development objectives for Southern Area

Environmental objectives for the Southern Area development are established in line with the regional development objectives presented in subsection 4.2.2. They have three components representing social, environmental and economic concerns to support the overall objectives for the Southern Area development. This dual structure of overall and sector objectives mutually supporting one another would ensure better the balance between these three concerns.

The environment objectives for the Southern Area development are expressed as follows:

- 1) To provide safe, healthy and comfortable living environment for local people through community-based approach to natural resources management;
- 2) To preserve bio-diversity as an inherited asset of human beings and part of the life support system of people living in coexistence with nature; and
- 3) To support various economic activities by providing a sustainable base of rich, diverse and renewable resources and to create economic incentives for appropriate environmental management.

4.4.3 Strategy for environmental development

(1) Strategy related to environmental administration

A clear direction for environmental administration in Sri Lanka is devolution. Given the limited staff and financial capacities of local governments, however, taking actions at the central level is a prerequisite. Coordination between government agencies involved in the management and protection of environment and natural resources should be much improved. This should aim not only at establishing policy guidance and directions to allow different agencies to formulate better programs but also at avoiding duplicating or mutually conflicting efforts to enable more resources to be allocated to local governments.

Then functional division between the Central Government and local governments should be re-established. The Government should formulate policy measures and establish standards and criteria. Strict enforcement of EIAs is another function expected at the central level. Environmental monitoring and assurance of compliance with environmental law and regulations are among the functions to be fulfilled at local levels.

Given these prerequisites, the devolution of environmental administration needs to satisfy three conditions: (1) increased participation of local people and communities in environmental and natural resources management, (2) strengthening of staff and financial capacities at the provincial/district level, and (3) improved communications between CEA, the industrial sector and local people/communities. District Environmental Agencies and municipal environmental councils would be instrumental in enforcing measures for environmental protection and management. Participation of local people and communities would be essential particularly for monitoring and their activities should be organized at the division level.

(2) Strategy for environmental awareness, education and training

A prerequisite for active participation of local communities in environmental management is the improvement of communication between relevant government agencies and local communities. If they share essential environmental information, they can recognize environmental problems, discuss them, and try to solve them together. Also the environmental monitoring and evaluation can be done most effectively by local communities that may be affected by development activities.

Environmental centers should be established and linked with local people and communities. This would also help to enhance public awareness against illegal mining, encroachment of forest reserves, over-exploitation of fish resources and other inadequate practices. The centers will accumulate environmental information and data necessary for environmental monitoring, education and training.

Preservation of bio-diversity is of increasing international concern, beyond the national interest. International networking would also be important for education and training in forest management and bio-diversity preservation. A regional node would be necessary for such a network, which may even be a national center for environmental research, education and training.

(3) Integrated land and water management

Integrated management of land and water resources has more relevance in Southern Area where diverse environmental conditions are well balanced, and thus more vulnerable to human interventions. Solution to water problems may lead to creation of land problems or

vice versa, as exemplified by the Nilwala Ganga flood control and soil salinity build-up in irrigated lands in the SEDZ.

Watershed management is essential under this strategy and to be supported by various land based measures such as protection of forest reserves, reforestation, multi-storey farming and rehabilitation of home gardens. The traditional land-water ecosystem should be revitalized aiming at the retention of soil moisture in the SEDZ as it naturally integrate land and water management.

(4) Law enforcement and preventive measures

Environmental management for Southern Area should be based primarily on the promotion of preventive measures rather than mitigative measures. Strict enforcement of environmental standards is a prerequisite. The strengthening of District Environmental Law Enforcement Committees and municipal environmental councils is of prime importance. This is particularly important for improvement of drainage facilities, solid waste disposal, and improvement of sanitation facilities.

A more positive approach consists of land use zoning and planning for basic infrastructure to human settlements in anticipation of future development. Land use zoning should be conducted from an environmental point of view to provide integrated resource profiles for various potential activities. Output should be published in the form of maps for easy access and use by planners, policy makers and investors as well as general public. Planning for basic infrastructure to settlements will help to contain possible negative environmental effects. This applies particularly to solid waste and traffic control measures.

Financial incentives may be provided to increase "willingness to pay" for environmental conservation and rehabilitation by business enterprises. One way is to provide a subsidy for pollution control device. For a more broad based environmental improvement and management, an environmental fund may be established. The fund may be used for EIAs, preventive measures by the private sector currently not covered by existing funds, and environmental activities by NGOs. Penalty payments by violators of environmental laws and regulations would be put directly into the fund.

(5) Location specific strategy

To utilize limited financial and manpower resources effectively, preventive measures should be taken focusing initially on most critical fields/problems in different areas. Experiences gained through these initial efforts will be accumulated in the proposed centers for subsequent application to other areas. More critical problems have been identified for the districts of Southern Areas as summarized below.

Environmental Problems with Higher Priority in Southern Area Districts/Divisions

District/Division	Galle District	Matara District	Hambantota District	Moneragala District	Embilipitiya and Kolonna Division	Lahugala Division
Soil erosion	O		O	O	O	
Deforestation		O	O	O	O	
Chena cultivation			O	O		
Encroachment of reserves				O	O	
Water pollution	O	O	O		O	
Solid wastes	O	O				
Coastal erosion	O	O				
Saline water and salinization		O	O			
Gem mining				O	O	

4.4.4 Strategy for forest and protected areas management

Under the broad strategy for environmental development, more specific strategy for forest and protected areas management is presented.

(1) Local community participation

The most serious problem of forestry sector is depletion of forest resources. High prices of imported wood encourages illicit felling. The Government does not have sufficient personnel capacity to control forest resources. The Government therefore, needs to establish appropriate partnership with local villagers, farmers, communities, enterprises and NGOs for both conservation and production.

Credible local organizations need to be established/identified for the management of conservation forests in cooperation with the Forestry Department (FD). Provision of tangible benefits for local people in the forms of employment, income, services and infrastructure will enable them to maintain forest resources for their own benefits. Training of FD officers and villagers should be provided through the planning and implementation process of conservation forest management.

(2) Economic incentives

For effective management of environment and natural resources, socio-economic incentives need to be provided to a wide range of local people and entrepreneurs. Typically multiple use forests and tourism activities may be seen as providing economic incentives for protecting and enhancing environmental quality. Other relevant socio-economic activities include organic agriculture, use of herbal medicine, utilization of renewal energy and non-polluting industries especially skill based rural industries.

Multiple use forests

According to a new classification of forest reserves, multiple use forests are primarily to produce wood and non-wood forest products (NWFPs) on a sustainable basis. To harvest wood from natural forest on a sustainable basis, management plans need to be formulated based on accurate inventory data. At present, the only available inventory of natural forests is from 1983. It should be updated through surveys for the formulation of management plans before lifting up the logging moratorium. Also NWFPs need to be efficiently produced to generate income for villagers who live in forest vicinities. Local villagers should be involved in the management of multiple use forests.

Tourism

In Southern Area, very little has been done to promote tourism on a systematic basis and to link it with conservation of natural areas (ecotourism). Ecotourism can be seen as a non consumptive form of resource use. However benefits from both tourism and conservation of natural areas should be shared by local people.

(3) Establishment of forest plantations and reforestation

Forest plantations need to be established continuously to sustain age structure of stems as well as to protect soil and water resources. In view of high costs involved and limited

financial capacity of the Government, the private sector should be involved in the plantations establishment.

Farmer's woodlots

Farmer's woodlots have been attempted in Embilipitiya and Hambantota districts. In Hambantota where more land is available without any claim but survival rate of seedlings is low, giving tree tenure to farmers by this scheme creates incentives to maintain seedlings. In Embilipitiya where most of land is already occupied, farmer's woodlots secure the land use for farmers who do not have legal ownership of their land. At the same time, FD can provide technical assistance to protect land from degradation. Presently the on-going Participatory Forestry Project is in a very small scale. Farmers woodlots should be promoted in larger scale. Farmers woodlots can be established to provide 1) income through tree planting and maintenance, 2) land lease to secure their land use and 3) tree tenure to create incentives to maintain seedlings.

Homestead development

Home gardens produce 40 % of wood and 80 % of fuelwood in Sri Lanka. Homestead development is important to encourage tree planting in home gardens. Promotion of tree planting through homestead development does not need land tenure and labor. Homestead development especially in Moneragala district where larger areas and rainfall are available should be further promoted. Nurseries presently produced mainly by FD can be produced in home gardens with technical assistance by FD.

Reforestation with temporary agriculture (Taungya)

A reforestation scheme on plantation sites where agricultural activities are allowed until canopy covers the site (Taungya) has been tried in Moneragala and Hambantota districts. Taungya did not work very well in Hambantota due to the low survival rate of seedlings. However, in Moneragala this scheme is still operative. Taungya is effective for poverty alleviation by offering new land to poor farmers who do not have access to land and income by tree planting and maintenance. Taungya can reforest land with relatively low cost. Larger scale Taungya is desired with a proper plan to secure farmer's livelihood and reduce land degradation by chena cultivation.

Commercial plantations

Industrial forest plantations by the private sector should be promoted. Selection of sites and species and the establishment of economic viability should be facilitated by FD.

(4) Wood based industry

Approximately 80 % of plywood, paper and paperboard is imported in Sri Lanka. This figure is high considering self-sustaining level of sawnwood production. In order to maintain lower prices of wood products, productivity of wood based industries needs to be improved. The potential of sustainable harvest from forest plantations with fast-growing species such as pines and eucalyptus has not been fully utilized. Moreover, development of wood based industries creates additional market for varied species and encourages people to plant more trees in their home gardens. Some indigenous species have potential for plywood material. Research on lesser known indigenous species can be conducted by FD in cooperation with the private sector.

(5) Training, education and research

Training

Professionally qualified personnel is needed for proper implementation of protected areas' management plans, monitoring of results and bringing in ongoing improvement of the management practices. The Department of Wildlife Conservation (DWLC) was set up in early 1950s by separating the wildlife management function from FD. Professional and scientific capacity building through training of personnel at various levels, however, remained neglected. Most of the important protected areas also do not have management plans. Therefore training in environmental management is a must for protected areas' managers and front line officials. Recently a national training center in wildlife management has become operational to intensively train wildlife rangers (for nine months), range assistants (for six months) and wildlife guards (45 days).

Education

Environmental education is a key to change attitude of people to nature in the long run. Environmental education through the forestry sector can be implemented through various forms: participation in management of conservation and multiple-use forests, encouragement of people to enjoy nature-based tourism, promotion of nursery production in home gardens, production of wood and NWFPs in home gardens, schools etc.

Research

Longer term management and conflict resolution for natural resources call for scientifically researched information. This aspect has lagged behind too and it has led to rather tentative and ad hoc management actions with little feed back for improvement. Habitat related

studies of the protected areas and food habits of wildlife as well as floral inventories and information on interspecies competition of herbivores are crucial for habitat management programmes in national parks. Home range patterns should be established using radio telemetry method. At present five elephants are radio collared.

Research is important also to solve problems and attempt new schemes in the forestry sector. Research should cover suitable silvicultural system for sustainable management of multiple-use forests, practical aspects of wood products, socio-economic needs of local villagers, economic analysis of agroforestry systems including home gardens and utilization of lesser known species. Since research of forestry is time consuming, international information exchange is especially important.

(6) Inter-agency coordination

In regard of conservation of natural areas it is important to develop closer linkages between departments which have a stake in the management of natural areas (DWLC, FD, Coast Conservation Department, Department of Archaeology). So far absolutely no linkage has been established except between the Ceylon Tourist Board and DWLC.

The protected area network is conducted by FD and DWLC. Coordination between these agencies is a key to manage forest and wildlife protection. FD has been working in the wet zone for biodiversity conservation and local participation, while DWLC is mainly working in protected areas in the dry zone. Technical coordination between these agencies will be effective for buffer zone management in both the wet and the dry zones.