

- 1) Capital investment related to new investment, capacity expansion, and facility modernization, excluding working capital and land acquisition
 - 2) Renovation and addition of facilities and equipment for environmental protection and energy saving
 - 3) Relocation of factory from a non-industrial zone to an industrial zone
- (4) Proposed terms of loan
- 1) Up to 70% of the total project cost including working capital and land acquisition costs (remaining 30% by own equity)
 - 2) Maximum amount: Around 100 million escudos
 - 3) Interest rate: Around 3% below commercial interest rate
 - 4) Repayment period: 5 to 8 years, after grace period of 1 to 2 years (determined upon evaluation of individual application)

(5) Implementation method

The so-called two-step-loan system is used. To minimize the cost and risk for lending banks related to small loans, the following arrangement appears to be feasible:

- 1) All loan application will be collected by IAPMEI through nominated banks and organizations which are the first window to accept loan application.
- 2) The evaluation of each application will be made by IAPMEI for decision making on financing.
- 3) For the project which has passed IAPMEI's evaluation, banks are obliged to make loan.
- 4) In return, the company receiving the loan must provide the guarantee issued by a credit guarantee corporation to the bank. Microenterprises of less than a certain size may be exempted from providing collateral.

(6) Financial resource

- 1) To minimize the interest rate to end borrowers, grants such as EC funds, bi-lateral bank loans, and multi-lateral long-term low interest rate loan shall be major part of the financial resource. Such overseas fund will be blended with own financial resources of the banks.
- 2) The first round of the fund starts from 5 billion escudos. It will serve around 100 enterprises and will be disbursed in two years or similar.

(7) Implementation schedule (Figure 7-3)

At least one year is required for the securing of financial resource, adjustment with existing loan facilities, and the selection of the implementation body, and arrangement with the EC. The loan program is expected to serve its purpose as soon as inflation is controlled and commercial interest rates drop to the EC average level, which is expected to take about 5 years. As a result, the original fund of 5 billion escudos will rotate a few times in 5 years.

(8) Consideration

Although the EC sets forth financial liberalization policy, in which the preferential interest rate for a particular purpose is not permitted, effort should be made to establish the loan program in consideration to special conditions facing Portugal and the above objectives.

7.3.4 Large-Scale Foreign Investment Attraction Program

(1) Background, rationale, and objective

- 1) To achieve accelerated industrialization in Viseu area by using growing development potential as a buoyancy, expansion of traditional industries has its limit and does not lead to development of non-indigenous industries. The most effective solution is to attract foreign direct investment in Viseu area (development core) in industry sub-sectors having a wide range of subcontracting industries. This, if succeeded, will have major impacts on industries in the entire Viseu area.
- 2) In Portugal including the Aveiro-Viseu region, inter-industrial or inter-company linkage is not strong, and each company produces and markets consumer goods (final products). This is because there are few assembly industries in the country, which consume a variety of parts and components in sufficient quantities to create and maintain critical mass for suppliers to survive. This is one of reasons why industrial development seems to be slow in a country which does not have automobile or household electric appliance light industries or assembly industry. To foster a wide industrial base, major foreign investment in light industries or assembly operations (particularly durable consumer goods) need to be attracted to this area.
- 3) It is time consuming and uneconomical to foster hi-tech and R&D-based industries in Portugal in the immediate future. Industrialized countries are currently enjoying returns from the past investment for R&D-based industries equivalent to more than 1% of GDP which has been spent over a long period of years; 2.8% in Japan, 2.8% in the U.S., 2.5% in Germany, and 1.1% in Italy. Thus, for Portugal which R&D investment amounts to 0.4% of GDP, it will require the long-range plan to commercialize R&D efforts. Also, Portugal has much smaller population of scientists and engineers; 344 per 1 million population, compared to 4,700 in Japan, 3,300 in the U.S., 2,200 in Germany, and 1,100 in Italy. Again, foreign corporations are a major source of promoting hi-tech industries in the country.
- 4) Foreign investment brings corporate resources, including the market, capital, and technology to Portugal. This is why attraction of foreign corporations, as well as joint venture business, is said to be the most efficient for modernization of industries.

(2) Implementation body

ICEP's Aveiro office should take leadership in promotion activities under close communication with Foreign Investment Promotion Department of ICEP headquarters (Lisbon).

In addition, the Aveiro/Viscu Investment Promotion Council should be established under leadership of ICEP's Aveiro office to conduct activities throughout the region. The council should be organized by the following organization and it should aim to incorporate foreign investment attraction activities into businesses of each organization:

- IAPMEI's Aveiro office
- IAPMEI's Viscu office
- CCRC
- Local governments
- Industrial organizations

(3) Types of industries to be promoted

- 1) Light and large-scale assembling industries having a diverse range of subcontractors, including household electric appliance, office equipment, electronics-related hi-tech industries
- 2) Major target: Corporations in the EC, Japan, and the U.S.

(4) Location of the investment

The first priority is given to the Viscu area (particularly Viscu city) to develop seeds of industrial development in the area. In the Aveiro area, the first candidate site is Albergaria-A-Velha which is strategically located in a regional transportation network and has wide land sufficient for large-scale investment. These two cities are designated as "core municipalities for industrial promotion" in 7.1.

(5) Major activities

- 1) Preparation of pamphlets advertising investment opportunities (emphasizing local advantages)
- 2) Preparation of management manuals for the region
- 3) Survey on foreign corporations operating in the region, and preparation of visual

PR materials

- 4) Establishment and improvement of a network with foreign embassies and ICEP headquarters
- 5) Sponsoring of investment seminars
- 6) Co-sponsoring of promotion campaigns with related local governments and industrial organizations
- 7) Questionnaire survey on potential investors and follow-up activities
- 8) Compilation of investment data and information, and establishment of database (see 7.2.2 for detail)

Once prospective companies are identified through promotion activities listed above, the council will move into negotiation with them, under consultation with ICEP.

(6) Implementation schedule (Figure 7-3)

These activities should be started as early as possible. The overall plan should be established to cover 5-year activities. Efforts should be concentrated to conclude the first foreign investment agreement within 1 year and a half after commencement of the activities.

(7) Special considerations

At present ICEP's Aveiro office is principally responsible for export promotion of specific products (metal parts for furniture and fixture), and investment promotion activities for the region are not included in their scope of work. Thus the first step is to extend their duty to regional promotion activities and to increase staff. It seems to be difficult to handle promotion activities properly by asking temporary help from ICEP's Porto office.

7.3.5 Joint Venture Job Promotion Program

(1) Background, rationale and objective

- 1) In particular, Aveiro area is expected to develop into a center of supplying non-traditional capital goods to the whole country as well as to the EC market, in

addition to modernization of traditional products, for the following reasons:

- Historically, the area has been leading machinery and equipment/metalworking industries.
- The country imports a high percentage of capital goods, which should be replaced with domestic supply sources.
- Major investment projects by Ford - Volkswagen are expected to rapidly boost domestic demand for automotive parts and components.
- After the unification of the EC market, the country can expect exports of capital goods, and in particular Aveiro area has advantage over other areas because of improved access to IP5.

Production of capital goods requires automated precision performance machinery, which accompanies technology transfer from industrialized countries. The most effective way to promote technology transfer is to form a joint venture with foreign corporations in the industrialized countries.

- 2) At the same time, modernization of traditional industries is equally important. A traditional industry occurs in an area which provides a market or resource and leads to concentration of many enterprises in the same industrial subsector. Then they develop from family industries to an industrial base. However, as they reach a certain stage, they are not able to keep abreast of market changes or technological innovation, leading to stagnation or deterioration. This creates a need for modernization, in which accumulated technologies are modified or improved to meet change in needs of market. At the same time, the technologies should be upgraded into more advanced ones through repeated investment.

Modernization of these traditional industries entails exploration of new markets and introduction of new product designs, production technology, and management knowhow. And joint venture is designed to take care of all at once.

(2) Implementation body

Same arrangement as described in 7.3.4 "Foreign Investment Attraction Program." The important point is that promotion of foreign investment and joint venture will be carried out side by side.

(3) Types of industries to be promoted

- 1) Hi-tech and modern industries based on traditional technology available in the region including machinery and metal products (parts and components),

motorcycles and bicycles, ceramic (tiles and porcelain), ceramic for industrial materials, furniture (steel and wood), leather products, construction materials, and garment.

- 2) Target countries: the EC, Japan, the U.S., and other countries whose industries as listed above have international competitiveness
- (4) Location to attract J/V job

Priority should be given to the Aveiro area, and joint venture will be attracted to municipalities where a large-scale industrial park can be developed, including Albergaria-A-Velha, Cantanhede, and Mealhada.

- (5) Activities

Same as the preceding section

- (6) Implementation schedule (Figure 7-3)

This should be implemented as a 5-year plan starting in the first year, in parallel to the large-scale foreign investment attraction program.

- (7) Special considerations

Same as the preceding section

7.3.6 Industrial Relocation Support Program

- (1) Background, rationale, and objective

- 1) The industrialized zone in Aveiro area is facing the following problems:

- Limited availability of industrial land for the reason of environmental preservation, including farmland and forest
- Limited supply of water to the industrial zone
- Rise in wage and labor shortage in urban areas
- Environmental effects
- Rise in land price
- Traffic congestion and increase in travel time

Relocation of industries is recommended to alleviate and prevent these problems.

- 2) To improve efficiency of operation in production and distribution by collectively locating industries. This is related to construction of industrial parks.

- (2) Implementation body

Industrial relocation contains elements which are to be dealt with at a national level or by a local government to solve a particular problem. At the central government level, the Ministry of Industry and Energy has jurisdiction over the issue of industrial relocation, and the Ministry of National Planning and Administration serves as the related ministry. At a local level, each municipality handles the issue individually. In practice, however, it has grown out of hands of one municipality (for the average of 29 municipalities in the Aveiro-Viseu region, land area of 200km², and population of 25,000).

This is one of reasons to require the development of the inter-municipal public administration system, which is proposed in policy recommendations of this report. Nevertheless, since this program needs to be implemented as early as possible, it is proposed to establish an implementation body by adjacent municipalities, as seen in the joint development project implemented by Oliveira de Frades, Vouseira, and S. Pedro do Sul in the Viseu area. It should be noted that the "districts" are not suitable for the implementation body as it is not directly involved in regional development.

- (3) Types of factories to be relocated

- 1) Those located in non-industrial zones
- 2) Those located in industrial zones, which do not conform to applicable environmental standards, including exhaust gas, effluent, solid waste, and noise.
- 3) Priority is given to the Aveiro area which has concentration of factories falling under the above two subparagraphs

- (4) Site for relocation

Small-scale industrial parks to be developed by municipalities within designated industrial zones

- (5) Implementation method

- 1) To organize Factory Relocation Cooperative by relocating enterprises.
To notify and negotiate with factories requiring relocation through the

cooperative, including compensation and other conditions.

- 2) To initiate a two-tier policy to induce relocation by providing positive support including financial assistance to cover relocation costs, as well as disincentive from non-relocation.

Support for relocating enterprises

- The implementation body will develop an industrial park to accommodate relocating industries, including access roads and other infrastructure. The development cost will be recovered through sales or leasing of the industrial park to locators.
- The relocation cost will be covered by existing investment incentive programs or the institutional credit facilities program proposed in 7.3.3.
- Local taxes will be exempted for relocating enterprises for a specific period of time.

Disincentive for enterprises not relocating

- Surcharge on local taxes
 - Surcharge for environmental protection
 - Surcharge on utility charges
- 3) The Industrial Relocation Cooperative will be reorganized to the Industrial Park Cooperative after the relocation to the industrial park.

- (6) Implementation schedule (Figure 7-3)

This program should start as early as possible and should be completed within around 3 years.

- (7) Considerations

- 1) Compulsory relocation should be avoided as far as possible. Rather, it is desirable to motivate enterprises through negotiations, while offering effective support to reduce cost of relocation and, in parallel, gradually introducing a reasonable

range disincentive.

- 2) Municipality can impose a special tax (DERRAMA) on enterprises which head office is located (most of small enterprises have their head office in the factory at maximum), equivalent to 10% of the corporate income tax at maximum, and this discourages relocation of factories between municipalities. Thus, the tax should be reconsidered as part of reform to introduce inter-municipal public administration.

7.3.7 Large-Scale Industrial Park Development Project

(1) Background, rationale, and objective

Large-scale industrial parks should be newly developed to accommodate large-scale foreign investment and joint venture job promotion projects. Furthermore, these industrial parks should serve to provide space for relocation of existing medium- and large-scale enterprises for the modernization purpose, as well as their subcontractors. Thus, the industrial parks will primarily accommodate light industries.

(2) Implementation body

Industrial Park Development Corporation will be established by contributions from the following organizations:

- 1) Municipalities to supply the land for the large-scale industrial parks (including adjacent municipalities and supporting municipalities)
- 2) IAPMEI, under the Ministry of Industry and Energy, which manages investment incentives based on EC Funds
- 3) Financial institutions (banks and investment corporations)
- 4) Industrial organizations

Among them, each municipality and IAPMEI will play leading roles. A large-scale industrial park in Sines, southern Portugal, was first developed by a corporation organized by third sectors, which has been later dissolved and reorganized into the implementation body similar to the above.

(3) Prospective tenant industries

The large-scale industrial parks are expected to accommodate light industries, including the following types:

- 1) Assembling industries under foreign direct investment (preferably in the Viseu area), including household electric appliance, office equipment, and electronics
- 2) New medium- and large-scale investment under joint venture (preferably in the Aveiro area), including hi-tech, R&D-oriented, precision

machinery/metalworking, and components/parts supply.

- 3) Small enterprises, particularly local enterprises, which serve as subcontractors for the above industries
- 4) Other enterprises which make investment to upgrade traditional industries

(4) Location

At least one large-scale industrial park will be developed each in the Aveiro and Viseu areas.

Aveiro area:

The first priority should be given to Albergaria-A-Velha where IP1 and IP5 intersect and large factory sites are available.

The second priority - Anadia, Mealhada, and Cantanhede which are located along IP1 and have industrial zone to construct the large-scale industrial park.

Viseu area:

The first priority - Viseu where IP5 and IP3 intersect; and

The second priority - Should be selected after completion of the park in Viseu.

(5) Project outline and budget

- 1) Estimated number of tenant industries and land requirements

	No. of enterprises (No. of lots)	Lot area (ha)	Total lot area (ha)
Large enterprises	3	20	60
Mid-size enterprises	10	5	50
Small enterprises	20	1	<u>20</u>
<u>Public area (35% of the total area)</u>			<u>70</u>
Total site area			200

Since 30% to 40% of the total site area are used as common use space, including site roads, fences and outlying structures, landscaping, and other facilities, the total site area for the industrial park is estimated as 200ha from the total lot area of 130ha.

- 2) On-site common facilities
 - 1) Site roads
 - 2) Drainage and sewage facilities (drainage channels and waste water treatment)
 - 3) Industrial water supply (the municipality bears the cost to extend water pipes to the boundary of the industrial park)
 - 4) Electricity supply (the power corporation bears the cost related to wiring and installation of power receiving and transformation equipment in the site)
 - 5) Communications system
 - 6) Administration building
 - 7) Solid waste incineration plant

3) Preliminary project cost

At present, final sites have not been selected, thus topographic and geological conditions are unknown. In order of magnitude, however, the development cost for the 200ha industrial park, excluding land acquisition costs, is roughly estimated at the range between 4 billion to 5 billion escudos.

(6) Implementation method and schedule (Figure 7-3)

- 1) To establish Industrial Park Development Corporation.
- 2) To acquire land. Acquisition of the first priority municipality in the Aveiro and Viseu areas is in progress.
- 3) To prepare pamphlets once completion of land acquisition comes into sight, and to start sales.
- 4) To start site development when prospective purchasers (particularly large corporations) are secured.
- 5) To develop the industrial park in two or three phases, with development area of 50ha to 100ha in each phase.
- 6) The period required from stages 1) to 3) above is estimated to be 1 year and 6 months, during which the large-scale foreign investment attraction program and the joint venture job promotion program are implemented as well. The

construction period is 1 year and 6 months for the first phase and less than 1 year for each of additional phases.

(7) Benefits expected

- 1) The 200ha industrial park is expected to employ the following number of workers:

	<u>No. of workers/enterprise</u>	<u>No. of enterprises</u>	<u>No. of jobs created</u>
Large enterprises	800	3	2,400
Mid-size enterprises	150	10	1,500
Small enterprises	50	20	<u>1,000</u>
			4,000

Thus, the industrial park, when completed, will employ nearly 5,000 people.

- 2) Settlement of a large enterprise will help foster subcontractors and accelerate technology transfer.
- 3) Relocation of small- and medium-scale enterprises from non-industrial zones will contribute to environmental protection.
- 4) Overall, the industrial park will bring significant economic benefits to other sectors including service and agriculture.

7.3.8 Centralized Industrial Waste Management Facilities Construction Project

(1) Background, rationale, and objective

- 1) In the questionnaire survey and the interview survey for selected local governments in the Aveiro-Viseu region, all of respondents preferred to attract industries which would not have the adverse effect on environment. Industrial wastes (effluent, exhaust gas, solid waste) and harmful wastes can be minimized through various approaches, such as "selection and limitation of industries", "the establishment of a valuable waste recycling system", and "promotion of in-house recycling and energy saving." Nevertheless, as industrial wastes cannot be completely eliminated, it is important to properly manage wastes to prevent them from uncontrolled diffusion.

- 2) In Portugal, the Ministry of Environment and Natural Resource is developing an implementation plan for disposal and removal of harmful wastes. Considering that 70% of industrial waste disposal cost are the transportation cost, this section proposes centralized waste treatment facilities in the Aveiro-Viseu region within the framework of the contemplated national plan. These facilities will help reduce the disposal cost, thus enabling enterprises to conform to environmental standards and leading to better environmental protection.

(2) Current state of harmful waste management systems in Portugal

1) Production of harmful wastes

As of November 1988, the amount of harmful wastes produced in 18 districts is estimated as follows: (Source: "Production, Treatment, and Elimination of Harmful Wastes", November 1988)

<u>Amount produced</u> (10 ³ tons/year)	<u>Number of districts</u>	<u>Name of districts</u>
More than 500	1	Setubal
100 - 500	2	Aveiro, Castelo Branco
40 - 100	1	Viseu
10 - 40	4	Lisbon, Porto, Coimbra, Santarem
10 under	10	Other districts

2) Construction plans for harmful waste facilities

There are plans to construct centralized waste treatment facilities and final disposal plants in Setubal and Porto, as follows:

Location	Type of facility	Number
Setubal District	- Incineration plant	1
	- Chemical waste treatment plant	1
	- Final disposal plant	1 or 2
Porto District	- Final disposal plant	1(or 2 sub)

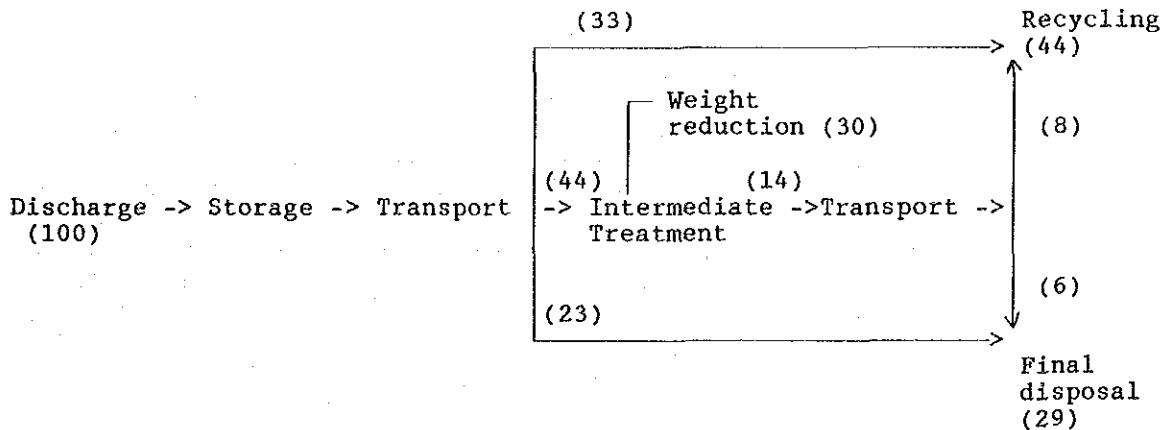
Among these plans, the design of the final disposal plant in Setubal was reportedly started recently. Thus, Portugal has no industrial waste disposal facility at present.

(3) Implementation body

At present, the government is promoting waste disposal plans under its own budget, as part of public service. In the long run, however, the industrial waste collection, transportation and facilities operation should be handed over to private sector establishing a cost mechanism to undertake the business in commercial term.

(4) Basic assumption for centralized waste treatment facility planning

1) Flow of industrial waste treatment



Figures in () of the above flow diagram represent material balance in Japan as of

1985. 33% of Industrial wastes produced were recycled or reused, 23% went to final disposal, and remaining 44% went through intermediate treatment, weight reduction through compression, crushing, incineration accounted for 30%. Of remaining 14% subject to intermediate treatment, 8% were recycled again and 6% were sent to final disposal. In total, 29% went to final disposal, 41% recycled for reuse and 30% reduced in intermediate treatment (weight reduction due to removal of water or incineration).

2) The planned facility and its position in the waste disposal flow

To what extent individual companies are involved in the entire waste disposal process varies greatly; some companies have an integrated system up to final disposal, while other companies ask an outside contractor for all treatment and disposal.

This proposal concerns with the final disposal plant in the above flow diagram.

3) Reclamation methods

Closed type disposal plant: Wastes which produce substances harmful to human health (such as heavy metals) are reclaimed in separation from natural environment. In Japan, most of wastes are reclaimed in the controlled type disposal plant, below mentioned, after intermediate treatment or solidification by concrete.

Controlled type disposal plant: Reclaiming wastes which produce organic materials such as BOD and COD, or strong acidic or alkaline substances, which require treatment.

Stable type disposal plant: Disposing harmless industrial wastes.

(5) Conceptual design and cost estimate for the final disposal plant

As types and quantities of industrial wastes requiring disposal at the planned facility are unknown at present, the following facilities capacity estimates are presented as a basis of further study.

1) Major facilities

- a. Reclaimed area: $40,000\text{m}^2$
(Closed type disposal plant = $10,000^2$)
(Controlled type disposal plant = $30,000^2$)
- b. Total land area to be acquired, including other facilities: $45,000^2$
- c. Reclaiming capacity (average effective depth of
(Closed type disposal plant = $100,000^3$)
(Controlled type disposal plant = $300,000^3$)
- d. Incinerator (handling PCB): 2 tons/day
Drained water treatment facility: $20,000^2/\text{day}$
- e. Water sealing work: Installation of seat, lining, and seepage water drain pipe to seal waste water from the disposal plant from ground water
- f. Storm water collection and drainage facility
- g. Waste gas treatment facility

2) Administration facilities

- a. Delivery control facility
- b. Monitoring equipment
- c. Administration building

3) Related facilities

- a. Access road
- b. Scattering protection facility
- c. Fire fighting equipment

4) Preliminary budget

Not considering types and quantities of wastes to be disposed, and topographic and geological conditions which are currently unknown, the preliminary project cost is estimated to be in the order of 1 billion escudos, excluding the land acquisition cost.

(6) Site location

The proposed disposal plant should be constructed in the Aveiro-Viseu region or its vicinity. As environmental assessment and negotiation with local people are involved, no candidate site is listed at this stage.

(7) Implementation method and schedule

1) Analysis of disposal demand and preliminary planning

Investigation on types and quantities of wastes to be disposed by reclamation, estimation of reclamation requirements, and conceptual design of major facilities

2) Feasibility study and preparation

Site selection, topographic/geological survey, environmental impact assessment, agreement with local residents and follow-up communication, establishment of the management system and organization, basic plan for use of reclaimed land, and legal study related to applicability of existing laws and regulations

3) Construction

Land acquisition, preliminary design, budget estimate, detailed design, tender, construction

4) Schedule (Figure 7-3)

1 year is allowed for 1) through 2) before commencement of 3), and 1 year and 6 months for 3). The controlled type disposal site of 300,000² should be constructed in 2 to 3 phases according to actual progress of reclamation.

(8) Beneficiaries and benefits

1) Improved living environment for local residents
(environmental protection)

2) Prevention of damages to other economic sectors, including agriculture, fishery, and tourism

- 3) Reduced treatment cost for local manufacturing enterprises, and contribution to industrial promotion
- 4) Preventive saving in government expenditure: Expenses for compensation and restoration related to environmental pollution are a few times or more than 10 times the construction cost of pollution control facilities.

(9) Considerations

- 1) The final disposal plant will be constructed in a mountain area remote from built-up areas or residential areas. Mountain areas, however, are also subject to environmental protection ordinance (RAN, REN), requiring careful site selection.
- 2) In selecting the plant site, close communication with local residents is essential. At the first step, impacts of the disposal plant should be scientifically evaluated by environmental impact assessment.
- 3) A cost sharing system in the form of user charge, levy, etc. should be established under the "polluter pay principle" (PPP); it is important to make factory owners realize that they are primarily responsible for disposal of wastes they produce, but they may ask outside contractors to do the job by paying reasonable charge.

7.3.9 Viseu Airport Upgrading Project

(1) Background, rationale, and objective

- 1) The upgrading of Viseu Airport, actually an airdrome, to a regional airport is proposed as part of effort for accelerated and intensive development of Viseu City, the core municipality of industrial development in the Viseu area, as proposed in a previous section.
- 2) At present, Viseu is remote from international airports in Porto and Lisbon, which are 128km and 293km away, respectively, by road, and express trains are available, but via Aveiro City. Aveiro City has only an airport for military use only. If Viseu City successfully grows to an industrial center, business travels to and from Porto and Lisbon will increase. In addition, the unification of the EC market will expand a geographical range of corporate activities, and access to the international airports will be vital for accelerated development of Viseu. In addition, for family travel within and outside the country will increase as Viseu is developed. Thus, the present limited access is likely to become a bottleneck to attraction of major corporations.
- 3) The upgrading of Viseu Airdrome to a regional airport capable of handling domestic jetliners is expected to remove such bottleneck. Viseu is selected because Aveiro is easily accessible to Porto's international airport (less than one hour by express train), and the siting of the regional airport in Viseu will stimulate movement of people between the two cities in particular Viseu to Aveiro, while contributing to accelerated development of the Viseu area.

(2) Current state of Viseu Airport

- The largest aircraft currently handled by the airdrome is prop planes accommodating around 20 passengers.
- Two airline companies operate charter flights to and from the airdrome.
- Viseu City has applied for approval Director General of Domestic Aviation for regular flight operation, which is currently pending.
- Two airline companies are interested in operating regular flights to and from the airport.
- The city gives priority to improvement of profitability in airdrome management, and for that purpose, it attempts to attract the government's fire fighting planes to the airdrome.
- There is a plan, still at the inception stage, to extend the runway from present

1,115m to 2,500m at a cost of 300 to 500 million escudos.

(3) Implementation body

The present airdrome is operated and managed by Viseu City. To improve the airdrome to an airport ready for regular flight operation, its operation and management should be transferred to Director General of Domestic Aviation of the Ministry of Public Works, Transport, and Communications.

(4) Outline of Viseu airdrome upgrading plan and preliminary cost estimate

The following presents conceptual design of the new regional airport, which will serve as a basis of actual planning.

1) Flight services

- Domestic jetliners accommodating around 100 passengers
Flight service will start from 2 daily flights (morning and afternoon) between Viseu and Lisbon. Viseu-Porto service will be added if demand arises.
- Charter service: Domestic and international charter flights
- Cargo freight service will be added if demand arises.

2) Major facilities

Civil work

- Runway: 2,500m long x 45m wide
- Taxiway: 200m long x 25m wide
- Apron: 20,000m² (3 berths for B-727 class, 1 berth for YS-11 class, and 6 berths for small airplanes)
- Parking facilities: 13,000m² (300 passenger cars, and 10 large vehicles)

Lighting facilities

Runway lights, pilot lights, apron lights, approach lights, power distribution equipment, and auxiliary facilities

Fire fighting equipment

Chemical fire truck: 1 unit

Water tank: $40,000\text{m}^3$ x 1

Turnout coat: 5 sets

Special vehicles:

Luggage transport: 3 vehicles

Aviation safety facilities

Radio facilities, air control facilities, communications facilities, power units, and air-conditioning systems

Meteorological facilities

Meteorological observation facilities, communications facilities

Airport terminal building

Site area: $4,000\text{m}^2$

Structure: Reinforced concrete, 2 stories/1 underground level

Building area: $3,500\text{m}^2$

Total floor area: $4,800\text{m}^2$

Fueling facilities

Fuel tank: 200kl x 1 unit

Tank lorry: 1,200/x 3 vehicles

Total land area required

4,000m long x 600m wide = $2,400,000\text{m}^2$ (240ha)

Total cost

The civil work cost, which accounts for 40% to 50% of the total, varies greatly with topography, geology, weather conditions. Another important factor is whether the present runway can be used by jetliners. Empirically,

the regional airport of this type costs 14 to 15 billion escudos, if newly constructed, which can be reduced according to availability of existing facilities and equipment.

(5) Implementation method and schedule

The first step is to obtain approval of Director General of Domestic Aviation, followed by the preparation process, including preliminary design, cost estimate, financial planning, detailed design, tender and contract award, and construction work, all are expected to take about 1 year and a half. Then construction work will take another year and a half, thus making the new airport serviceable in the second half of the large-scale foreign investment project or the start of manufacturing operation at the latest.

(6) Beneficiaries and benefits

The new airport is expected to bring indirect benefits to Viseu City and its vicinity by operation of regular flight service, in addition to direct benefits to air passengers. One of major benefits is its publicity effect to demonstrate that Viseu is a major city in Portugal, thus to help attract major investment, both domestic and foreign. Another benefit is to create movement of people to the Viseu area from the coastal area of Coimbra and Aveiro, which are well developed but do not have own airport. The increase in interaction will naturally accompany an increase in flow of information, capital, and goods.

(7) Considerations

- 1) 2 regular flights per day will not bring much income to operate the airport. Thus, effort will be continued to attract charter flight service as well as the government's fire fighting planes.
- 2) The use of the airport will be boosted if the plan of express train service along IP5 starts.

7.3.10 Township Construction Project (Improvement of Urban Amenities in Viseu City)

(1) Background, rationale, and objective

- 1) To attract large scale investment and hi-tech/R&D investment, it is essential to develop living environment appealing to managers, engineers, and scientists, including expatriate personnel. Also, housing demand is expected to grow if the

large-scale industrial park are occupied.

2) Such living environment includes:

- Housing and community for high and low income people (including natural environment)
- Urban and cultural facilities
- Educational and medical facilities
- Recreational facilities
- Research facilities
- Transportation system for commuting, and quick access to major cities and other European countries

3) While the Aveiro area other than Aveiro City does not provide well-developed living environment, the Viseu area is further left behind. Clearly, development of Viseu City - positioned as the core municipality of contemplated industrial development - in the form of township construction should be given of priority to ensure accelerated industrial promotion in the area. This section presents a master plan for development of Viseu City, followed by overview of the proposed new town.

(2) General profiles of Viseu City (see Figure 7-4)

1) Population and land area (1992)

Population: approximately 90,000

Land area: 507km²

Both in population and land area, Viseu is the largest municipality in the Aveiro-Viseu region.

2) Access to major cities (road distance)

Lisbon - 293km; Porto - 128km; Coimbra - 96km;

Aveiro - 84km; boarder with Spain - 108km

3) Transportation network

- Located at the crossing point between new highways IP5 and IP3.
- An airdrome handling charter flight is operated by the municipality, located

7.5km north of the city center.

A narrow-gage railway is operated eastward from Aveiro to Viseu, then extending northward. While there is no rail service beyond Viseu toward the border with Spain, there is a construction plan of a new railway for express train along IP5 between Aveiro and the border area. Also, construction of a new station in Viseu is being planned.

4) Industrial parks

There is a 70ha industrial zone near the Viseu airdrome, 7km north of the city center. Also, a small industrial park (36ha), Coimbrões, is located 4 - 5km southeast of the city center. A 10ha industrial park (Hundã o) is planned 7km northeast of the city center.

(3) Master plan for comprehensive development of Viseu City

The master plan for comprehensive development of Viseu City, "Technopolis Viseu" concept, is described as follows. (see Figure 7-4)

- 1) As seen in the figure, IP3 and IP5 divert from the city center to preserve streets and historical buildings including a old church. For this reason, this master plan proposes development of a new town outside the existing city center.
- 2) At the first step, the large-scale industrial park site will be secured on the west side, crossing over IP3, of the already available 70 ha land, amounting to about 200 ha including the 70 ha site. The industrial park will be bordered by the existing road and the railroad on the south side, and IP5 is running south within 3 km distance from the site. It will be developed in the manner described in 7.3.7.
- 3) The industrial park is only 1 - 2km away from the airdrome. But it will be dominated by lighting industries, thus high-rise buildings will not be constructed, not disturbing flight.
- 4) Meanwhile, the airport will be upgraded to an airport handling regular flight under Viseu Airport Upgrading Project discussed in 7.3.9.
- 5) Then, a new town with planned population of 10,000 will be constructed on the south-west side of the industrial park, across IP3. The new town will have excellent transport access; the new railway station on north side, IP3 on the east side, and IP5 on the north side. Furthermore, it will be within a walking distance

to the industrial park for ease in commuting, and approximately 5km to the existing city.

- 6) Finally, the site for Technopolis Viseu is selected in an area other than forests as well as a hilly area.

(4) General profiles of the new town

- 1) Planned population

The industrial park will employ 5,000 people, as discussed in 7.3.7. Thus, the new town will have 10,000 population, including family members.

- 2) Housing

3,300 units: 1,300 detached houses and 2,000 low- and mid-rise apartments

- 3) Community facilities

The following facilities will be provided in or near the new town:

- Public schools
- Medical facilities
- Recreational facilities
- Cultural facilities, churches
- Parks using natural environment
- Shopping centers

- 4) Land requirements

To develop the new town which is landscaped with greeneries and is in harmony with natural environment, 300ha to 400ha of land will be required, depending upon topography. Figure 7-4 shows the new town's possible location within the city boundary, but it may be developed jointly with adjacent Vouseira.

- 5) Implementation method and schedule

This project should be implemented by a third sector (public corporation) organized by Director General for Housing of the Ministry of Public Works, Transport, and Communications, local governments, and financial institutions.

The corporation will be responsible for planning and management of the project, which will be constructed by private developers based on tender or under consortium.

Construction schedule consists of one year and a half for preparation, and 4 years and a half for completion of the phase one. Completion of the entire community will take about 8 to 10 years from the preparation stage.

(5) Benefits from the township construction project

In fact, the "Technopolis Viseu" concept consists of projects previously proposed, the large-scale foreign investment project, the large-scale industrial park development project, the Viseu airport upgrading project, and the new town project. These projects, if implemented efficiently and timely, will become the driving force for Viseu to develop into one of major industrial areas in Portugal. Their economic benefits include the following:

- 1) Creation of employment opportunities
- 2) Economic impacts on the construction sector
- 3) Industrial decentralization and equalization of income
- 4) Upgrading of industrial technology
- 5) Vitalization of the commerce sector, and improvement of productivity in the agriculture sector by absorption of agricultural population
- 6) Serving as a model case of industrialization in harmony with environment
- 7) Serving as a model case of industrial dissemination from the coastal zone to the inland area

7.4 A Proposal Related to the Implementation of the Industrial Development Plan

7.4.1 Background and Rationale

Preceding sections proposed strategies for the comprehensive industrial development plan for the Aveiro-Viseu region, and identified four projects and five programs. They also mentioned proposing the implementation body, method, schedule, and major considerations for each project and program. In other words, the projects and programs, if properly and timely implemented, will achieve the original purpose of the plan, i.e. - industrial development of the target region.

In Portugal, regional development projects are identified and planned by municipalities, who then request the central government for budget allocation. Standing between the central government and each municipality, the Regional Coordination Committee (CCR) provides advice on municipal planning and various coordination services. Once the request is approved, most of projects - such as development of industrial parks, municipal roads, and waterwork and drainage systems - are implemented by municipalities, depending upon the nature and characteristics of each project. This approach is taken in many countries and does not present any problem.

On the other hand, it may be more efficient if a comprehensive regional development system, capable of managing large-scale projects that an individual municipality can not handle, is to be established in Aveiro and Viseu and other regions. This section considers some approaches and institutional arrangements of such regional development system.

One of the key issues in implementing a large-scale regional development plan is how to raise funds. At present, any single municipality, or even two or more of them combined, cannot afford to finance a relatively large-scale project with their own budget. It is essential to secure special funds earmarked for the proposed projects.

Another important issue is the establishment of an organization to promote the project. It is necessary to set up an ad-hoc organization suitable for the project purpose because one individual municipality can hardly manage a large-scale project of diversified components with geographical extent covering two or more municipalities.

In this recognition, this section proposes methods of implementing large-scale inter-municipality projects, such as industrial parks and new towns, together with corresponding systems, which are described as follows.

7.4.2 Institutional Arrangement Alternatives for Project Promotion and Comparison of their Advantages

Basically, there are two methods of promoting large-scale development projects, in terms of institutional arrangement, which are described as follows.

Alternative 1: Individual implementation body method

This is the conventional method to promote individual projects separately. Each project is financed by an individual implementation body. A comprehensive plan containing two or more projects achieves its purpose through implementation of individual projects. For implementation of large-scale projects, this conventional approach even needs a new organization, such as a regional development committee (hereinafter referred to as "Committee"). The Committee is responsible for coordination of the conflicting interests of communities and sectors, communication with implementation bodies (or promotion of the establishment thereof), as well as coordination and negotiation with related authorities and organizations. This method is hereinafter referred to as "Individual Method".

Alternative 2: Regional development corporation method

The condition indispensable for introduction of this method is to legally authorize the regional development of the country as a national policy. Under a new law on the nation-wide regional development policy, a regional development corporation (hereinafter referred to as "Corporation") should be established by full finance of the central government. This method is suitable to implement a project which are too large for a single municipality to manage. In this method, the implementation body will be the Corporation. The Corporation will be responsible for master planning, feasibility study, project design, construction, and completion (sale, lease, etc.). In this case also, the Committee should be established to reflect the opinion of each locality. This method is hereinafter referred to as "Corporation Method".

Table 7-1 lists implementation bodies of the nine (9) programs/ projects proposed in this report, if they are to be executed under the Individual Method, and identifies programs/projects which can be implemented by the Corporation. The table also indicates the ministries relating to and supervising those programs/projects, which will be hereinafter referred to as the "central government".

Responsible agencies and financial sources under the two implementation methods are compared for each stage of project cycle, as follows.

	Project cycle		
	I. Project identification/ formulation	II. Project planning/ basic design	III. Project implementation
<u>Individual implementation body method</u>			
Responsible agency	Committee	Committee	IIB
Financial source	Municipalities	Municipalities	IIB
<u>Regional development Corporation method</u>			
Responsible agency	Committee	Corporation	Corporation
Financial source	Municipalities	Corporation	Corporation

(Note): Committee = Regional Development Committee
IIB = Individual Implementation Body
Corporation = Regional Development Corporation

Under the Individual Method, each project will be transferred from the Committee to each implementation body at the project implementation stage i.e.-stage III of project cycle, so will be the financial source from the local government to the central government. On the other hand, under the Corporation Method, transfer will occur at the project planning and basic design stage i.e.-stage II of project cycle, so will be financial source from the local government to the central government.

Table 7-2 compares advantages and constrains of the two implementation methods, which are analyzed below for overall evaluation.

(1) Time required for project implementation

Clearly, the Individual Method can be adopted immediately as it is based on the conventional method and can be implemented within the present legislative framework. On the other hand, the Corporation Method will require relatively a long period of time due to necessary legal arrangement including the enactment of a special law. Nevertheless, it is safe to assume that the Corporation, once established, will reduce the project period significantly compared to the Individual Method, partly because time to require the establishment of the implementation body for each project will be saved, and partly because the Corporation will be able to streamline the development process, being an organization specialized in regional development.

(2) Ease in fund raising

Under either of the methods, the project cost will be financed from the central government budget including EC Fund, and also local government's own source for construction of public facilities such as sewage, public roads and parks which are unsalable parts of the project. Only ease in financial access to the central government is compared since there is no difference in ease of financing the cost to be borne by local government for the construction of the public facilities. Under the Corporation Method, contributions from the central government including EC Fund will be secured in the annual budget, thereby facilitating project financing once the budget is approved. On the other hand, the Individual Method entails separate fund raising effort for each project along with establishment of an implementation body, which may present uncertainties.

(Note) If a local government implements a regional development project, without relying on either of the methods, the substantial part of the project cost may be loaned from private financial institutions. To repay the loan, the local government or a development company founded by the Committee must use the revenues from the sales of the project, e.g., the industrial park. In this case, the central government should guarantee such loan for the local government, without provision of collateral. This approach is one of the effective ways to induce private funds to regional development.

(3) Burdens on the local government

The Corporation Method will impose less burdens on local governments both in terms of financial and human resources, particularly in the planning stage. This is because the Individual Method will require the local government to conduct pre-feasibility studies, detailed feasibility studies and basic design as well as coordination and negotiation with the central government for project approval on its own. The Corporation Method offers great advantages because the Corporation has in reserve readily available experts specialized in construction projects, and their performance is efficient backed by expertise and experience.

(4) Ease in project management

Obviously, the Corporation will be able to handle a whole range of activities, from preliminary study to completion, leading to the ease in management due to continuity. Also, the Corporation Method has an advantage in budget control as it reduces resource requirements for the local government and the Committee.

(5) Consistency in regional development

As the Corporation Method deals with regional development in the line of existing national policies and programs, several projects can be implemented within the same target region in accordance with the coordinated schedule. In regional development, it is reasonable to expect that two or more projects produce a multiple effect by creating positive impacts on each other. In this context, the Corporation will have a clear merit.

(6) Overall evaluation

As discussed above, the Corporation Method has various advantages over the Individual Method. Nevertheless, it has a clear disadvantage in the time required for its establishment. So as not to make the establishment of the Corporation a critical path in the implementation of the comprehensive regional development plan, the most practicable solution is to start implementing projects of higher priority under the Individual Method. Then once the Corporation is established, remaining projects can be implemented under the Corporation Method. Under the Individual Method, provision should be made to support the functions of the Committee which will be responsible for a number of activities during the planning stage.

7.4.3 Outline of the Individual Method

This method is based on project implementation methods generally practiced in Portugal, with modifications made to facilitate the promotion of large-scale projects which are not manageable for individual municipalities.

(1) Establishment of the Committee

Objectives:

- 1) To identify a project and to develop its implementation plan, with a view to developing an area in a comprehensive and coordinated manner.
- 2) To provide support and assistance for project implementation bodies during the stage of project implementation.
- 3) To coordinate and resolve conflict of interests between municipalities and other administrative units as a unified organization.

Authorities and organizations participating in the committee:

1) **Local governments (districts and municipalities)**

Membership principally consists of districts and municipalities which are included in the project area, as well as those which are outside the project area but are willing to support the project.

2) **Regional Coordination Committee (CCR)**

CCR is responsible for coordination with the central government and between local governments in terms of planning and allocation of the national government budget and EC Fund.

3) **ICEP regional office**

To attract foreign investment to the large-scale industrial park and the project area.

4) **IAPMEI regional office**

To attract domestic investment to the large-scale industrial park, to provide investment incentives, and to allocate EC fund for regional development.

5) **Local trade organizations**

Responsible for hearing and coordination of requests by local private industries.

6) **Financial institutions**

To support the project through investment and credit service.

Organization:

1) Each of member organizations will assign its representatives on a temporary basis and its staff and experts on a full-time basis to the Committee . Together with outside consultants and experts hired as required, they will constitute a project team.

2) The representatives will constitute the Committee by which the project team

consisting of the full-time staff will be supervised, or the Committee comprising the representatives and the full-time staff will act as a project team.

- 3) As an alternative, the Committee can establish a development company instead of the project team.
- 4) The organization will be dissolved upon completion of the project.

Operating cost of the Committee:

- 1) Contribution by the member organizations specifically municipalities, investment and loan from financial institutions, and support from the central government.
- 2) Personnel expenses, including salaries, should preferably be borne by member organizations which assign them to the Committee on a temporary basis.

(Note 1) The construction cost for each project will be financed by the corresponding implementation body, and the Committee will not bear any financial burden.

(Note 2) Industrial parks and new towns developed, as an example, will be sold by their respective implementation bodies. In this connection, the Committee may be able to invest in each implementation body to receive its share of profit from sales, which will then be used to complement the whole or part of the cost incurred by the Committee at the planning stage. This approach may be considered as an alternative.

(2) Roles of participating organizations by project cycle

Figure 7-5 summarizes the project cycle under the Individual Method, and demarcation of roles of the Committee, the project implementation body, and the central government. In essence, this arrangement is structured as follows:

- The Committee will be entirely responsible for project planning.
- The central government will review the proposed project and, after approval, will establish its implementation body.
- Then, the implementation body will be in charge of the whole development process for implementation of the project.

(Note) Under this arrangement, the same project cycle will be repeated for each project.

The development process under the Individual Method is described below in line with the general flow of the project cycle.

Planning stage:

1) Project identification and formulation

The Committee will develop a master plan for an entire region, which will then be divided into individual projects. The committee will notify the master plan and individual project proposals to the central government, which will in turn alert related authorities for reviewing and evaluation.

2) Pre-feasibility study

The committee will conduct the pre-feasibility study at its own cost for each project under advice and assistance of the Regional Coordination Committee (CCR). It will decide whether or not to conduct a further detailed feasibility study for the project after screening.

3) Detailed feasibility study

The Committee will conduct the detailed feasibility study on the selected project(s), including alternatives, by hiring an outside consultant. Based on the study results, the Committee will decide on whether the project is to be implemented. If the project is considered to be feasible, the Committee is expected to initiate necessary administrative procedures to endorse the project, including the approval of local councils.

4) Basic design and application for approval of the central government

Based on the results of the detailed feasibility study, the Committee will select the most suitable project scheme and will submit the preliminary plan (including basic design and implementation plan), attached by the detailed feasibility study report, to the central government for approval.

5) Reviewing and approval by the central government

Upon receiving the application for the project, the central government will review and evaluate it through overall consideration of feasibility, priority, development budget, organization of the implementation body, as well as consistency with national objectives and policies. It will then approve or reject the application and notify the decision to the Committee.

6) Establishment of the implementation body

After approval, the central government will establish an implementation body for the project, which should preferably be participated by representatives of the Committee and its member organizations.

Implementation stage:

1) Land acquisition

The implementation body will acquire the project site through each municipal government, which will purchase it from land owners and resell it to the implementation body.

2) Detailed design

The implementation body will decide on the detailed design though advice of outside experts.

3) Bidding and contract award

The implementation body will prepare project specifications and select a primary contractor(s) through a competitive bid process. As an option, certain portions of the project may be compulsorily awarded to local contractors for the purpose of fostering local industries.

4) Construction

The project will be constructed by the contractor under supervision and management of the implementation body.

5) Completion of the project

Upon completion, the project (industrial park, new town, etc.) will be sold to private enterprises, investors and individuals. Upon the closing of sales, the project will be completed.

6) Maintenance and Management after the Completion

If the project contains public facilities such as municipal road and waterwork which cannot be sold out, the local government should construct and manage them by her own financial resource.

There are two ways to maintain and manage such facilities as industrial parks and townships. One is that a public authority including the central and local governments will maintain and manage the facilities and the other is that a private company will operate them commercially. In both cases, financial sources for maintenance and management should depend on the charges paid by users, locators and beneficiaries of the facilities.

Domestic airports are operated by the authority concerned.

In the case of the industrial waste treatment facilities, a private company is generally consigned to operate the facilities except when the public authority continues operation even after the completion of the construction. In any case, polluters should pay cost of operation.

7.4.4 Outline of the Corporation Method

This is based on the method adopted in Japan, with some modifications made to fit the purpose of this study.

(1) Establishment of the Committee

This method will also require the establishment of the Committee, which will be basically same, in its purpose and organization, as the Committee under the Individual Method. A major difference is that the Committee under the regional development Corporation method will play less roles in the project cycle, thus will bear less financial burden. As a result, the Committee will not be able to participate in the implementation body, i.e., the Corporation, through investment, so that it will not enjoy benefit of receiving profit from sales of the project.

(2) Establishment of the Corporation

Objectives:

- 1) To promote large-scale regional development projects as a national project, and to initiate its planning and development upon request from the Committee or a local government.
- 2) The Corporation will serve as the project implementation body, including the implementation of the "comprehensive plan" containing two or more projects.
- 3) As a consequence, the Corporation will handle projects which cannot be properly managed under the Individual Method, due to their size, diversity, and geographical extent covering two or more administrative units.

Organization and staffing:

- 1) The Corporation should be a non-profit organization entirely financed by the central government.
- 2) The Corporation should be a permanent organization which will not be dissolved upon completion of an individual project.

- 3) An organization chart is illustrated in Figure 7-6 as an example. The organization basically comprises a head office and temporary site offices as many as number of projects under implementation. A temporary site office will be closed after completion of the project, and the staff of the closed site office will come back to the head office or move to another temporary site office.

Assuming that the Corporation has five temporary site offices at the same time having 20 staff members for each at the initial stage of its establishment, and that the head office requires staff at 80 per cent of the site offices in number, the total number of staff is estimated below:

- Temporary site offices	: 5 sites x 20 staff/site	= 100 staff members
- Head office	: 80% of the above	<u>= 80 staff members</u>
		180 staff members

Financial source:

- 1) The Corporation obtains its operation and development funds (including the construction budget) from the central government budget.
- 2) Profit or loss accrued from the completed project is settled within the account of the Corporation.
- 3) Annual budget of the Corporation is estimated below on the assumption that requirements of project cost per project is around four billion escudos and; the administrative expenditure including salaries and wages for all staff of the Corporation accounts for 50 per cent of the project cost:

- Project Cost	: 5 projects x 4 billion/project	= 20 billion escudos
- Administrative expenditure	: 50% of the above	<u>= 10 billion escudos</u>
		30 billion escudos

(2) Roles of participating organizations by project cycle

Figure 7-7 summarizes the project cycle under the regional development Corporation method, and demarcation of roles of the Committee, the Corporation, and the central government. Under this arrangement, each party will assume the following duties:

- The Committee will be responsible for identification and formulation of the master plan and individual projects involved in the plan, and decision making in

the planning stage.

- The Corporation will perform all tasks required in the planning and implementation stages.
- The central government will review and approve or reject the proposed plan.

The development process is described below in line with the general flow of the project cycle. Because activities in each stage are basically the same as those under the Individual Method, emphasis will be placed on major differences between the two methods.

Planning stage:

1) Project identification and formulation

A project will be initiated by the Committee, as in the case of the Individual Method. The difference is that the plan will be sounded to the central government through the Corporation.

As seen in the project cycle, one of distinctive characteristics of the Corporation Method is that the Committee will not have to negotiate directly with the central government in the planning and implementation stages.

2) Pre-feasibility study

While the Committee will conduct the pre-feasibility study under the Individual Method, the Corporation will undertake this activity at the request and with the cooperation of the Committee. The results of the pre-feasibility study will be reported to the Committee, which in turn will decide on whether or not the project is eligible for the detailed feasibility study.

3) Detailed feasibility study

After the above decision, the Committee will commission the detailed feasibility study to the Corporation, which will again report the results of the study to the Committee. The commissioning of various studies and design activities will enable the Corporation to best utilize its expertise and resources related to regional development, including the development of experts, thereby significantly reducing burdens on the Committee compared to the Individual Method.

Based on the results of the feasibility study, the Committee will decide on whether or not the project should be implemented. Again, the Committee is expected to initiate actions required to obtain authorization, including the approval by local councils.

4) Basic design and application for approval of the central government

Once the decision is made, the Committee will request to the Corporation for preparation and implementation of the basic design. Unlike the Individual Method under which the Committee is responsible for development of the basic design as well as the application to the central government, the Corporation will be responsible for these activities, and once the application is filed with the central government, the development project(s) will leave the hand of the Committee.

In reality, actual takeover of responsibility is considered to occur when the Committee commissions the execution of the pre-feasibility study to the Corporation. This is a marked difference between the two methods.

5) Reviewing and approval of the central government

A major difference from the Individual Method is, the approval for the project is issued to the Corporation, which will then notify it to the Committee.

(Note 1) As the Corporation already is the implementation body for the envisaged projects, the establishment of the implementation body will be omitted.

(Note 2) Japanese Regional Develop Corporation (JRDC) is mainly responsible for construction of new towns, development of large-scale industrial parks, loan and other assistances for relocation of factories as a result of a decentralization program; and relocation and localization of R&D facilities and high-tech industries to rural regions, not covering construction of industrial waste disposal sites and regional airports.

Implementation stage:

Throughout the implementation stage, there is no difference between the two methods, except that the Corporation per se is the implementation body.

7.4.5 Roles of the Aveiro-Viseu Region

This section considers specific actions to be taken by the Aveiro-Viseu region in order to materialize the results of this study on the industrial development promotion for the Aveiro-Viseu region. Of nine programs/projects proposed in this report, the following is those requiring initiative and leadership of the Aveiro-Viseu region.

- Development of industrial parks (large scale)
- Construction of a centralized industrial waste disposal plant
- Industrial relocation
- Promotion of joint venture with foreign corporations (led by ICEP/Aveiro)
- Attraction of large-scale foreign investment (led by ICEP/Aveiro)
- Improvement of living environment (construction of new town)
- Upgrading of the Viseu airport

As ICEP is the counterpart of this study to represent the Portuguese government and has its Aveiro office within the proposed project area, it is expected to take leadership in initiating and empowering action programs proposed below. Note that the following proposals are based on the assumption that projects should be implemented under the Individual Method for the time being.

(1) Participation in establishment of the Committee

The Committee of the Aveiro-Viseu Region will be established to promote programs and projects proposed in this report, which are feasible to be implemented on a local level. Two districts, 29 municipalities, CCRC, ICEP/Aveiro office, IAPMEI's Aveiro/Viseu offices, local trade organizations, and financial institutions will be invited to form the Committee. The objectives of the Committee and its role have been described in the previous section.

(2) Founders' meeting

The founders' meeting should be organized by organizations who endorse the establishment of the Committee. It will be held periodically to do the following:

- 1) To draft the charter regarding the intent and objectives of the Committee.
- 2) To draft projects/programs (proposals) to be promoted by the Committee.
- 3) To decide on an organization (proposal) of the Committee.
- 4) To list up candidate project sites including alternatives.
- 5) To invite and appoint permanent membership of the Committee based on the

above.

(3) Establishment and convening of the Committee

Members so decided will establish the Committee, which will be held regularly to do the following:

- 1) To deliberate on agenda set by the founders' meeting and to make regulations.
- 2) To select and appoint the chairman and other officers.
- 3) To coordinate the interests of municipalities related to promoted programs/projects and sites, and to decide on the final plan.
- 4) To make preliminary arrangement for financial sources and the organization of program/project implementation bodies.
- 5) To formulate an outline for the operating budget of the Committee and its sharing by member organizations.
- 6) To organize project teams to achieve the purpose of the Committee.

(4) Activities of the project teams

While the Committee members are on part-time duty, members of the project teams will be on full time, mostly under temporary socondment from local governments having representatives in the Committee. In addition, outside consultants and experts will be hired as required. For geographical consideration, a project teams should be established respectively in Aveiro and Viseu areas and to work under direction of the Committee. Their major activities are as follows:

- 1) Pre-feasibility study
- 2) Detailed feasibility study
- 3) Basic design

(5) Roles of the Committee after formulation of the project teams

- 1) To direct the project teams.
- 2) To plan and coordinate the establishment of implementation bodies and the method of their participation in project.
- 3) To secure financial sources and operating budget.
- 4) To ensure effective coordination and communication with the central government authorities.
- 5) To review and approve study reports.
- 6) To coordinate requests and conflicting interests of municipalities and districts.

(6) Roles of municipalities

- 1) To secure approval or endorsement of local councils and municipal heads.
- 2) To supply manpower to the project teams and to share operating costs.
- 3) To supply source materials and data to the project teams.
- 4) To acquire project sites within each municipality (to be resold to the implementation body).

(7) Other considerations

In Portugal, there has been no large-scale project developed together by two or more municipalities within a region under their own proposal and cooperation. Thus, if the proposed project in the Aveiro-Viscu region, endowed with various opportunities and conditions, makes a commercial success, it will serve as a model to be applied to other regions. The major bottleneck to this epoch-making challenge is 1) the difficulty in coordinating conflicting interests of municipalities involved, possibly leading to the non-participation of municipalities which are not likely to enjoy direct benefits of the project, 2) competition in project site selection or opposition to land acquisition, and 3) reluctance in sharing of cost and manpower. It is reasonable to expect that, even if the economic effect of the project is likely to trickle down to surrounding municipalities, those which do not see direct benefit are reluctant to cooperate.

In this context, the establishment of the Committee will become a critical point; the first hurdle for the project is whether or not the Committee and project teams can be organized under full membership. Certainly, this will require strong leadership of ICEP's Aveiro office.

7.5 Policy Recommendations

This section sets forth policy recommendations considered to be useful in promoting industrialization in the country as a whole, as well as the Aveiro-Viseu region.

7.5.1 Establishment of the Long-Term Industrial Development Plan

Although long-term national economic development plans have been announced and implemented with some adjustments, it is not very clear which plan sets final goals and which plan represents the country's overall policy. For instance, GDP growth targets are not indicated in a consistent manner to clearly define as to how GDP will grow within the national economy, and how major sectors (agriculture/forestry, fishery, manufacturing, construction, and service) are expected to grow. Also unclear are development and investment plans in major industrial sectors to achieve the targets. Furthermore, it is difficult to define the position of this project in the national economic development and long-term industrial development plans. In particular, the development plan which sets consistent, clear, and definite goals is required.

7.5.2 Integration of Public Administration, Development Planning, and Other Public Services

There are so many regional classification, as if each ministry or agency establishes its own administrative territory. To improve the productivity of administrative service and to reduce social costs of duplicated services, integration of different administrative divisions is called for. In particular, it is important to enforce Law No.56/91, August 13 "Skeleton Law of Administrative Regions" which is designed for this purpose.

7.5.3 Area-Wide Regional Planning and Development System

As a consequence of different administrative divisions established by ministries in the central government, each municipality having 30,000 to 50,000 population has to develop and implement a regional development plan for its own territory. In addition, municipalities are required to consult with and obtain approval from ministries having jurisdiction before making each plan, such as a land use plan from the Ministry of Planning, Administration and Territory, a recreational development plan from the Ministry of Commerce and Tourism, and an industrial development plan from the Ministry of Industry and Energy. At the same time, local tax has to be paid to a municipality where a company has its head office, so that a regional development plan designed to attract private enterprises is carried out at a municipal level, resulting in the inefficient process.

As recommendations in 8.4 propose a development plan based on a certain scale of economy

and efficiency, it can only achieve a half of purposes if it is implemented in the current administrative division. Thus, it is strongly recommended that the central government delegates some of its authorities to local governments covering an area wider than a municipality, say in the size of the "Central" area. At least, Aveiro and Viseu are combined into one administrative unit.

7.5.4 Development of Statistics

Statistical data are not fully available, their publication is often delayed, with lack of consistency between different statistics. Regarding industrial statistics, production data (including the number of companies, locations, employment, products, production volumes, investment, sales, and cost) are in shortage. As statistical data are major indicators of national economic development, the establishment of a reliable and consistent statistical database should be given of priority.

7.5.5 Establishment of Industrial Development Finance Scheme

Now, there are no specific financing scheme for industrial development, so that this is one of the idea to establish new financing scheme. As stated above, the basic policy of the EC financial system is one of a market economy. Therefore for each country to define its own objective of providing financial support through institutions and credit that is lower than market rates, or through subsidies, has become difficult. On the other hand, Portugal, as a member of the EC, has adopted a high interest rate policy in order to bring inflation down to the average EC level. It is the industrial sector that is making the sacrifice on behalf of this policy, but with the result that the supply of capital to that sector, which strongly needs it in order to improve international competitiveness and modernize in the face of the integration of the EC, is being restrained. Under the circumstances, the two policies are sought simultaneously for integration, namely "high interest rates in order to reduce inflation" and "promotion of investment for the modernization of manufacturing". Voices are heard that in addition to the present schemes (PEDIP, SIBR and so on), further institutional financial schemes are needed to enhance supply of credit to industries.

Table 7-1 IMPLEMENTATION BODY AND RELATED MINISTRIES OF CENTRAL GOVERNMENT BY RECOMMENDED PROGRAM/PROJECT

Recommended Program and Projects	Implementation Body		Central Government (Main Ministry(ies) Concerned)
	Individual Imp. Body (IIB) Method	Regional Dev. Corporation (RDC) Method	
1 Entrepreneur Management Education program	IAPMEI	Same as IIB	Industry and Energy
2 Institutional Financial Credit Facilities Program for SMIs	IAPMEI in corporation with CGD (State bank)	Same as IIB	Industry and Energy
3 Large Scale Foreign Investment Attraction Program	ICEP in corporation with IAPMEI and Municipalities	Same as IIB with corporation of RDC in sale of industrial parks	Trade and Tourism
4 Joint Venture Business Promotion Program	ICEP in corporation with IAPMEI and Municipalities	Same as IIB with corporation of RDC in sale of industrial parks	Trade and Tourism
5 Industrial Relocation Support Program	IAPMEI in corporation with Municipalities	RDC	Industry and Energy
6 Large scale Industrial Park Development Project	Joint venture of IAPMEI, municipalities and a bank(s)	RDC	Industry and Energy/Planning and Territorial Administration
7 Centralized Industrial Waste Treatment Facilities Construction Project	Central government in corporation with municipalities	RDC	Environment and Natural Resources/Industry and Energy
8 Visue Airport Upgrading Project	Visue municipality and Central government	RDC	Public Work, Transport and Communication
9 Township Construction Project	Municipalities and/or central government	RDC	Planning and Territorial Administration/Public Work, Transport and Communication

Table 7-2 COMPARISON OF INDIVIDUAL IMPLEMENTATION BODY AND REGIONAL DEVELOPMENT CORPORATION METHODS

Factors	Individual Implementation Body Method	Regional Development Corporation Method
(1) Time required for project implementation	<ul style="list-style-type: none"> • Short period of time to initiate the project planning due to the conventional method (adv.) • To consume a certain period of time to establish an implementation body for each project (con.) 	<ul style="list-style-type: none"> • To require long period of time for legal arrangement to establish the corporation (con.) • Shorter project period after the corporation being once established (adv.)
(2) Ease in fund raising	<ul style="list-style-type: none"> • Separate fund raising for each project is needed (con.) 	<ul style="list-style-type: none"> • The annual budget allocation system of the central government can be adopted (adv.)
(3) Burdens on local government in terms of finance and human resource	<ul style="list-style-type: none"> • Burdens last upto the stage of basic design in the project cycle (con.) 	<ul style="list-style-type: none"> • Burdens last only upto the stage of project identification/formulation in the project cycle (con.)
(4) Ease in project management	<ul style="list-style-type: none"> • An implementation body shall be established for both project planning stage and implementation stage (con.) • Budget control required for the local government(s) is longer in period and longer in amount (con.) 	<ul style="list-style-type: none"> • An implementation body (the corporation) manages the project from project planning stage to the completion (adv.) • Budget control required for the local government(s) is shorter in period and less in amount (adv.)
(5) Consistency in regional development	<ul style="list-style-type: none"> • Project by project approaching method shall be adopted by its nature (con.) 	<ul style="list-style-type: none"> • Simultaneous implementation of two or more projects in a region is possible (adv.)

Note: (adv.) = advantages for the method (con.) = constraints in the method

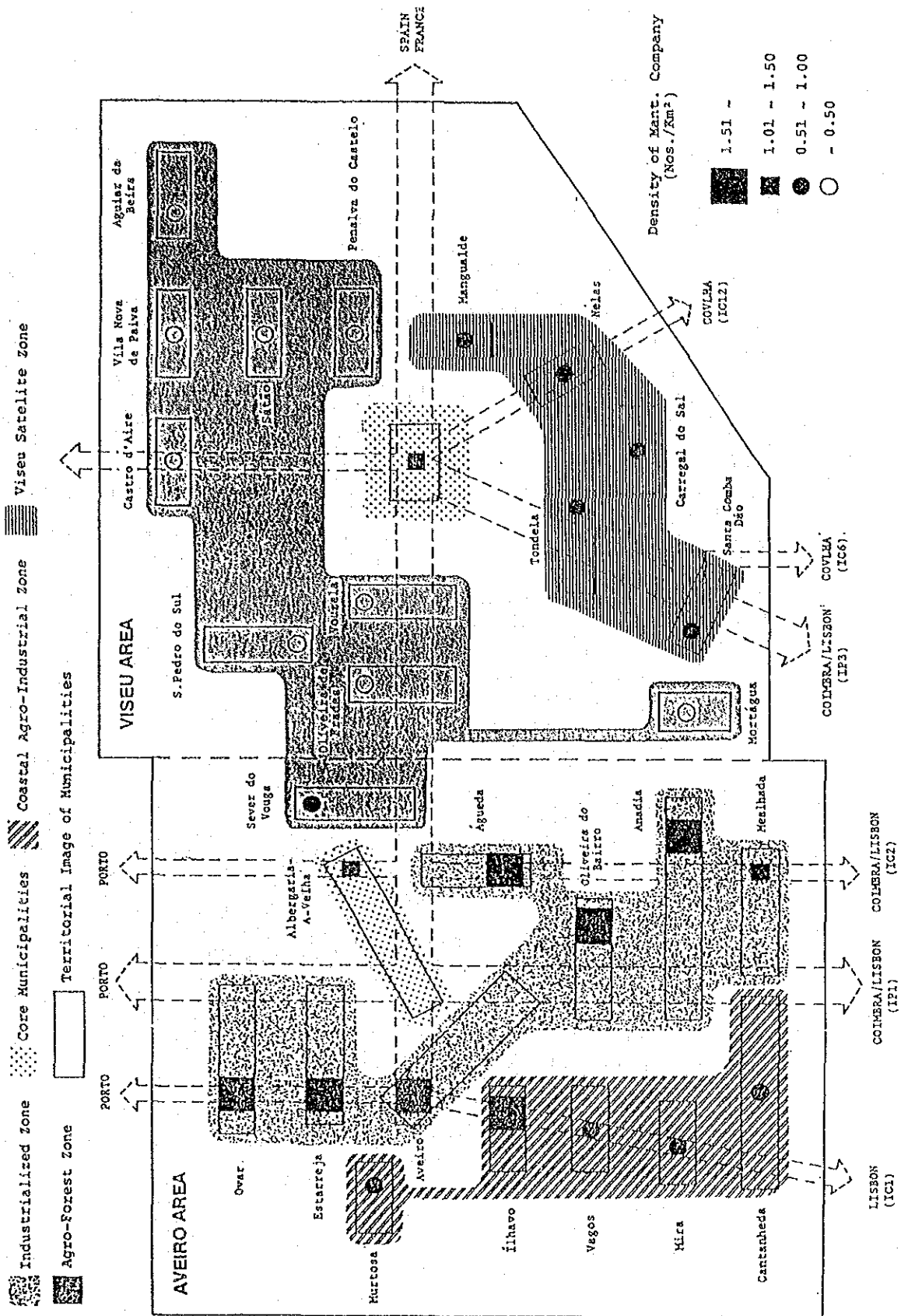


Figure 7-1 ZONING FOR INDUSTRIAL PROMOTION PLANNING

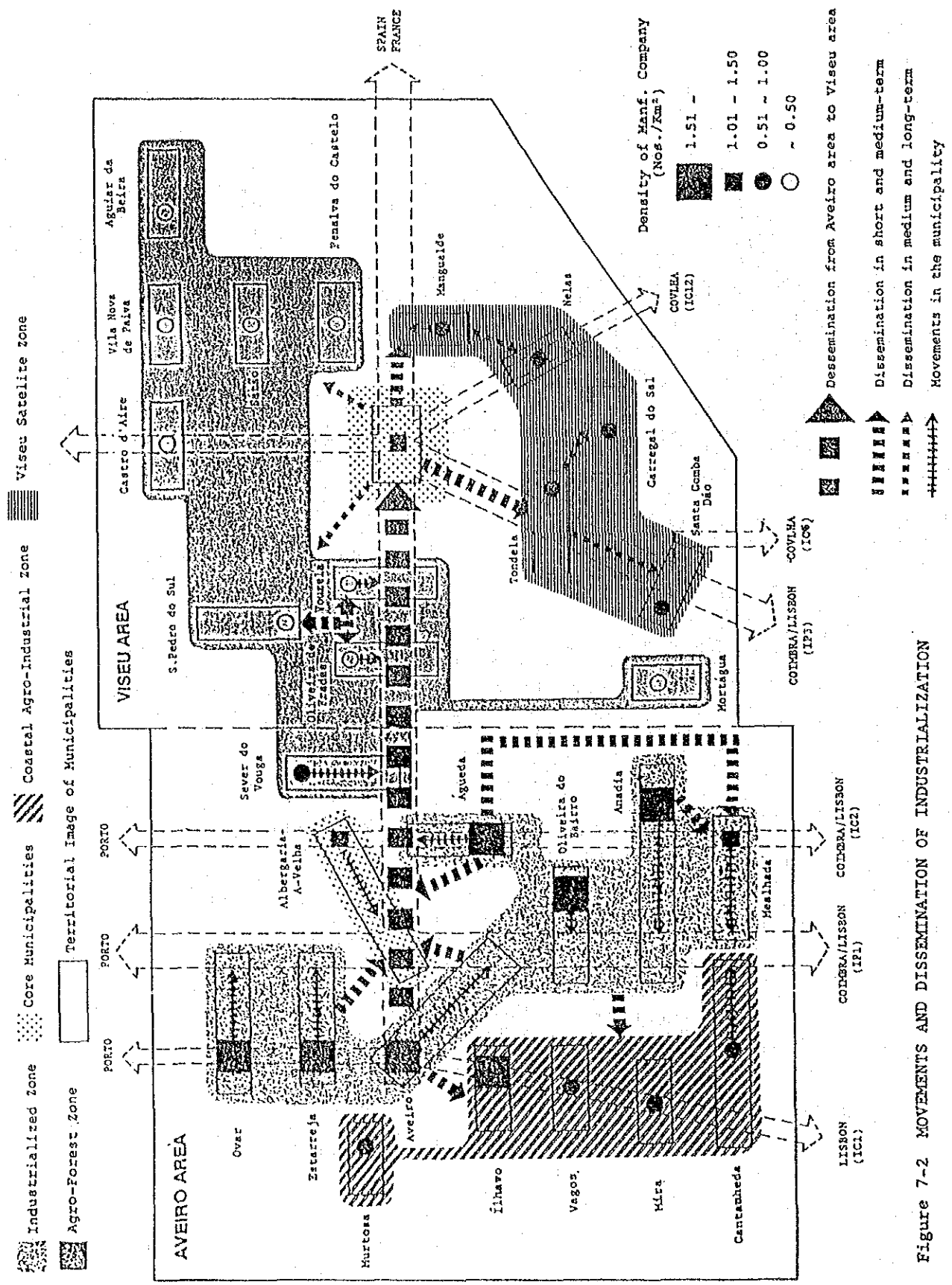


Figure 7-2 MOVEMENTS AND DISSEMINATION OF INDUSTRIALIZATION

PROGRAM/PROJECT	1st year	2nd year	3rd year	4th year	5th year	6th year
PROGRAM						
1) Entrepreneur Education Program						
2) Institutional Credit Facilities Program for SMIs						
3) Large Scale Foreign Investment Attraction						
4) J/V Business Promotion						
5) Factory Relocation/Appropriate Land Use						
PROJECT						
1) Large Scale Industrial Parks (150-200Ha)						
2) Centralized Industrial Waste Management Facilities						
3) Viseu Airport Upgrading						
4) Township Construction in Viseu Area						

▲ First contract on foreign investment, J/V business

(Remark) Research/Preparation work ——— Implementation of programs ■■■ Implementation of construction projects □ Continuation of construction projects

Figure 7-3 OVERALL SCHEDULE ON INDUSTRIAL DEVELOPMENT IN AVEIRO-VISEU REGION

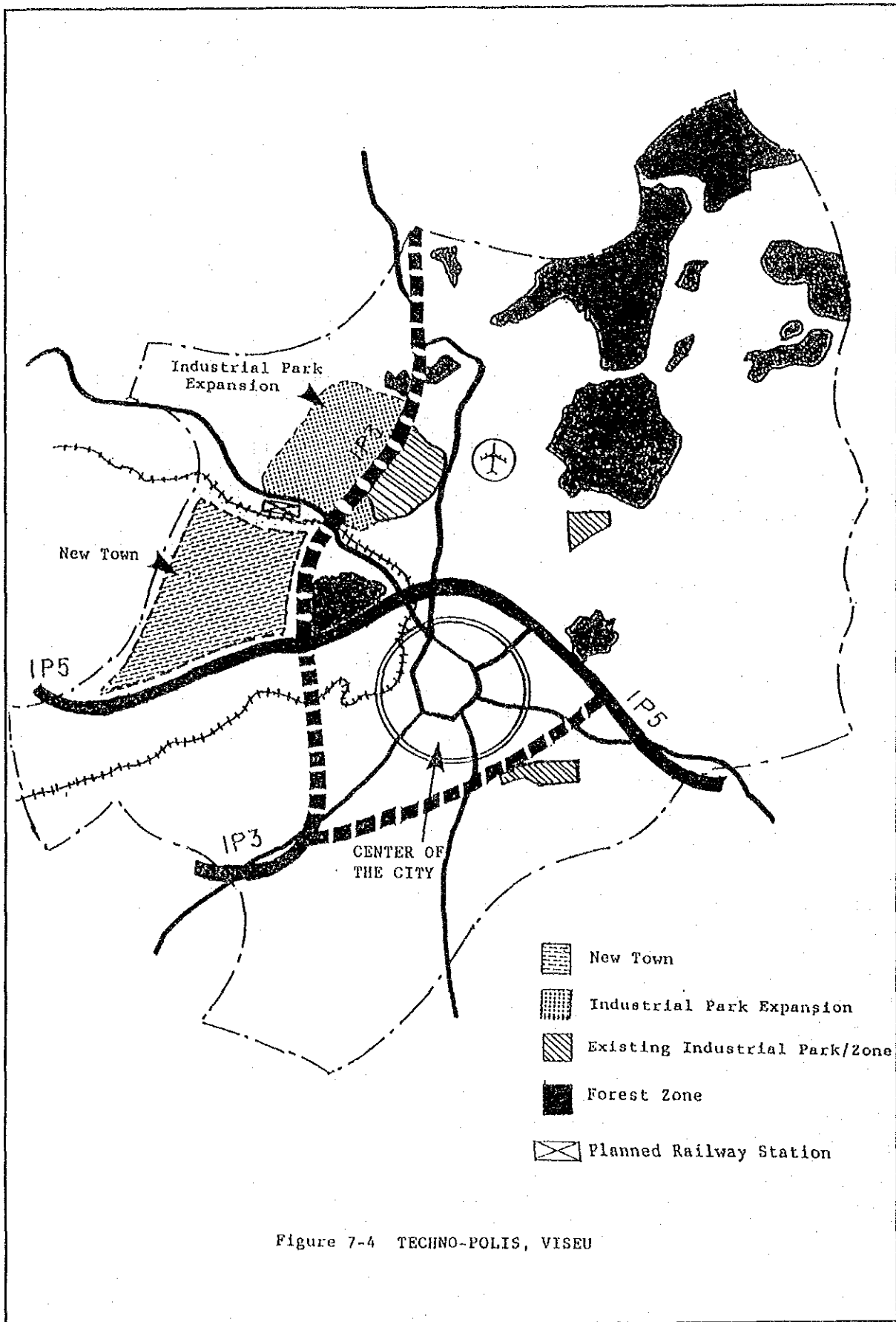


Figure 7-4 TECHNO-POLIS, VISEU

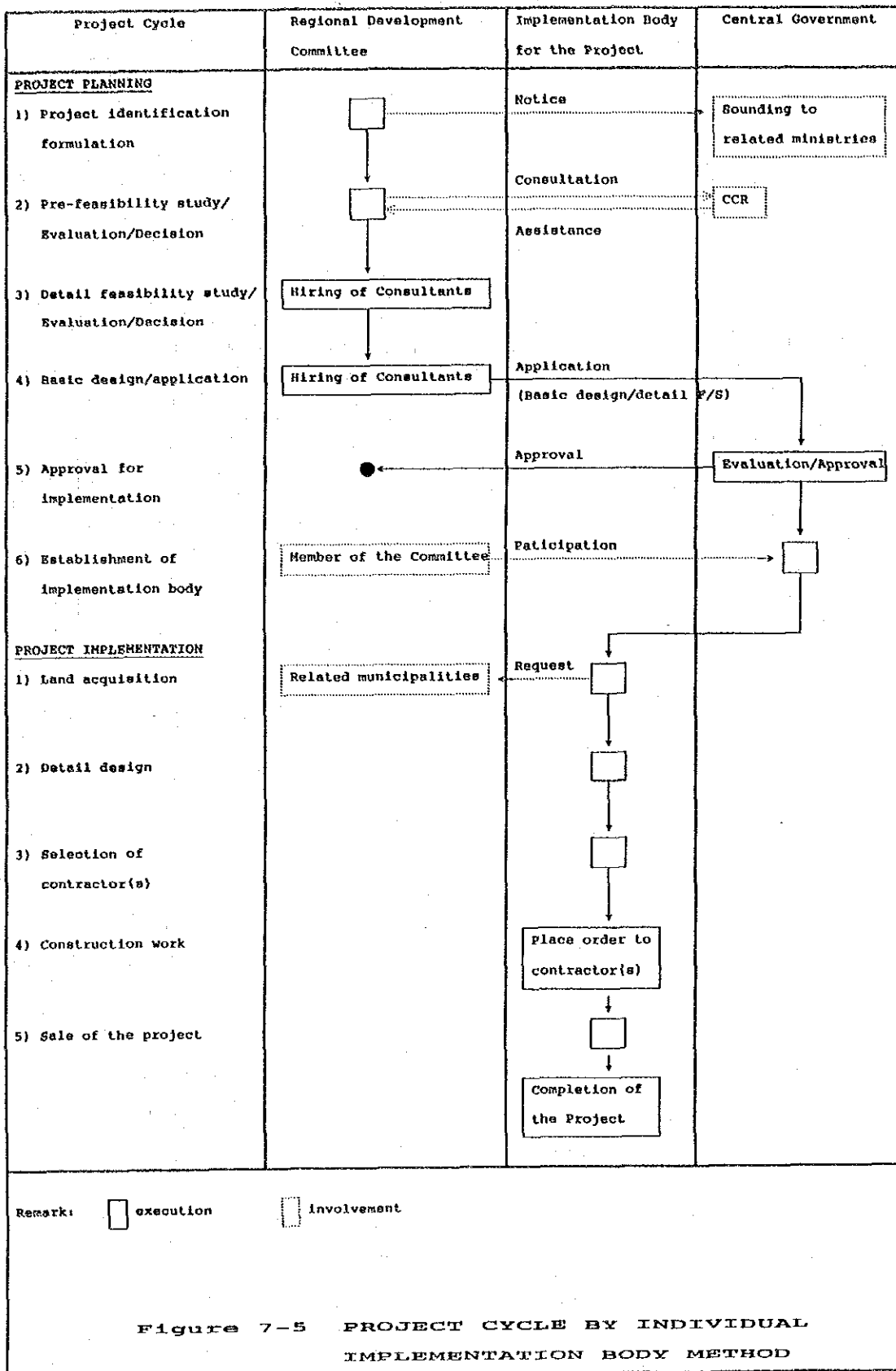
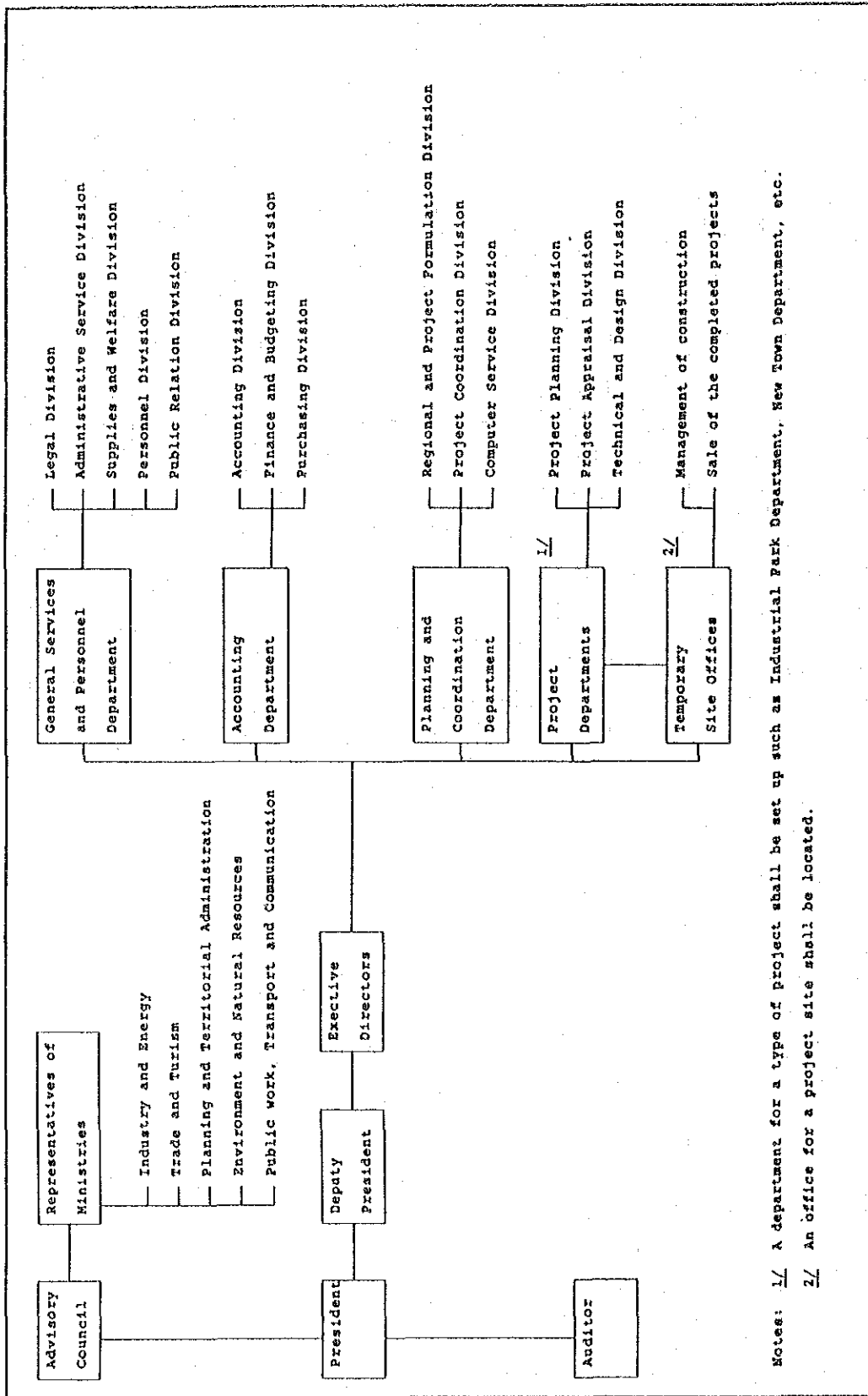
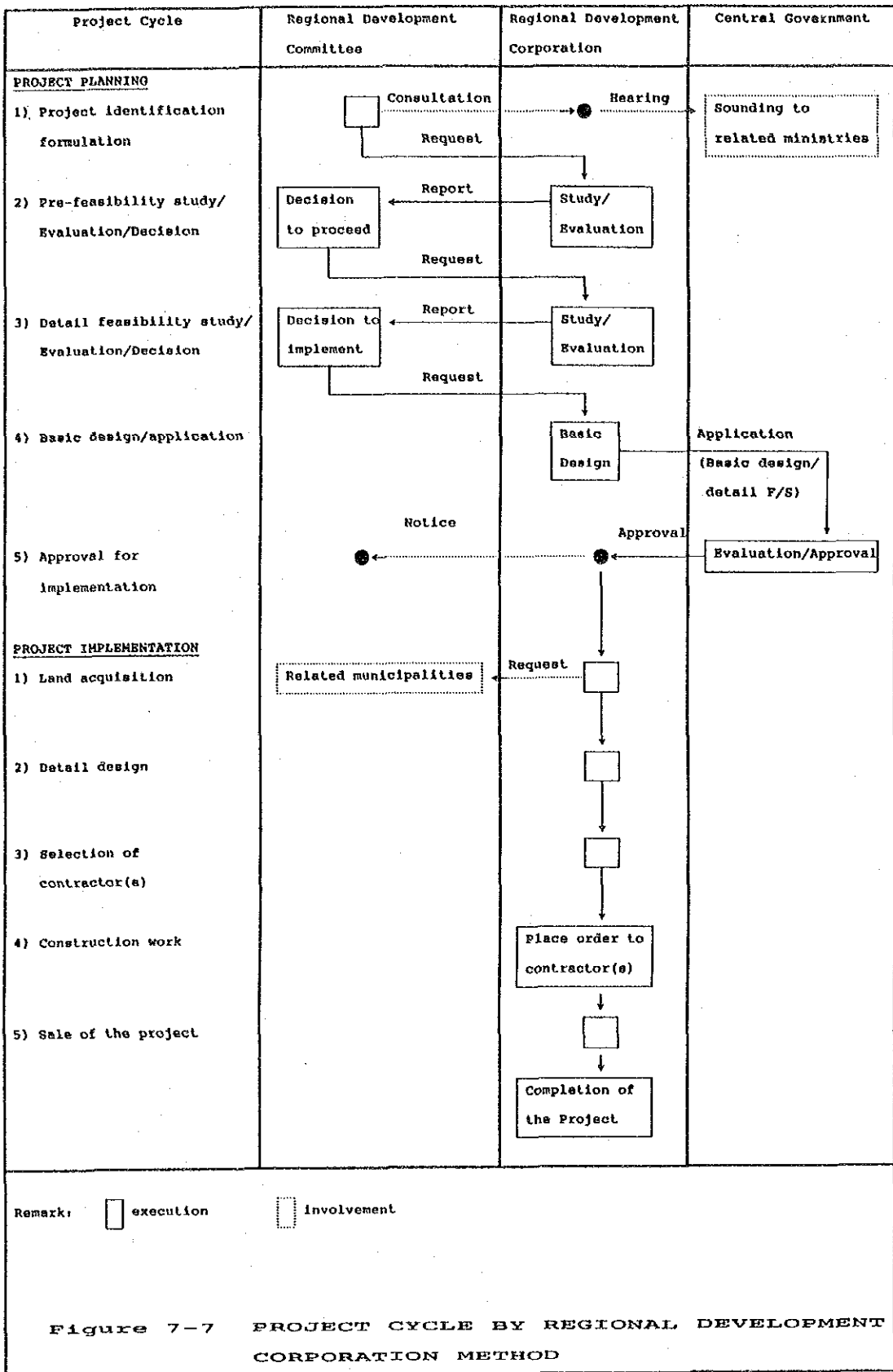


Figure 7-5 PROJECT CYCLE BY INDIVIDUAL IMPLEMENTATION BODY METHOD



Notes: 1/ A department for a type of project shall be set up such as Industrial Park Department, New Town Department, etc.
 2/ An office for a project site shall be located.

FIGURE 7-6 ORGANIZATION CHART OF THE PROPOSED REGIONAL DEVELOPMENT CORPORATION



JICA

