19 SOUTH AND AUSTRAL ZONE: ECO-REGION DEVELOPMENT

19.1 Characteristics of South and Austral Zone

a. Abundant natural resources

The South and Austral zones are endowed with much natural beauty and natural resources, including fertile lands, mountains, lakes, rivers, forests, mines, and marine resources. They can be used for a wide range of economic activities, such as, agriculture, forestry, fisheries, mining, and tourism. These not only bring about products for direct export but also provide raw materials to manufacturing industries for export. In fact, the zone's economy is very much "export-oriented", i.e. having a larger share of the country's total exports compared with the share of GDP. The investments, likewise, are influenced by the availability of such natural resources and are concentrated in these sectors.

b. Higher value added and diversification

The exports of these natural resource based products are expected to remain competitive in the respective international markets for some time in the future. However, as presented in the previous section, it is necessary for the South Zone's major exporting industries to develop products with higher value added and improved quality so to compete with cheaper products exporting competitors. At the same time, diversification of export products deems necessary. This is because such high dependence on a limited number of natural-resource-based products for export implies vulnerability to external shock as exemplified by the Asian economic crisis of 1997-1998. In order to achieve these goals, innovative capacities in technology, product development and marketing strategies become necessary.

c. Mounting environmental problems

At the same time, zones are beginning to encounter environmental problems that, in the near future, may have great impact on their economies. The environmental factor would affect the zones in different manners. First, indiscriminate use of natural resources causes depletion and scarcity, which may raise the cost of production for natural resource based products in the near future. Second, due to changing consumer preferences toward environmentally sound products in developed countries, the products could have difficulty in penetrating the international market without clearing environmental standard. Thirdly, indiscriminate use of natural resources by the agro-industrial sector will have negative effects on tourism development. It is clear that the zones' international competitiveness will continue to rely on natural resources. Hence, the use of such resources in the region must be decided upon with caution, keeping a long-term perspective in mind. Furthermore, with a rise in environmental awareness at the global level, environmentally friendly products are sold at a higher price and are more acceptable in the market, especially for the developed countries. This means that through producing environmentally friendly products, Chile may be able to differentiate its products from those of its competitors and gain higher value added. Taking these conditions into account, producers must consider and explore more efficient, superior, high-return use of natural resources.

d. Strategy of Eco-Region

In such a context, the idea of the Eco-region strategy emerged as a means to consider new ways to manage environmental resources, looking at future development potentials. By placing "environment" at the center stage, the idea will also bring about an opportunity to differentiate the products so as to gain competitiveness in the market. This also serves to consolidate the image of region or zone that can be utilized for investment promotion as well as export promotion. In this sense, the Eco-region development strategy is not limited to the conservation of the environment, but aims at the economic development of the region through achieving the "right" balance between environment and growth in the long term.

19.2 Eco-region Concept and Strategy

19.2.1 Eco-Region Concept

The Eco-region concept hopes to achieve a sustainable region by improving the standard of living for the citizens, not only through the conservation of natural resources, but also through the activation of the regional economy by attracting investment and promoting exports.

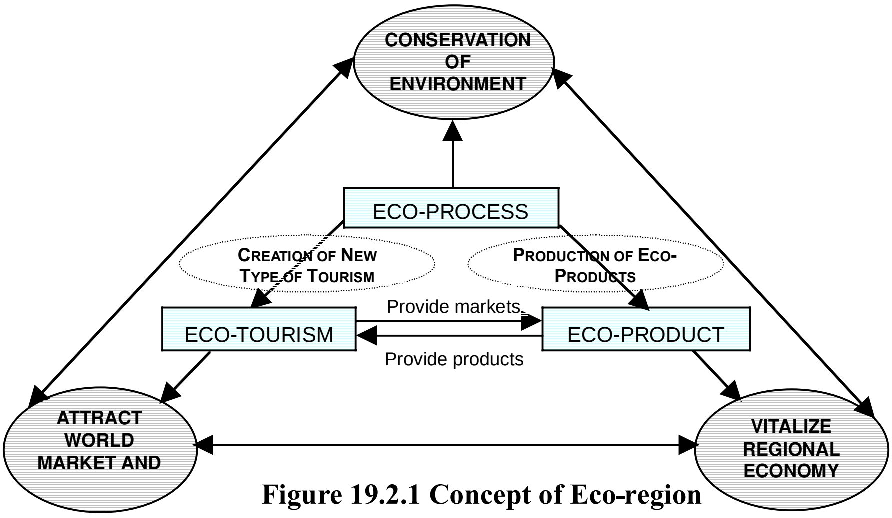

Figure 19.2.1 Concept of Eco-region

Source: JICA Study Team.

Figure 19.2.1 illustrates mutual relationships between the three main factors of the eco region concept: eco-product, [1] eco-tourism[2] and eco-process.[3]

This figure illustrates the relationships between these three factors. Eco-product provides eco-tourism products to be sold or those products that promote the image of tourism. At the same time, eco-tourism provides the market for eco-products. This indicates the possibility of combining and forming an alliance between the two advantageous economic activities of the region; tourism and natural resource based industries. The eco-process contributes to the creation of eco-products and eco-tourism by introducing environmentally sustainable processes such as better treatment of waste and clean production.

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[1] Eco-product is broadly defined as products that attempt to improve environmental damages or those products, which do not cause any environmental damages in whole life cycle. This includes products made from natural ingredients, support clean production, product based on recycled or waste materials.

[2] Eco-tourism is defined as "travel in the responsible ways toward natural areas, conservation of environment and improvement of welfare of the local community." Detailed differentiation will be discussed in the following section.

[3] Eco-process is broadly defined as a production process entailing less environmental impact. There are mainly three types of eco-process: end of pipe, clean production and zero emission. Here, the clean production and zero emission are considered as eco-process.

In this process, there is the possibility of forming another alliance among the public sector, the private sector and non-governmental organizations since many initiatives such as clean production require a wide range of participation in its implementation process. Each factor for the eco-region achieves three important goals: conservation of the environment, attraction of world and domestic markets and its people and the activation of the regional economy respectively.

This concept questions the efficiency of the current use of environmental resources in order to achieve better management. For instance, Panayotou[4] mentions 10 conflicting ways to manage natural resources (Box 19.2.1). It also places particular importance on regional perspectives, considering local communities as being the most cost-effective manager of resources due to their "special knowledge" of the area (Panayotou, 1992).

Box 19.2.1 Ten Economic Manifestation of Environmental Degradation

- Overuse, waste and inefficiency coexist with growing resource scarcity.
- An increasingly scarce resource is put to inferior, low return and unsustainable uses, when superior, high return and sustainable uses exist.
- A renewable resource capable of sustainable management is exploited as an extractive resource.
- A resource is put to a single use when multiple uses would generate a larger net benefit.
- Investments in the protection and enhancement of the resource base are not increasing productivity and enhancing sustainability.
- A larger amount of effort and cost is incurred when a smaller amount of effort and cost would have generated a higher level of output, more profit and less damage to the resource.
- Local communities, tribes and other groups such as women are displaced and deprived of their customary rights of access to resources regardless of the fact that by their very presence or specialised knowledge, tradition and self-interest, they may be the most cost-effective managers of the resource.
- Public projects are undertaken that do not make adequate provisions or generate sufficient benefits to compensate all those affected to a level that they are decidedly better off with than without the project.
- Failure to recycle resources and by products that would otherwise generate economic and environmental benefits.
- Unique sites and habitat are lost and animal and plant species become extinct without compelling economic reasons. This reduces levels of uniqueness, diversity and signifies great costs of irreversible loss.

Source: Panayotou, 1992.

19.2.2 Eco-Region Development Srategy

The Eco-region will be realized through the short-term promotion of the production and sales of "eco-products", the medium-term promotion of "eco process" and finally, the achievement of "eco-life", or a better quality of life as shown in Figure 19.2.2.

In implementing the Eco-region development strategy, the concept of industrial cluster deems appropriate. The term cluster is generally defined as "geographic concentration of interconnected companies and institutions in particular field".[5] The cluster is viewed as the emerging source for competitiveness since it utilizes the innovative inter-firm relationship with particular emphasis on potentials of small-firms.[6] In addition to that, it is considered important for activation of local economies where presence of small and medium industries is dominant. As globalization of economy and

[4] Panayotou, T "The Economics of Environmental Degradation: problems, causes and responses" in *The Earthscan Reader in Environmental Economics* edited by Markandya and Richardson, 1992.

[5] Porter, Micheal, "Clusters and the New Economics of Competition" in *Harvard Business Review*, November-December 1998.

[6] Humphrey, J and H. Schmitz, "Governance and upgrading: linking industrial cluster and global value-chain research", *IDS Working Paper* No. 120, Institute of Development Studies, University of Sussex, 2000

information flow increases, the presence cluster in the local economy could serve as a medium to transmit and distribute the benefit of international flow of capital and know-how. In fact, the most recent report by United Nations Conference on Trade and Development (UNCTAD) focuses on this linkage between foreign affiliates and domestic firms and considers this linkage as the most effective way to diffuse skills, knowledge and technology.[7]

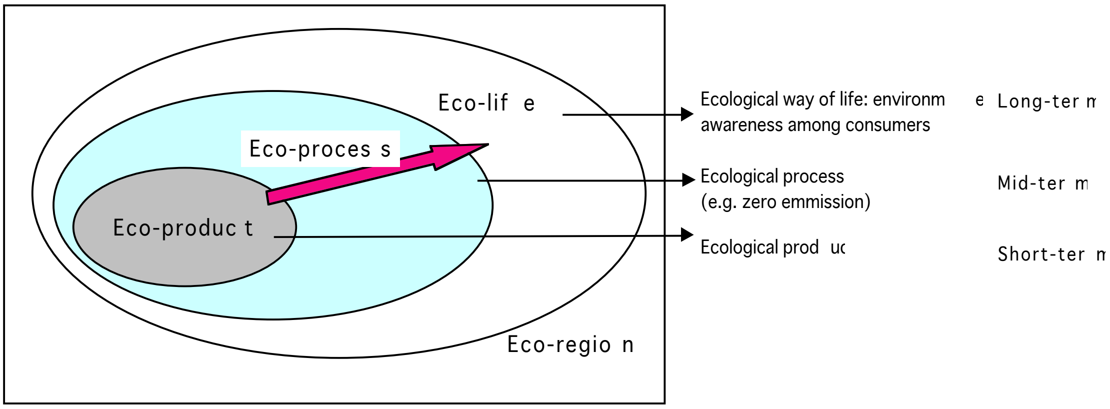

Figure 19.2.2 Eco-product, Eco-process and Eco-life

Source: JICA Study Team

The Chilean micro and small-scale industries, which generates almost 80% of employment in 1996, is currently under the critical economic condition. In fact, the recent study[8] reports that during the period 1990-1996 when Chile expanded its export, small-scale enterprise lost out on their share to large-scale industries. Similar phenomenon is also observed for the productivity.

In Region X, where the case study of the South and Austral Zone is taking place, the majority of enterprises are categorized as small-scale.[9] Field research conducted by the JICA team in the region revealed that few industries that are competitive enough to export. Also, the team found that except for the salmon industry, there were not much concentration of enterprises that is dense enough to call a cluster.

The concentration of various enterprises in Region X is considered quite low therefore it is considered difficult to establish a big cluster by one particular type of industry. Hence, to create a cluster in Region X, linkage must be established among sectors, of both products and services. The team called this establishing a new linkage and grouping of different product as the "basket" strategy. This "basket" strategy aims to formulate the industrial cluster by increasing collaboration among different sub-sectors such as tourism, manufacturing and agriculture-forestry-fishery.

The importance of cluster is increasingly being recognized for export and investment promotion. For export, sizeable capacity of production is required; the cluster can deal with such demand in innovative ways. In case of Northern Italy (Emilio Romana), enterprises solved this problem by forming an industrial district (network of industries) to flexibly made adjustment in the capacity of production in accordance to the

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[7] UNCTAD, *World Investment Report 2001 Promoting Linkages*, Geneve, 18 September, 2001
[8] Alarcón, Cecilia and Giovanni Stumpo, "Pequeñas y medianas empresas industriales en Chile", *Serie de Desarrollo Productivo* CEPAL, Santiago, 2000.
[9] INE, *Encuesta Nacional Industrial Annual*, Santiago, Chile 1999.

demand.[10] Other export related issues, which are difficult to cope for small-scale enterprises, such as establishing the environmental facilities, research and development, marketing and promotions, a cluster may be able to give efficient solution.

Furthermore, the presence of cluster is increasingly considered as an important factor for the attraction of investment at global level. The current trend among transnational cooperation (TNC) is to focus more on their core business and relying more on outsourcing firms. This trend of TNC provides new opportunities for local firms to link up to the global production system. However, in order to be "linked up", there need technological and knowledge up-grade to meet the stringent demands of investors in terms of cost, quality and timely delivery.[11] In this sense, the presence of strong Industrial clusters could be an advantage. If presence of industrial cluster facilitates innovation,[12] the region and zone wishes to promote investment and export must equip with the

Using and strengthening cluster to attract FDI calls for new approach, going beyond the first and second generations of investment promotion policies.[13] In the first policy generation, countries liberalize their FDI regimes and adopt market-friendly policies. In the second, governments go a step further and actively seek to attract FDI by "marketing" their countries. This approach leads to the setting up of national investment promotion agencies. The third generation of investment promotion policies proceeds to target foreign investors at the level of industries and firms to meet their specific locational needs at the activity and cluster level, in light of a country's development priorities. Such targeted approach, especially the development of locational "brand names" is claimed to be difficult and takes times by the Report. The case studies at global level conducted by UNCTAD, nevertheless, observed growing practices by the proliferation of sub-national agencies and even municipal investment promotion agencies (UNCTAD, 2001).

Considering above, the Eco-region development strategy consists of two levels: 1) development of cluster and 2) development of innovation capacity. Each of these two components of Eco-Region development strategy is analyzed by case studies. In the following sections present two case studies. One is the case study of Valdivia where the study attempts to suggest the ways to promote the cluster development. The other is the case of net workshop in Puerto Montt to see the development of innovation capacity. The net workshop is a part of Salmon industrial cluster, which is the largest and very competitive cluster at the world level.[14] Hence, unlike the case of Valdivia, this case study start out from the existence of cluster and try to find out how this cluster can over come the environmental problem with innovative capacity formed in the group dynamics. Each case study is distinct with its own action plans; however, these cases serve as the important parts of the Eco-region concept and its strategy.

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[10] Schumiz, Hubert, "Collective efficiency: growth path for small-scale industry." *Journal of Development Studies*, Vol. 31 no. 4, 1995

[11] UNCTAD, 2001

[12] Porter, Micheal, *Competitive Advantages of Nations*, Free Press, New York, 1994.

[13] UNCTAD, 2001

[14] Porter, Micheal quoted in Carvajal, Paula "Un Cluster Salmonero más Dinámico que Noruega" in *Salmon Noticias* Asociación de Productores de Salmón y Trucha de Chile, Santiago, Julio de 2000.

19.3 Case of Valdivia: Development of an Eco-region Cluster

The city of Valdivia was studied in detail so as to apply the Eco-region concept mentioned above. This city was chosen for numerous reasons as exemplified as follows. First, due to the rich, cultural traditions that Valdivia offers, it is a prime location to begin to develop more profoundly the Eco-region concept. Second, there has been much support and enthusiasm by both the public and private sectors to foster environmentally sustainable development. Third, Valdivia is known nationally for its varying local products that are representative of the province. Finally, there are attempts to link such products with services related to tourism. In these ways, many positive aspects have contributed to the decision to formulate Eco-region strategies in the province of Valdivia.

The purpose of this case study is to evaluate the applicability of the concept in practice so that specific action plans and possible difficulties in its implementation may be clearly outlined. Specifically, this study attempts to demonstrate in which ways the three goals of the Eco-region concept may be achieved including the conservation of the environment, the vitalization of regional economies and the attraction of the world market and people. In this way, each of the three goals just mentioned focus on the following: the promotion of clean production, the strengthening of regional clusters and the establishment of global linkages through effective promotion of exports and investment.

The issues will be discussed in the following order: (1) Economic structure of the province of Valdivia, (2) Potential of the tourism industry, (3) Potential of the industrial cluster, (4) Potentials and issues for cluster development in Valdivia, (5) Case of Arita, Japan, (6) Public support schemes for the Eco-region, (7) Outline of action plans and its background, and (8) Sub-action plans.

19.3.1 Economic Structure of the Province of Valdivia

The province of Valdivia is the largest of the five provinces in Region X. It consists of 12 comunas: Corral, Futrono, La Unión, Lago Ranco, Lanco, Los Lagos, Mafil, Mariquina, Paillaco, Panguipulli, Río Bueno and Valdivia.

The Province of Valdivia has the second largest economic activity in the Region X followed by Puerto Montt. These establishments are mainly concentrated in Valdivia (44%), followed at a much lesser extreme by Panguipulli (10%), La Unión (10%) and Río Bueno (9%).

The declared capital accounts to approximately 275 million pesos in total, of which concentration is in the manufacturing industries (31%), commerce, restaurants and hotels (24%), and financial, security and professional institutions (15%).

In total, there are 441 industries in the province. As seen in the graph, the following sectors are important components of the economic structure of Valdivia: food processing, the wood industry and commerce, restaurants and hotels. The graph also demonstrates the importance of micro enterprises in these sectors. The establishments in the province are largely micro[15] (81%), which also accounts for the majority of

[15] Several institutions define micro, small, middle, large-scale enterprises differently. In case of this statistics, micro enterprises are those with capital less than 500UF (Gobierno Provincial de Valdivia, *Informe sobre la Estructura Economica de La Provincia de Valdivia*, Valdivia, 2000).

employment. In each prominent sector the relevance of micro businesses is high of which 70% is dedicated to food processing, 52% to the wood industry and 50% to commerce, restaurants and hotels. Considering the importance of micro enterprises in the economy of the province, attention must be given to these sectors in the implementation of the regional development strategy. The eco-region concept focuses on eco-products and eco-tourism. The prior includes agriculture, forestry and fishery products, corresponding to food and the wood processing industries, while eco-tourism corresponds to commerce, restaurants and hotels. Furthermore, it gives greater emphasis to the micro and small enterprises through the development of a cluster. Therefore, the concept correlates well with the current economic structure of the province of Valdivia.

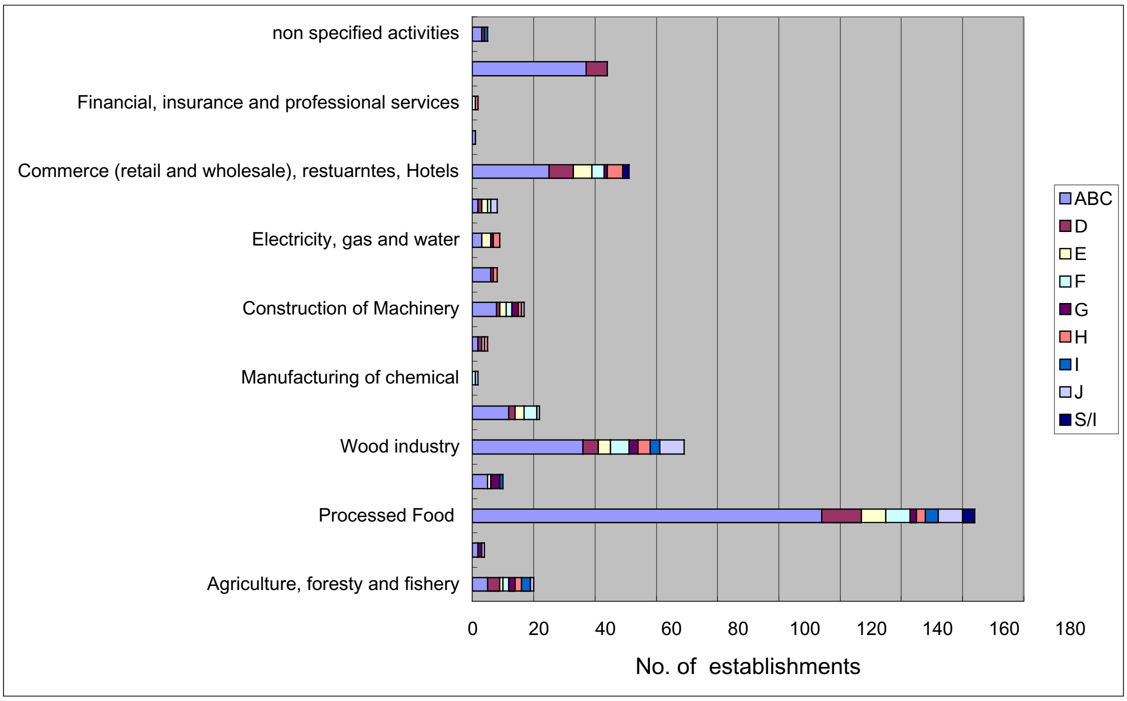

Figure 19.3.1 Industrial Structure of the Province of Valdivia

Source: Gobierno de Provincia de Valdivia, 2000.
Note: ABC corresponds to micro enterprise with capital of less than 500 UF. D: capital 501-1000, E: capital 1001-2000, F: 2001-5000, G: 5001-10,000, H: 10,001-20,000, I: 20,001-40,000, J: more than 40,001.

19.3.2 Potential of the Tourism Industry

(1) The Tourism Industry in the Global and Chilean Contexts

To fully understand the potential contribution of eco-tourism, or environmentally conscious, nature-based tourism, it is necessary to place it within the overall context of the tourism industry. Estimations regarding the year 1995[16] indicate that travel and tourism will develop in the following ways:

- Generate 10.9% of world GDP, or US$3.4 trillion;
- Contribute over 11.4% of the world's capital investment;
- Contribute over US$655 billion to total tax payment worldwide.[17]

[16] World Travel and Tourism Council, *Travel and Tourism's Economic Perspective*. A Special Report, 1995.
[17] Brandon, Katrina, Ecotourism and Conservation: A Review of Key Issues, Environment Department Papers,

Tourism is also a growing industry as demonstrated by the fact that world tourism increased by 260% from the 1970s to the 1990s. Increasing global ties have led to increased travel for business, conferences, visits to friends and relatives and trips for pleasure. There are statistics projecting that the growth of travel and tourism will be between 2% and 4.5 % per year.

International travel and tourism responds to market forces, particularly the growth in real income leisure time and developments in international transportation. The continued increase in real income and leisure time in developed countries has led to a strong demand for tourism. For example, a study demonstrated that consumers in developed countries respond to a 10% increase in real income by increasing their foreign travel expenditures by 15 to 20%.[18] All countries generate and receive tourists, but there is a net outflow of tourism funds from the North to the South. The market share of developing countries increased from 20% of the international tourism receipts in 1980 to 23% in 1988.[19]

A similar picture is illustrated in the Chilean context. According to projections of the tourism sector elaborated by APEC tourism working groups, this sector is expected to represent 4.72% of total GDP and 4.40% of total employment in Chile by the year 2010. Available data from 1997 indicates that foreign exchange earned by this sector accounts to a total of US$1,019.5 million, which represents approximately 6.59% of total exports.[20]

Region X, according to national surveys, continues to be one of the most preferred tourist destinations for national tourist. Regarding foreign tourist, it is estimated that within the next ten years, Chile as a country will attract 2.3 million visitors, which will bring an estimated sum of US $1,978 million. It is predicted that US$256 million would be directed towards the Region X, due to the prediction that over 300,000 tourists will arrive to the city of Puerto Montt during the high season.[21]

The number of cruises that arrive to the Port to Puerto Montt is a good indicator of the number of tourists that may arrive in the future. Currently there are 50 to 60,000 passengers that arrive each summer. It is predicted that the number of cruises will increase at least 10% per year. In 1995, three cruises arrived to Puerto Montt. This year there were approximately 50 arrivals.[22]

Tourism includes various different sub-sectors such as restaurants and hotels, railway, road, sea and air transport and facilities such the cinema, radio and other leisure facilities. In fact, a study elaborated by CONSETUR demonstrated that in Chile, all tourism sub-sectors, excluding railway transport, increased in the past 10 years: air transport by 12.5%, marine transport by 11.3%, restaurants by 8.7% and hotels by 7.2%.[23] A study regarding clusters conducted by ECLAC together with the national

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Biodiversity Series, No. 033, April, 1996.

[18] Artis, J.R," An Econometric Analysis of International Travel", IMF Staff Papers, in Goldfarb, G. *International Ecotourism: A strategy for Conservation and Development*. Washington DC: The Osborn Center for Economic Development, World wildlife fund, 1989.

[19] Brandon, Katrina, *Ecotourism and Conservation: A Review of Key Issues*, Environment Department Papers, Biodiversity Series, No. 033, April, 1996.

[20] Valdes and Alvarez, *Informe final, Estudio sobre cluster turismo en Chile*, Universidad de Chile, 1999.

[21] *El Llanquihue*. July 10, 2001

[22] Empresa Portuaria de Puerto Montt, 2001

[23] Ibid, 1999.

policy of tourism in 1998[24], mentions the high potential to develop backward, forward and side linkages since such a cluster embraces various types of industries and sectors as shown in the following figure.[25]

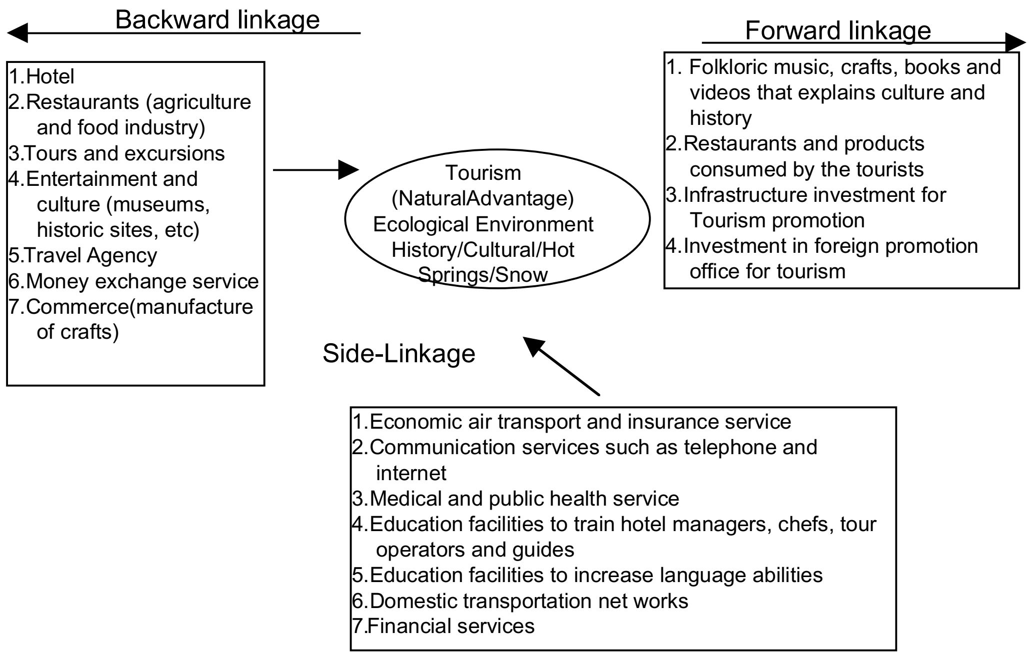

Figure 19.3.2 Tourism Cluster

Source:Ramos, J, "Una Estrategia de Desarrollo a partir de los Complejos Productivos (clusters) en torno a los Recursos naturales" CEPAL, 1997.

Table 19.3.1 What is Important When Planning a Trip? (%)

	1980s	1990s
Luxury resort	10	7
Good night life	22	13
Experiencing a different culture	17	37
going off beaten track	25	45
Cultural, historical or archaeological treasures	27	50
Visitint a place I have never seen before	45	57
Location with natural beauty	65	73
Order expensive food	25	1
Spend Money freely	81	19
Gain new perspective on life	40	72
Understand a different culture	48	88

Source: Travel and Leisure Magazine, publication information unavailable.

(2) Current Condition of Eco-tourism

Within the current global travel boom lies eco-tourism, a type of tourism defined as "travel in the responsible ways toward natural areas, conservation of environment and

[24] MINECON, "Politica Nacional de Turismo, 1998", en *Economia Regional de Chile*, 1998.
[25] Ramos, J, "Una Estrategia de Desarrollo a partir de los Complejos Productivos (clusters) en torno a los Recursos Naturales" CEPAL, 1997.

improvement of welfare of the local community".[26] Its characteristics can be utilized for regional development while at the same time fostering the conservation of the environment. Although differences exist regarding the definition of eco-tourism, its total market today is estimated at approximately US$260 million.[27] This is also supported by the fact that approximately 7% of income generated by tourism is nature based. Additionally, between 40 to 60% of international travel is motivated by interest in nature related activities, constituting a large and growing component of tourism.[28] This trend is expected to increase considering the overall changes in preferences of large tourist emitting countries such as the United States as demonstrated by Harris Poll (see table). Based on the analyses above, it is estimated that this sector is currently growing at a global annual rate of 25 to 30%.[29]

Chile has various geographical advantages some of which include attractive sites as well as protected wild areas. According to a study conducted by IUCN (The World Conservation Union), Chile's total protected areas are relatively large. This indicates that Chile has a sufficient amount of protected areas to be an attractive tourist destination. In fact, it is estimated that eco-tourism in Chile is expected to grow at an annual rate of 30%.[30]

Table 19.3.2 Natural Protected Areas by Region and Chile

	Total Area	Protected Area	%
Caribe	238,627	108,637	45.5
Central America	542,750	86,049	15.9
South America	18,001,095	1,838,826	10.2
Chile	751,625	141,372	18.8
Europe	5,061,153	603,601	11.9
Pacific	556,922	13,113	2.4

Source: World Conservation Monitoring Centre, 1997.

The South Zone, especially in Region X, there are several touristic attractions that are In the South Zone, especially in Region X, there are several tourist attractions that are nature based. Generally, tourism designated towards Region X is increasing. For example, statistics regarding passenger movement shows a steady increase in the number of Chileans entering the Region from 83,378 in 1993 to 119,118 in 1998 (Table 19.3.3).

Table 19.3.3 International and National Passenger Movement to Region X

	Number of passengers entered	
year	Chileans	Foreign Tourists
1993	83,378	108,106
1994	87,829	121,975
1995	91,267	135,755
1996	91,162	114,327
1997	109,517	130,875
1998	119,118	152,347

Source: Anuario de Estadisticas Policiales, Policia de Investigacion de Chile.

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[26] Lindberg and Hawins, *Ecoturism: A guide for planners and managers*. N. Bennington, The Ecotourism Socieity, 1993.

[27] Brandon, 1996.

[28] Block 1999 quoted in Horwath, *Informe sobre desarrollo de tourismo de interes especiales*, 2000.

[29] Horwarth, 2000.

[30] Howarth, 2000.

It is quite difficult to identify the number of domestic "tourist" arrivals to Region X since statistics include those people who enter the region for other purposes. The most accurate proxy to determine the arrival of domestic tourists is statistics referring to the number of people who visit national parks. Region X has a total of five national parks of which the arrival of domestic tourists outnumbers that of international tourists. The two most visited parks, Parque Nacional de Vincente Perez Rosales and Parque Nacional de Puyehue, attracted 171,179 and 98,198 domestic tourists in 1999 respectively. According to information received during fieldwork hearings, the high season for domestic tourism is between January and February.

Although statistics do not exist, strong potential exists regarding weekend visits to farms or ecological parks as suggested in various interviews. This is apparent in such cases as the Casa de la Oma, the Red de Agroturismo de Chiloé, Parque Natural Isla Huapi and Fundo Teja Norte. Such types of tourism emphasize local realities so as to encourage places to gather for weekend family get-a-ways.

The movement of foreigners traveling to Region X shows an increasing trend of 108,106 tourists in 1993 to 152,347 in 1998 (Table 19.3.3). The number of foreign visitors to national parks is not as great as domestic tourists as stated above. However, the most popular national parks, Vincente Perez Rosales and Puyehue attracted 63,900 and 6,872 foreign visitors respectively in 1999. According to conducted interviews, foreign tourists visiting Region X are divided primarily into two groups: Argentinean and European and North Americans. Almost 70% of foreigners who visit Chile are Argentineans. These Argentineans tend to enter Region X in January and February and usually enter though the following paths: 1) Paso Mamuil Malal, 2) Paso Huahum, 3) Paso Pajarito, and 4) Libertador (see figure 19.3.3). Europeans (Germany, Holland, Switzerland, England) and North Americans (the United States) usually come by air during the months of March, April, May and June.

In Valdivia, there also exists a positive trend regarding eco-tourism. It appears increasing quantities of tourism-related businesses are developing more activities related to "special interest" tourism[31]. The principal reason is to attract foreign tourists

[31] The term "special interest tourism" is very commonly used in many tourism studies to represent the above-mentioned category of tourism. The following clarifies the terminology used by the Team to distinguish among various types of tourism.

Agro-tourism

A form of agrarian tourism in which the persons in charge receive income through offering lodging, typical foods and allowing others to familiarize themselves with a style of life pertaining to farming, fishing and animal husbandry. Includes activities such as tours to orchards, apple and berry picking, participating in small scale fishing activities, harvesting agricultural products, milking cows, visiting farms, taking care or observing farm animals, etc. (Organizacion Munidal de Turismo, 1996)

Ethno-tourism

A form of cultural tourism that consists in traveling to learn about a determined indigenous culture or indigenous town: its people, their world vision, costumes, technology, art, parties, religion, cuisine, social and political organization, etc. Includes activities such as visits to indigenous villages, listening to their beliefs, ideas, etc. (Organizacion Munidal de Turismo, 1996)

Eco-tourism

A form of tourism that focuses on the natural beauty centered on activities of a smaller scale with excursions to natural zones; it may also include visits to places of traditional cultural interest. It emphasizes the respective development of the environment and how the visitors use it[31]. Includes activities such as visiting native forests, observing flora and fauna, marine mammals, etc. (Organizacion Munidal de Turismo, 1996) not only in the high season but also in the low season, thereby lessening the seasonality difference that is so relevant in this sector.

Another example supports the above information. In the tourist information office of SERNATUR (The National Service for Tourism) - Valdivia, of every 10 individuals that enter, 3 request an alternative form of tourism, that is less known, and takes advantage of the natural beauty of Valdivia. In the community of Corral, activities have been organized recently that consist in traveling to hidden areas, while taking advantage of native forests and beautiful landscapes. Corral offers various routes that pass for the Rey and Mancera Islands, or forests and other destinations that are not commonly recognized. Such examples are the excursions offered by the Comunal Global Network of Trekkers (*La red global comunal de Senderos*) and are categorized as either the Great Route (*Gran Ruta*) or the Small Route (*Pequena Ruta*).[32] Such initiatives act in accordance with the strategy of Region X that wishes to diversify the tourist offer while preserving the principal ecosystems, in this way developing environmentally sustainable tourist activities.[33]

The findings above demonstrate the future potential of the tourism sector over and above the importance of eco-tourism exhibited by the world market. Chile, though as a whole suffers the absence of a clear image as a tourist destination in the global context, has many advantages to develop this further, such as its many protected wild parks. Given these basic conditions for the promotion of eco-tourism in Valdivia, the remaining question is "how" the city can effectively promote this sector so that it may become the real "engine" for the development of the regional economy.

Note that the Team considers the term "eco-tourism" as generally referring to all of the listed types of tourism; agro-tourism, adventure-tourism, ethno-tourism, cultural-historical tourism and agro-industrial tourism. However, some forms of tourism are more specific to eco-tourism, as they cannot be categorized under any of the other types of tourism, i.e. the activity of bird watching. For this reason, there is a separate category for eco-tourism.

Adventure tourism

Adventure tourism is differentiated from eco-tourism because it is considered to demand greater physical force and risk and, has greater environmental impact. In addition, the actual challenge realized by the visitor is considered more important than actually learning about and enjoying the environment. Includes activities such as rafting, fly-fishing, trekking, volcano climbing, horseback riding in the countryside, etc. (Gilberto, with out year)

Cultural/historical tourism

"Cultural tourism is a genre of special interest tourism based on the search for and participation in new and deep cultural experiences, whether aesthetic, intellectual, emotional, or psychological." (Diaria Austral, march 4, 2001) This definition includes a variety of cultural tours, including visits to museums, galleries, festivals, architecture, historic sites, artistic performances, and heritage sites, as well as any experience that brings two or more cultures in contact. (Stebbins, 1996)

Ethno-tourism has been suggested by some (in Workshop II, Puerto Montt) as being within the broader framework of cultural tourism. The team has made a distinction between the two forms of tourism, however, keeping in mind how the majority of tourists coming from abroad most likely perceive the term "ethno tourism" verses "cultural tourism". In addition, there is a differentiation of both forms of tourism within the larger definition of "special interest tourism", which is commonly used in documents regarding tourism.

Agro-industrial tourism

Demonstrates to the visitor the general process involved in fabricating a typical good or food item coming from that zone. Includes activities such as visiting a brewery, an apple cider factory, salmon farms, chocolate factories, etc.

[32] Red global de senderismo," *El Diario Austral de Valdivia*. March 4, 2001.

[33] *Estrategia Regional de Desarrollo, 2000-2010.* Secretaría Regional Ministerial de Planificación y Coordinación Región de los Lagos, 1999.

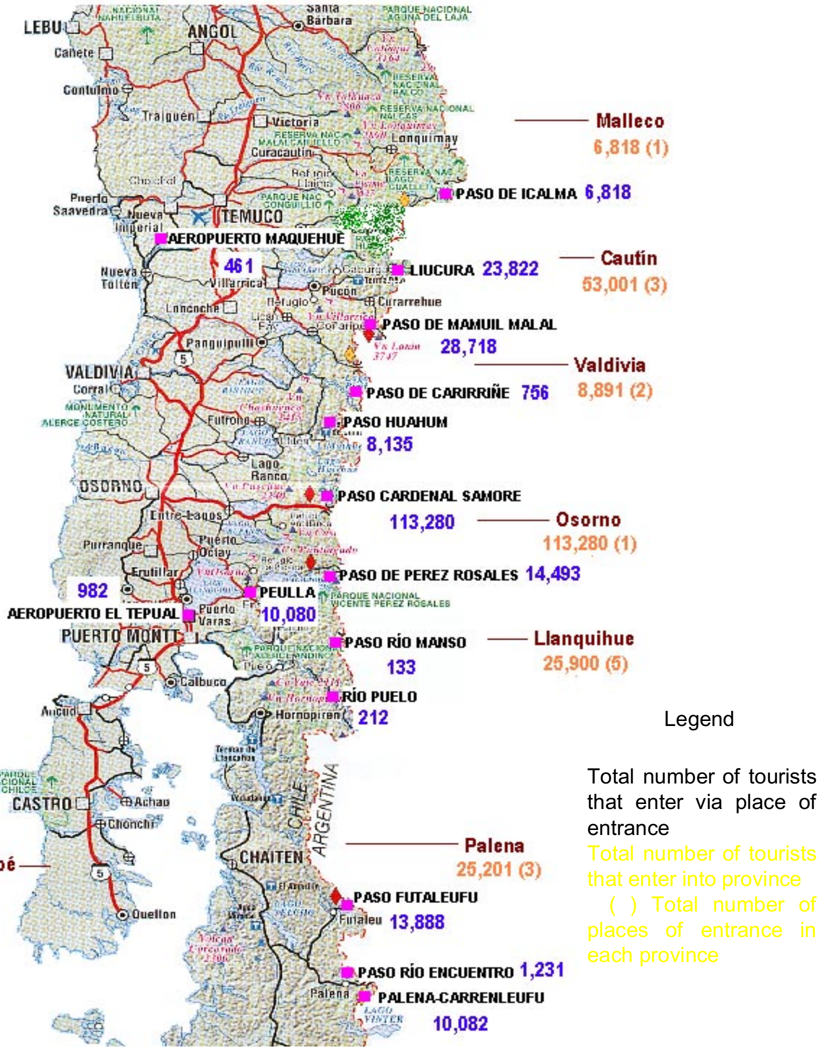


Figure 19. 3. 3 Total Number of Tourists that Enter Regions IX and X According to Place of Entrance, 1999

Source: Anuario de Estadisticas Policiales, Poicia de Investigacion de Chile

19.3.3 Improvement of Transportation and Infrastructure for Tourism

Tourism development in Valdivia is considered important due to its location and potential of extending tourist destinations to other areas of the Region X. Although the study had taken up the case of Valdivia, the Region X has many potential touristic attractions, which are yet to be explored. Due to the nature of its geographic constraints such as surrounding forests, lakes, mountains and island, development of transportation infrastructure for tourism are considered essential to promote tourism as well as related sectors. In here, briefly review the infrastructure and transportation provisions from the tourism development perspective.

(1) Tourist Circuits

There exist a number of actual and potential tourist circuits beginning in or with final destination to Region X. The following table, though far from exhaustive, highlights some of the more popular routes. Also included are potential problems and plans for improvement.

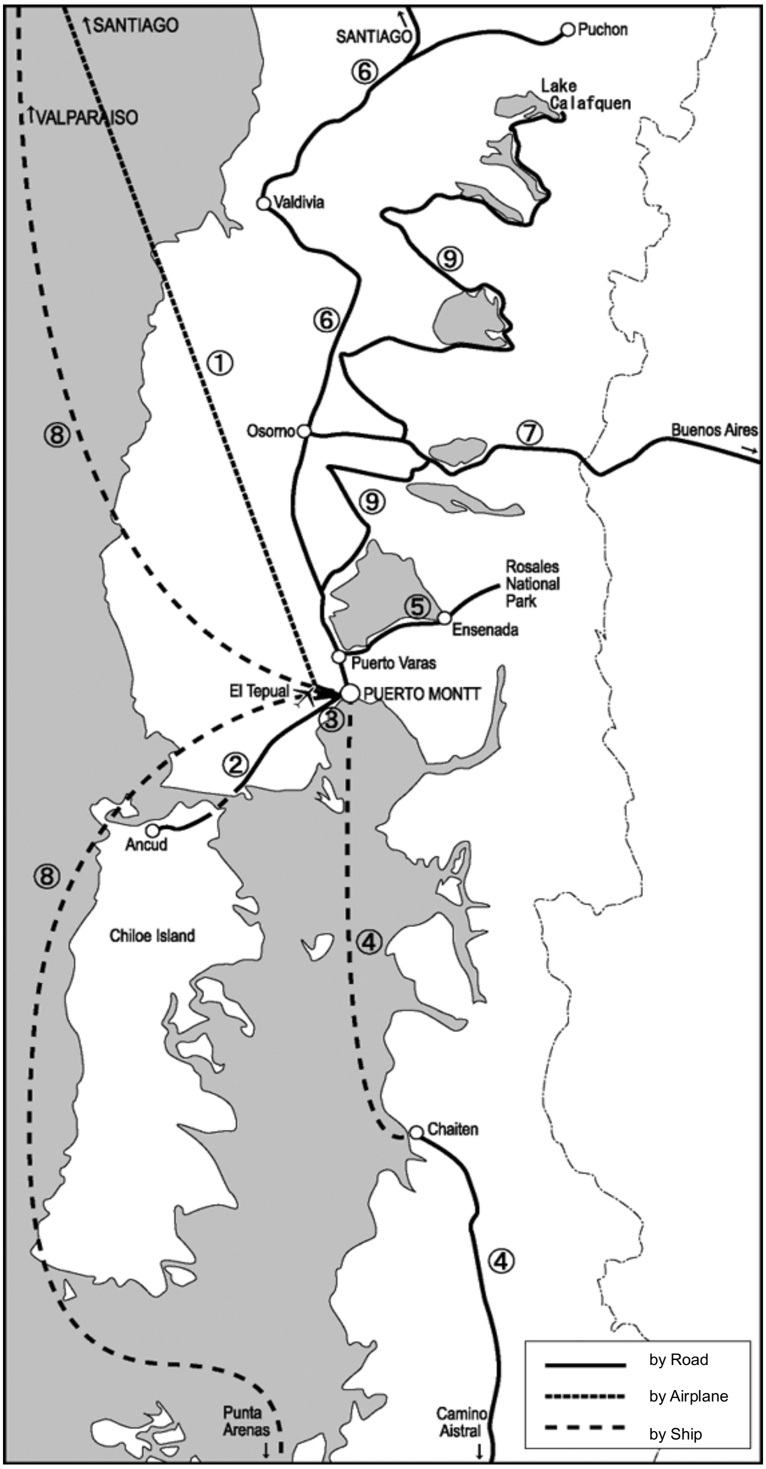


Figure 19.3.4 Tourist Circuits in Region X

Note: Circuit numbers correspond to those in Table 19.3.4

Table 19.3.4 Tourist Circuits, Current Conditions and Plans for Improvement

	Circuit	Background Information	Principal Route(s)	Problems	Plans for Improvement
1	Santiago - El Tepual - Puerto Montt	From Puerto Montt Airport, El Tepual, approximately 70% of tourists go directly to the city of Puerto Montt.	Arriving by air from Santiago to El Tepual. From there, direct access along Highway 5 South to Puerto Montt.	Much congestion on Highway 5 South.	Construction of a four-lane dual carriageway beginning at Cardonal cross and finishing at El Tepual. Plans to finish in next two years.
2	El Tepual to Chiloé	Approximately 20% of tourists travel directly to Chiloé.	From El Tepual southbound on Highway 5.	Public transportation lacking; travel time high.	Plans to construct a three-km, four-lane suspension bridge will shorten existing travel time.
3	El Tepual to Puerto Varas	Arrivals to El Tepual Airport with direct destination to Puerto Varas.	Accessible by Highway 5, 20 km north from Puerto Montt.	Conditions sufficient.	
4	Puerto Montt - Chaiten - Camino Austral	Arrivals to El Tepual Airport continuing along the Camino Austral.	The “door” to this route begins in the city of Chaitén. Tourists many times arrive to Chaitén by ferry from Puerto Montt.	Pavement lacking, improvement of port services necessary.	Plans to pave 800 km. Pavement of 18 km have begun beginning in Chaitén and heading south. Plans to pave 58 km starting in the Puelche Bay.
5	Puerto Varas – Ensenada - Perez Rosales National Park or Argentina to Perez Rosales Passage	Many tourists traveling south or coming from Puerto Montt or Argentina will visit the Perez Rosales National Park. This Park is recognized as attracting the greatest number of foreign and national tourists in Region X.	Argentinean tourists enter through Perez Rosales Passage. From Puerto Montt, visitors travel to Puerto Varas, passing through Ensenada, to arrive at Petrohué.	Stretch from Ensenada to Petrohué is of poor quality.	
6	Pucon to Valdivia to Puerto Montt	National and international tourists travel south by road after staying 3 or 4 days in the Pucon area in Region IX.	Highway 5. Ruta *Interlagos* is a promising alternative.	Highway 5, ¥from Rio Bueno to Puerto Montt, requires widening.	Construction of 2 lane Highway (Highway 5) from Rio Bueno to Puerto Montt.
7	Buenos Aires and San Carlos de Bariloche to Osorno to Highway 5.	The Cardenal Samoré Pass is a principal route for Argentinean tourists traveling to Highway 5 later to continue north-south.	Cardenal Samoré Pass to Highway 5 north/south.	Much congestion, widening necessary.	Route 215 be expanded into a four-lane dual carriageway.
8	Valparaíso –Puerto Montt– Chacabuco –Punta Arenas– BuenosAires Cruise	Demand for tourist cruises is increasing rapidly.	Begins in Valparaíso, to Puerto Montt, Chacabuco, Punta Arenas and ending in Buenos Aires.	The Puerto Montt Port is insufficient to accommodate the increase in cruises.	Construction of a terminal for cruises and construction of a terminal for other vessels.
9	Seven Lakes Highway or *Ruta Interlagos*	This road will surround 10 different lakes in Region X.	Begins on Lake Calafquén and continues to Frutillar. Frutillar is accessible from Puerto Montt via Highway 5.	Pavement and continuity lacking.	The project accounts for approximately 520 kilometers. It is agreed that the new route will be paved and two-lanes. Sections are in construction.

Source: Empresa Portuaria de Puerto Montt, 2001; Sernatur, 2001; Seremi Transporte; JICA Study Team.

(2) Current Situation and Principal Issues Regarding the Transport System and Tourism

a. Air Transport

Given diversity and harsh geographical condition of the Region X, improvement of air transportation for tourists is deemed necessary. There exists one international airport, El Tepual, eight national airports and 29 aerodromes or smaller sized airports in Region X.

The airport offers four services including 10 rent-a-car businesses, public buses, transfers and taxis, all of which must pay to offer their services at the airport. This guarantees that there will not be an overabundance of services offered which tends to result in lack of coordination.

One of the greatest challenges for the Airport Department within the Ministry of Public Works is to increase accessibility to isolated areas that have high tourism potential. For this reason, MOP has implemented a new policy to work together with The National Service for Tourism (Sernatur) in formulating future development plans for the airport sector. Previously, there was little incentive to develop the air system realizing that the tourism sector could be developed at the same time.

The existing 29 smaller sized airports, or aerodromes are not yet developed for passenger travel. Enlargement of such airports, while making travel between them possible, would greatly ease access to various tourist destinations. In other words, rather than concentrating solely on the improvement of access routes by road, travel by air may prove more efficient in future years.

b. Land Transport

The island of Chiloé is one of principal resources for tourism development due to its traditional customs, cultural attributes and abundance of wildlife. Currently, there exists a ferry system that connects this island to the mainland. However, it has been suggested that this system no longer satisfies the increased flow of traffic due to (1) long hours of waiting during the peak period caused by shortage of ferries, (2) few availability of public transport connecting to ferries, (3) irregularity in transportation caused by port closures for extreme wind conditions.

The passage between Chile and Argentina, Huahum needs to be improved as an additional alternative to the Cardenal Samoré Passage. The current system does not have an adequate road for tourism buses but it requires to embark on a ferry to cross Lake Pirehuico. Although the tourist demand is high for this route, current system fail to meet this demand.

c. Maritime Transport

The Puerto Montt Port is a multipurpose port. For a number of reasons, the infrastructure is insufficient to satisfy the demand of both cargo transfer and tourism development.

Regarding the development of tourism, approximately 50 cruises arrived in the year 2000/2001, increasing substantially from the year 1995 when approximately 3 arrived. It is apparent that this number is increasing at a rapid rate. The Port of Puerto Montt is recognized as serving more passengers than any other Chilean Port.

With existing infrastructure, the Puerto Montt Port will not be able to sustain this high demand for following reasons. High user charges and small space at the dock as well as irregularity caused by weather conditions need to be improved

Furthermore, an important asset to tourism development would be the possibility that cruises or ferries could make various stops at tourist destinations along the coast. Today, such port facilities do not exist.

(3) Plans for Transport and Infrastructure Development

Complementing the principal tourist circuits highlighted in Table 2.1.1, the regional government together with Sernatur and other public and private entities, recognizes the following as being high priority projects for the development of tourism [34].

a. Road Projects for Tourism Development

Principal Access Route (Circuit No.1 and 2 in Table 2.1.1)
The Ministry of Public Work recognizes one major access as requiring improvements. This access connects Puerto Montt with Chiloé, the El Tepual airport and the communities of Los Muermos, Maullín and Calbuco. High levels of congestion resulting from this route will be partly improved when the By-Pass is constructed on Route 5 connecting Río Bueno with Puerto Montt, a project that is estimated at costing MMUS$7. Even so, it will be necessary to widen the lanes of this principal access [35].

Airport Access to/from city of Puerto Montt (Circuit No.1and 3)
As of this year, the Dirección de Vialidad approved the spending of $125 million pesos to begin an engineering study for the construction of four-lane dual carriageway beginning at the Cardonal cross in Puerto Montt and finishing at the El Tepual airport. It is believed that the construction of this project will begin in the next two years.

Chacao Channel Bridge (Circuit No.2)
Today, it is a priority for both the regional and national governments to build a three-kilometer-long, four-lane suspension bridge. The bridge will connect Pargua with Ancud and is estimated to be approximately 150/200 km in length. The idea is to have public transportation leaving regularly.

Ruta Austral (Circuit No.4)
Paving 800 km of the Austral Route or *Ruta Austral* forms part of the future plans of the regional direction of MOP. The pavement of 18 km has already begun, beginning in Chaitén and heading south. Another study is in development regarding the pavement of an additional 58 km starting in the Puelche Bay.

Route 5, Puerto Montt – Rio Bueno (Circuit No.5 and 6)
The improvement of the stretch from Rio Bueno to Puerto Montt on Highway 5 is considered a high priority project by the regional government. The project has been granted a concession and is currently in the process of construction. The work is

[34] Note: the number in parenthesis suggests that this project corresponds to that particular tourist circuit highlighted in Table 2.1.1.
[35] Ministerio de Obras Publicas, *Tercer Informe de Avance del Estudio "Plan Director de Infraestructura 2000 – 2010"*.

planned to be finished in June of 2002. This work includes the construction of a two-lane highway of 114 km. This route will lessen travel times while improving access routes to important tourist destinations between the cities of Osorno and Puerto Montt. Estimated future demand for such routes in the following graph, demonstrates the high levels of transit from Puerto Montt to/from Llanquihue.

Cardenal Samoré Pass (Circuit No.7)
The Cardenal Samoré Pass, located in the province of Osorno, accounts for the second greatest flow of vehicles in Chile. This pass connects Buenos Aires and San Carlos de Bariloche with the Pan American Highway, passing through Osorno, and therefore is a principal route especially for Argentinean tourists. Due to the high volume of traffic, it is suggested by the Regional Government that Route 215 be expanded into a four-lane dual carriageway. Regarding tourism development and flow of passengers, the distance of 98 kilometers starting at the border and ending in the city of Osorno, is the most important route in the Region X.

Seven Lakes Highway (Circuit No.9)
The Seven Lakes Highway or *Ruta Interlagos* has been included as one of the principal development plans for the Region X, not only because of the impact it will have on tourism development, but also due to its importance on the overall economic development. In fact, it has been requested by President Lagos to be included as a primary development plan. The route will connect 10 different lakes. It is agreed that the new routes will be paved and of two-lanes. The project accounts for approximately 520 kilometers.

An important component of this plan is that the Hua Hum Pass, if completed, will provide a direct road link between San Martín Los Andes and the port of Corral. Currently, as mentioned above, a road does not exist between the Pirehuico Port and the Fuy Port in the Valdivia Province. Rather, one must embark on a ferry that connects one point to the next passing over the Pirehuico Lake. This may ultimately foster the flow of not only cargo to the Port of Corral, but also those tourists who wish to learn about the historical forts and other sites that Corral has to offer.

Concessions are currently being offered for road construction as well as other services (hotels, restaurants, gift shops, etc.) for the Seven Lakes Highway development plan.

Ruta Costera
The Coastal Route, or *Ruta Costera,* is expected to achieve high economic benefits through the fostering of tourism in the Region X. The current plan is to construct a paved route along the coast beginning in San José de la Mariquina in the province of Valdivia and finishing in Maullín. Currently a study is being conducted regarding the route connecting Bahía Mansa with Maullín that extends for approximately 100 km. If the study agrees with environmental regulations and indigenous rights, this route will be constructed within 6 km of the coast.

b. Airport and Port Projects for Tourism Development

El Tepual Airport (Circuit No.1)
Currently undergoing study suggests the need to enlarge the airport while at the same time improving standards. Specifically, the construction of a third take-off bridge, enlargement of the area for checking and improvement of the heating system are

deemed necessary.

c. Maritime Project for Tourism Development

Puerto Montt Port (Circuit No.8)

1) There are two principal projects under study including the construction of a terminal for cruises and the construction of a terminal for other vessels. The idea is to construct a terminal similar to an airport terminal. Such a terminal will include services such as public facilities, restaurants or cafés, Internet connection, etc. Connecting one terminal to the next will be a covered walkway on Angelmó Street. Within this walkway the currently existing craft shops will be placed. The terminal will include one office providing transport services. This will avoid the lack of co-ordination that currently exists on the street. The bidding will be called in the next two months and the project will be executed in the year 2002. Additionally, there are plans to construct an additional third site to be finished by the year 2003 or 2004, which will allow for increased port space.

An association was recently developed called *Surcruise* that is dedicated to selling circuits between ports in South America including Chile, Argentina, Ecuador and Uruguay. Circuits are negotiated with the owners of the cruises rather than with the ports themselves. The typical tourism circuit begins in Valparaíso, heading to Puerto Montt, Chacabuco, Punta Arenas and ending in Buenos Aires. Acting in reverse, the cruise would end in either Puerto Montt or Valparaíso. If the circuit ends in Puerto Montt, additional demand will be enforced on the transport and infrastructure sector

2) Long term: A long-term goal of the Puerto Montt Port is to transform the entire coast into a port. The idea is to construct a series of sites that would be able to satisfy the increasing demand of ferries, cruises and other vessels. It is assumed that the demand for tourism in the Austral zone will only increase in upcoming years. Puerto Montt has the potential to act as a major point of departure[36].

(4) Operating System for Transportation and Institutional Improvement

a. Plans for the Improvement of Arriving Cruises and the Transport System

Poor coordination exists regarding the arrival of cruises at the Puerto Montt Port and the offer of transportation. Therefore, it is necessary to increase previous coordination between the passengers and the cruise companies and transport companies by developing tourist packages.

b. Institutional Improvement

It is necessary that Sernatur play a greater role in the tourism sector. More weight must be given to Sernatur so that both public and private institutions will value more its position in the tourism sector. In this way, collaboration will be more likely to increase.

c. Quicker Inspection at International Borders

Upon entry into Chile or Argentina, a traveler must pass through three different institutions including international customs, the international police and the Agrarian

36 Empresa Portuaria de Puerto Montt, 2001.

Service or *Servicio de Agraria* (SAG). To quicken this process, it has been suggested to develop a computerized data system. In this way, it would not be necessary to repeat the same process in both Argentina and Chile.

As demonstrated, there are a variety of tourist circuits in the Region X that have been attracting national and international tourists alike. Many of these routes however are not developed to their full potential and are able to attract a much higher percentage of tourists. Until this point, this number has been limited due partially to the lack of infrastructure, poor road conditions and access routes, minimal offer of transportation, etc. Such problems have been studied together with the development concept for tourism in the Region X to arrive at those works that require improvement. Such initiatives have been determined as high priority projects by the regional government, the National Service for Tourism and other public and private entities. By focusing on the improvement of infrastructure and transportation in the Region X, a strong and promising development of tourism will follow.

19.3.4 Potential of Industrial Clusters

The tourism can offer the new opportunity to the regional development. The necessary improvements in the infrastructure were already been discussed in the previous section. It is true that transportation sector is a key to the tourism promotion. However, going back to the original argument of Eco-region Development, development of tourism industrial cluster is essential to consider. In fact, as mentioned in the previous section, tourism may offer new opportunities while its cluster embraces various kinds of industries, of which the transport sector comprise.

Despite this enormous potential, field research revealed that in Region X, the field research revealed that in the Region, there currently exist few linkages within the tourism sector and other industries. Hence, it is necessary to create co-operative networks of enterprises in order to enhance competitiveness.

During the fieldwork, the team discovered several attempts to connect products with various services to strengthen the linkage between and among the tourism and manufacturing sectors, fostered primarily by the private sector. For instance, relatively larger local producers such as Entrelagos, Antillanca and Kunstmann are already establishing such linkages by developing restaurants and inviting tours to visit the plants (Box 19.3.1). In a similar manner, festivals and other events are quite common, and again attempt to link products of the zone with tourism.

A strong example in this respect is the "Fiesta de la Chicha" in the province of Valdivia (Chicha Festival). This is celebrated on the 16th of February and was assisted in the year 2000 by approximately 500 people. Here, the principal producers of chicha and apple cider, giving priority to local producers, provide free samples of, and commercialize, their recently produced beverages. Also, there is the potential for "routing" in order to connect current tourist destinations or services (tourism-tourism). Furthermore, tour operators, such as Asotour, organize Valdivia-based riverboat operators and also try to form alliances with other tour operators based in Region X to Region XII. Another attempt is to combine and sell various products together. For example some producers, such as Puerto Octay Cheese, sell their products together with wine in order to attract different markets under a different concept, i.e. rather than commercializing cheese as a milk product, it is recognized as a gift item (Refer to Box 19.3.2).

Although various attempts already exist in the region, these are implemented on a small scale without coordination under one common concept. Hence the development of industrial clusters does not exist. Furthermore, one must keep in mind that tourism and other manufacturing sectors many times have conflicting interests due to the differences in the valuation and the use of natural resources present in the Region. For instance, salmon cultivation and tourism may create conflict for their differences in the use of the water resources. The salmon sector evaluates such resources in terms of the productivity of the salmon industry, whereas the tourism sector evaluates these resources in terms of the number of tourists it attracts. The same is true regarding forestry plantations and tourism where there are conflicts over the "better" use of the forests. Sometimes the conflict does not only concern how the resource is used, but also the very presence of the industry itself. For example, in order to maintain the natural beauty, the tourism sector will not wish a sawmill to be placed by a natural park, or a raft for salmon cultivation to be situated in the middle of a lake. As the development of tourism is now well underway, the presence of a neutral stakeholder to settle and coordinate such conflictive situations may become necessary, keeping in mind a long-term perspective of regional development.

Box 19.3.1 Implemented Case of Quasi "Eco-Region"

Chocolateria Entrelagos

Entrelagos is a Chocolate company in Valdivia that has a tradition of making chocolate. Currently, they are not only selling chocolate but selling series of products that can be obtained from the Valdivia area such as marmalade, fruits conserve, liquor, wood products, sweaters, marine conserves. All of these are sold under one label, "Entrelagos". The manager has a concept of "Productos del Sur" and under such a concept this kind of attempt is made. The shop in Valdivia has restaurants and a cafe. Also, they are using waste from a large forestry company to make wood boxes for chocolate.

Sidras Antillanca

Sidras Antillanca is a company that produces apple cider and apple vinegar. They are currently thinking of producing both cider and vinegar from organic apples for export. They are also planning to create a street of agro industries by the Route 5 between Osorno and Puerto Montt. Currently they have a sales shop and a plant, which allows tourists to visit and see the cider processing. Their plan is to expand this facility to the complex of the agro-industry touristic area equipped with a restaurant and gift shop so as to target the tourists that come from the North to the South by way of the Route 5. They are inviting many agro-industries to operate there and create a series of agro-industries tours. They are also thinking of selling different products from the area such as marmalade, liquor, wood products, beer and chocolate.

Kunstmann

Kunstmann is a beer factory located in Valdivia. They have a tradition (German) of producing beer with a natural image. They established a restaurant and are selling beer with other products, but the objective of that restaurant is to make the beer image stronger. Although their main concept is beer, they have a variety of products in their gift shop such as local liquors, pies and ceramics.
It is important to mention that they have already exported the beer but using the mark Patagonia.

Source: Based on hearing conducted by JICA Study Team. October, 2000.

Box 19.3.2 Companies Forming Alliances

Puerto Octay (Product-Product alliance)

Puerto Octay is a company of lactose products located in Puerto Octay where cheese production was historically famous. Their main product is cheese. They are now trying to diversify their product line by introducing different milk based products. Puerto Octay attempted to make an alliance with a wine company and sell their product in the form of a package. Through this attempt, they will be able to sell their product to a different market during the summer where there is more milk production.

Asotur (Tourism-Tourism)

Asotur is a network of 18 small boat owners in Valdivia. These owners are originally fishermen and have been operating in Valdivian rivers transporting people. The association started 2 years ago. They managed to achieve association in a very concrete manner that is by sharing all the income. In this way they achieved efficiency in operation, lowered the cost of obtaining raw materials such as fuels, improved service quality and stabilized their income levels. They are not only successful in making an association amongst these operators but they are also making an alliance with University of Austral for the training of staff and an entrance fee of one of the fortresses on condition that they would bring their tourists into the park managed by the University. Their business is starting to expand to a restaurant as well. They also started to associate with other tour operators in different areas in the Region XI and XII to place themselves in the tourists flow from North to far South of Chile.

Source: Based on hearing conducted by JICA Study Team. October, 2000.

19.3.5 Potential and Issues for Cluster Development in Valdivia

(1) Potential for Cluster Development

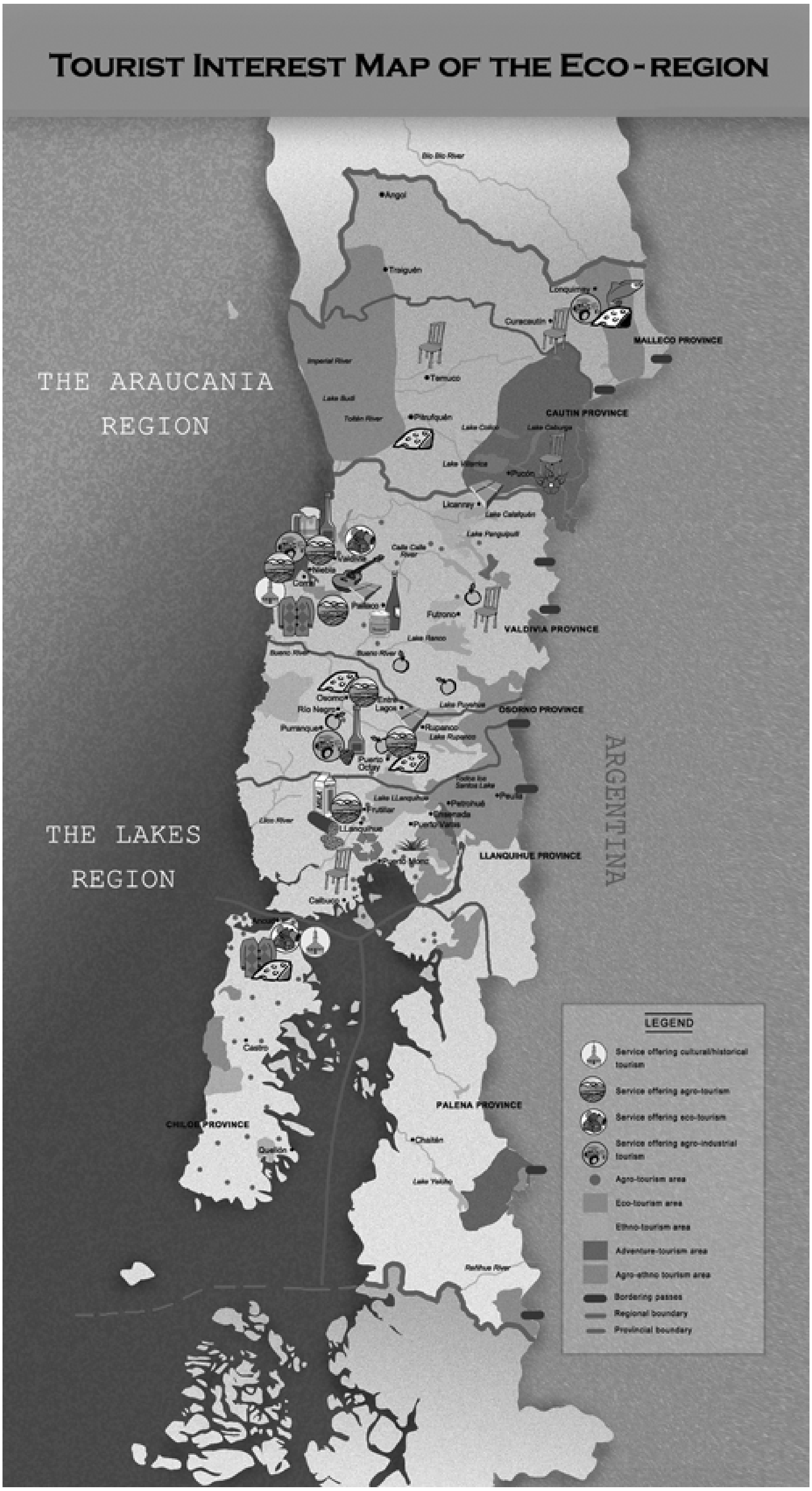
The potential for the development of a cluster in Valdiva is under study. As the result of a previous survey, the Team has concluded that there are several potential eco-products in the Region. Examples of such products are outlined below:

- Products that have a cultural and/or traditional aspect:
  Beer, marzipan, chocolate, liquor made from local fruits, jam made from local fruits, sausage, honey made from local flowers, apple cider, local preserves, sweaters made from local wool, cheese, etc.
- Natural products or products related to regional environmental conditions:
  Moss and products related to seaweed, organic vegetables and fruits, products made from wood, products related to marine flora and fauna, etc.
- Products based on waste or recycled materials:
  Wooden products used to make boxes for chocolate, wine and other products, wooden floor tiles, products such as pallets and poles made from recycled plastic bags, compost from organic waste materials.
- Products that entail clean production.

Other products that may be included in the list are those that emerge as the result of increased value added or the alternative use of existing materials or resources. Examples of such potential products include essential oils made from plants and wood and natural coloring materials extracted from fruit juice.

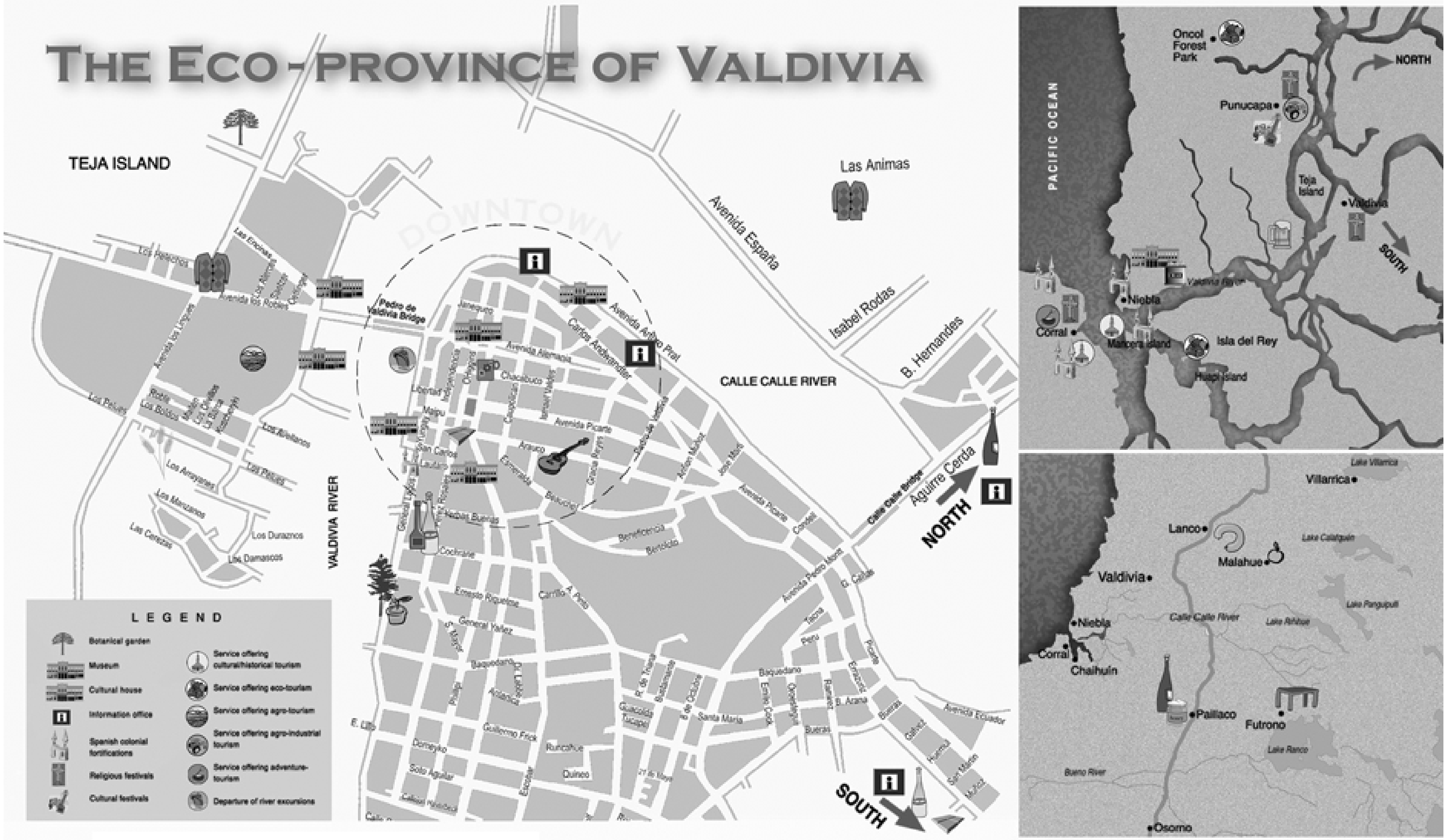
These potential eco-products with regional characteristics and services related to tourism are located in the region as well as in the city of Valdivia as shown in Figures 19.3.5 and 19.3.6. These products are often produced by micro, small and medium scale industries.

Figure 19.3.5



Source: JICA Study Team

Figure 19.3.6



Source: JICA Study Team

The “basket” strategy aims to combine these products under one concept to diminish marketing costs and strengthen the industrial cluster by combining two sectors, tourism and products. Also, by developing a “basket” of products, it hopes to establish new marketing channels different from the conventional ones, which will ultimately enable greater market penetration.

In order to promote the development of a cluster, it is first necessary to grasp the dimension and capacity of potential producers in Valdivia. Therefore, the Team conducted a fieldwork survey to understand more clearly the industrial compositions and production capacities of various products that reflect the regional characteristics.

Considering the above list of product types, statistics regarding the economic activity of the province and paying attention to information about the characteristics of Valdivia obtained through interviews with various entities, the Team narrowed down the possible offer of product/service types. The result includes 9 various products and 4 types of tourism. These products are said to portray a certain “image” of Valdivia due to their connection with the local culture, the German heritage, the endowment of rich, natural resources and/or the people’s conscious awareness to live in a healthy and environmentally friendly way. The products include the following.

1. Home-made liquors
2. Hand-made sweets
3. Natural beer
4. Natural cider and *chicha*
5. Natural clothing
6. Native trees and plants
7. Ceramics
8. Wooden furniture, instruments and other decorations
9. Smoked, dried or hung meat

The 4 types of tourism include the following.

1. Historical tourism
2. Eco-tourism
3. Agro-tourism
4. Agro-industrial tourism

In order to measure the capacity of production, the Team intended to request the annual amount of production of each enterprise. However, it became apparent that many of these enterprises, especially those of a smaller size, do not have such figures. Hence, the Team concentrated on identifying the major providers. As a result, it was discovered that within each one of these products or services listed above, there exists only one, or at the most two businesses that could be considered larger sized providers.[37]

[37] It should be emphasized that the criteria used to distinguish a major provider from a potential provider is still open to discussion. To date, it has been a relative matter. For example, there are businesses that have an obvious production advantage over other businesses in their same product line. Professionals from Valdivia have also voiced their opinion as to whether a company should be considered a major or minor provider. In the majority of cases, the business that is considered the largest in that product line has been chosen as the major provider, while those businesses that follow in production capacity are chosen as potential providers.

For example, there are two Valdivian businesses (Chocolatería Entrelagos and Cervecería Kunstmann) that have a capacity that is recognized as being much greater than the rest. Both Entrelagos and Kunstmann have already formulated linkages with a few small-scale providers who supply anything from homemade liquor used as filling for Entrelagos chocolates, to ceramic mugs used to commercialize Kunstmann beer. There appears to be few, if any, additional potential providers that work in the same specialty, or product line, as these larger businesses. Due to the limited number of providers (major and potential), it is necessary that other providers be established to ensure continual growth and competitiveness on a provincial, national and international level.

Furthermore, some innovative attempts to create links between the manufacturing sector and the tourism sector based on this concept are currently underway. There is an initiative in implementation that aims to create an ecological industry designed to attract tourists traveling on the north-south highway. The idea is to install approximately ten businesses that produce, package and sell ecological products. The industries will be recognized as supporting good working conditions, clean production and recycling practices. It is being constructed for tourists who will be offered a tour of the plant, learning about the production process and having the privilege of buying local, environmentally friendly products directly from the processing stage.[38]

The Team identified major providers for the above mentioned product types as demonstrated in Table 19.3.3:

Table 19.3.5 Potential Eco-Products with Major Suppliers and Other Possible Suppliers

Products	Major Suppliers	Other Possible Suppliers
A. Holme-made liquors	Licores Fehrenberg (1)	Licores Artesanales(1)
B. Hand-made sweets	Chocolatería Entrelagos(1)	Alterfluss Chocolatería(1)
C. Natural Beer	Cervecería Kuntsmann(1)	
D. Natural Cider and Chicha	Strassburger(1)	Punucapa S.A.(1)
E. Natural Clothing	Manos de Valdivia,Las Animas(2)	
F. Native Trees and Plants	Vivero Río Cruces (1)	
G. Ceramics	Carmen Gloria da-Boye(1)	
H. Wooden Furniture, Instruments and other Decorations	Profo Mueblistas, Instrumentos Musicales (2)	
I. Smoked, Dried or Hung Meat	Cecinas Artesanales Valdivia S.A.	
Tourism	**Major Suppliers**	**Other Possible Suppliers**
A. Historical Tourism		Asotur(1)
B. Eco-Tourism	Parque Natural Isla Huapi (1)	Parque Forestal Oncol(2)
C. Agro-Tourism	Fundo Teja Norte, Isla Teja (1)	
D. Agro-Industrial Tourism	Cervecería Kunstmann(1)	Punucapa S.A.(2)

Source: JICA Study Team, based on the fieldwork conducted during March, 2001.

(2) Issues for Cluster Development

The figures in the above chart indicate three important points regarding the products produced in the Province of Valdivia. First, there exists few providers for each product;

[38] Meeting with Tyglat Montecinos from Chocolatería Entrelagos in Corfo-Valdivia. March 19, 2001.

second, there are few varieties of products; and third, there is a lack of local character or identity in the products. These points may become quite crucial as the enterprises attempt to incorporate their products into the global value chain. With these given conditions, for example, it becomes much more difficult to compete in the international market.

It is also necessary that the Province of Valdivia look for new, alternative products. If the province can develop new and very unique products by using its natural resources and by creating an identity in the most efficient manner, it would greatly improve its level of competitiveness in the world market. For this reason, it is necessary that the public and private sectors, as well as the universities, collaborate to conduct research and the further development of new products. Also, it is necessary to increase the quantity of existing providers and products in order to support the development of innovative industries. This must be done while always keeping in mind a long-term perspective.

The “basketing” of products itself can offer new type of product. In fact, there are several existing “seeds” that could create the networking of businesses or cluster in Region X. The Team realises that many attempts have already been made to strengthen the linkages between and among the tourism and manufacturing sectors, some of which are successful. However, many of these attempts are often conducted in an isolated manner and involve very few enterprises often due to the lack of trust. Based on the conducted interviews, such lack of trust among the private sector is principally due to its historical business culture. On the other hand, public support schemes such as PROFO implemented by CORFO have had much success in grouping together various enterprises, while encouraging them to work together and helping to establish greater levels of trust. These attempts are necessary in order to establish a cluster. Micro and small-scale producers must also be strengthened further. Also, the benefits that result from forming such alliances should be widely demonstrated in order to expand participation.

In order to understand the challenges of developing a cluster and clarify necessary tasks that must be achieved, a case study regarding Arita, Japan will be exemplified. Though Arita has its own existing problems, this example is helpful in providing a different perspective regarding the case of Valdivia. At the same time, it demonstrates the similar nature of problems that appear to be emerging at the global level. Furthermore, this case demonstrates how a cluster(s), together with public support, helps to solve environmental problems through innovation. Hence, this example not only gives insight regarding the case of Valdivia, but it also can support the case of Puerto Montt, which is presented in the following section.

19.3.6 Case of Arita, Japan

(1) Introduction--About Arita-City

Arita-city, located in the Province of Saga in the Southern Island of Kyusyu in Japan, is famous for porcelain production. It is a small city with an area of 27.09 km^2 and a population of 13,362 in 2000. It has been famous for the production of porcelain since the technology was first introduced from Korea during the 17^{th} century. Endogenous technical innovation, especially the success in the use of vivid color glazing, brought worldwide fame to the porcelain of Arita (sometimes called Imari).[39] In fact, the porcelain from Arita was shipped from Imari Port and regularly exported as far as Europe since 1653. For these reasons, Arita is well know internally as the " City of Porcelain", while the economy still derives much from this industry. Although Arita currently suffers from an economic downturn, its profundity and size of the cluster, as well as the function of association, could be of important reference when referring to the case of Valdivia. Also, even the causes for Arita's current economic decline can provide some insight to the actual difficulties that Valdivia encounters today. This section intends to explain the experience of Arita in the following order: (1) Arita's ceramic cluster, (2) Problems encountered by Arita and their causes, (3) countermeasures taken by the municipal government, the private sector, education and other institutions, and (4) Lessons from this experience applied to the case of Valdivia, Chile.

(2) Arita's Ceramic Cluster

a. Importance of the Ceramic Cluster to the City's Economy

The economy of Arita-city is highly dependent on the ceramic cluster. In terms of employment, the vast majority of those employed in Arita are working in ceramic related works. According to a census elaborated in 1997, of the 9,200 city workers, 5,400 (almost 60%) are directly related to the industry in either production or sales.[40] The remaining 3,800 are working in sectors that support the lives of the directly involved workers.

Of the total value of goods and services produced in Arita in 1997, the ceramic cluster produces almost 86%, 23 billion yen. As for the service sector, in 1997, 62% of the sales are accounted for by ceramic related sales.[41] Such data proves the enormous presence of the ceramic cluster in the city's economy.

b. The Role of Association in the Ceramic Cluster

The Association for the Promotion of Greater Arita[42] (*Dai Arita Shinko-Kyodokumiai*: APGA) is the largest ceramic cluster trade association in the Arita area including 508 companies. This Association is quite different from most existing business associations that represent industries rather than clusters, and that exist at the national level rather than the local level.

APGA is essentially a union of seven different types of associations in and around the city of Arita within the ceramic cluster. These seven participants are the Hizen Clay Industry Association, Imari Porcelain Industry Association, Saga Porcelain Coloring Industry Association, Arita Direct Sales, Saga Porcelain Wholesalers Association, Saga Porcelain Industry Association and Hizen Porcelain Chambers of Commerce. More

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[39] The porcelain made in Arita was shipped from Imari Port, therefore, overseas, Arita ware is often know as Imari (Arita City, Pamphlet of Arita-Yaki shoppin Gallery, 2001). Some European Porcelain documents differentiate Arita as under glazed and Imari as over glazed porcelain; however, this is not official differentiation (Encyclopedia Britanica, 1984).

[40] Arita town office, Arita-cho Machiseiyouran shiryouhen Arita 1999.

[41] Ibid 1999.

[42] Grand Arita Association of Ceramic includes other associations in 7 different cities surrounding Arita. These are: Arita-City, Nishi-Arita City, Imari-city, Takeo-city, Yamauchi-City, Shiota-City and Ureshino-City (Interview with Mr.Takashi Tsutsui on March 28, 2001).

specifically, these industries may be divided into smaller groups according to the tasks performed in the production process. At a more macro-level, these industries are divided into production and sales. The production side consists of six different groups including clay, material, mold, paints, utensils, kiln and coloring; while the service side consists of four different groups including coloring, wooden box, paper box and transportation industries. A specialist from each association, both regional and industrial, is represented on the APGA board of directors. The total number of directors is 47.

The composition of the ceramic cluster in Arita is shown below, demonstrating quite interesting characteristics. For example, it is very local, cluster-oriented and composed of businesses with backward linkages.[43]

Figure 19.3.7 Number of Enterprises for Each Group which Operate within Arita City

Ceramics Producer→	**Sales Company →**	Hotels, Consumers, Restaurants, Wholesale
(228 out of 270 companies in the city)	(190 out of 219 whole sellers in the city)	

Producer of Ceramics (house ware 92, decoration 37, others 20, industrial use, 5 in total, 154)
Producers of Clay (4)
Producer of Prepared Clay (-)
Producer of Molds (11)
Producer of Paints, Coloring, other materials (6)
Painting Company (43)
Producer of Kilns (4)
Producer of Wooden Boxes (9)
Producer of Paper Boxes (9)
Transport Company (-)

Source: Arita-city, 2001.

According to APGA, the division of labor between the production side and the sales side existed since the Edo Period (1600-1876), due to the large presence of small-scale enterprises in this area. In 2000, 90% of the enterprises in Arita employed less than 30 persons, while 80% are said to employ less than ten.[44] Considering the composition of small enterprises in the cluster, it was thought to be more competitive historically to outsource the sales and promotion component.

Currently, however, changes are occurring. The local wholesalers established a common shop for Arita ware called the *Arita yaki Oroshi Danchi*, or the Sales Estate of Arita Porcelain. This aims to promote the sale of porcelain to tourists as well as retailers on site. Therefore, some changes have been made regarding the way business is conducted in accordance with changes in the market demand and through utilizing the group dynamics.

(3) Problems Encountered by Arita-City and Their Causes

Despite a strong ceramic cluster whose name is well recognized throughout Japan, the porcelain of Arita is suffering a drastic decline in sales beginning ten years ago.

[43] Backward linkage is defined as a linkage from a particular industry to its suppliers, attempting to provide necessary inputs to productive activities by domestic production.
[44] Daiairtayakishinnkoukyoudoukumiai (APGA), Sanchi Kumiaigaiyou, Arita, 2001.

According to APGA, out put value of porcelain in the Arita-Imari area in 2000 was approximately 30 billion yen, equal to only 45% of its 1991 peak of 66 billion yen. According to Hizen[45] Chamber of Commerce, the handling value was 2.2 billion yen in 2000, 43% of the value in 1991. As naturally occurs, the decline in sales of porcelain has brought with it a decline in employment in this sector. The number of workers employed by the 508 companies associated to APGA was 4,790 in 2000, accounting to 60% of the total workers employed by 516 companies in 1991. This downward trend is expected to continue.

The porcelain of Arita has always been part of the more traditional Japanese way of life. Hence, the changes in life-style, economic structure and social arrangements have all directly and negatively affected sales. The reasons for such a decline, as sited in an analysis elaborated by APGA are: (1) decline in the use of porcelain ware, (2) decline in the unit price of porcelain, (3) lack of marketing strategies, and (4) lack of differentiation from other producers.[46] For instance, the penetration of the western habit of eating has reduced the use of traditional Japanese porcelain ware. Also, increased coloring of the food material itself no longer requires additional vivid coloring, a characteristic of the porcelain as mentioned earlier. The increase in women working also changes the demand for household goods, while the introduction of electric devices such as microwaves and dishwashers shifted consumer demand towards new types of material for daily use. Such "modern" utilities emphasize durability, speed, convenience and functionality.

Decline in the unit price is caused by increasing competitiveness of other porcelain producers in different areas in and outside of Japan. This is related to point (4) as mentioned above, the lack of differentiation. Arita is suffering a decline in the unit price despite its long history, well-known brand name and high quality, caused principally by the lack of brand-management. The identity of the porcelain of Arita has not been given much attention in the traditional context of producers. Hence, there is a great absence of specification, definition and minimum qualification for the porcelain. The responsibility of quality control has long been entrusted to craftsmanship within the local community. This lack of brand-management and the failure to adapt to global standards allowed the penetration of competitors with similar and less expensive substitutes.

It is also important to mention the lack of a new market strategy. Arita has historically been a city recognized as producing porcelain, while sales were obtained through trading companies. The companies sold porcelain to department stores or to mass consumers such as restaurants and hotels. Based on this marketing system, contact between producers and the final consumers became indirect, while producers continued to make products based on information obtained from the trading companies. Due to this system, producers failed to obtain relevant market information and thus were unable to quickly change the product reflecting changes in consumer preferences.[47]

The decline in sales of the porcelain of Arita was only relevant during the past 10 years; however the structure, which allowed this to occur had been established much beforehand. The causes are multiple including changes in consumer preference

[45] Hizen includes Arita-Imari area; it is old jurisdiction similar to today's Saga Prefecture.
[46] Ibid, 2001.
[47] Information obtained from interview with APGA, March 28, 2001.

stemming from the gradual change in social, cultural and economic structures, the static business culture of the porcelain of Arita, traditional patterns of marketing and too much reliance and belief in the legacy of the "Arita-brand".

(5) Countermeasures Implemented by the Municipal Government, Private Sector and Educational Institutions

The downturn of the ceramic cluster implies the downturn of the city's economic activity since the economy of Arita is highly dependent on this cluster. In order to improve the current downward trend, the municipality of Arita, APGA and educational and research institutions, the Arita technical school for ceramic industry and Saga Porcelain Technology Center are working together to strengthen collaboration.

a. Countermeasures Undertaken by the Municipality

The municipal government of Arita published the *Arita-City New Development Plan* (Arita-cho Shin Sogo Keikaku) in 1997, by which the city's economic and social characteristics are reviewed and analyzed. Based on this analysis, a long-term development plan is elaborated implied for the year 2015. This study identifies the following problems: a decreasing population, lack of a successor to the ceramic industries and underdevelopment of the service sector that is important for future city growth. Hence, in order to solve these problems, the plan consists in improving the quality of life, fostering greater value added products and promoting the development of the service sector, such as tourism.

In order to improve the welfare of citizens, the city not only plans to improve public services but also the conservation of the environment, as well as cultural and historical heritage. For example, an action already implemented is the creation of a historical porcelain park. Also, to strengthen the capacity of R&D in order to produce higher value added products, the city plans to invite the establishment of a university that specializes in ceramics. Finally, in order to develop the service sector, the city plans to promote tourism.

The city supports the promotion of tourism in several ways. First, with the collaboration of the private sector, the city is developing tourism signs and city maps using porcelain. It is also editing the official guidebook of Arita-city, which not only explains the historical background of the porcelain from Arita but also introduces restaurants that serve local cuisine and gift shops that sell porcelain products. In addition, the conservation of historical buildings, the arrangement of historical monuments and the creation of signs to explain the historical meanings are now being implemented. Furthermore, it is establishing an experimental museum that introduces a bus transportation service to connect production, sales and historical sites. Additionally, because the city does not have accommodation facilities, it is planning to register personal houses of historical value as pensions by establishing minimum standards.[48] It is worth mentioning that the city financially supports the activities of local industries. In 1999, the city contributed approximately 99 million yen from a budget of 8 billion yen to different activities led by the private sector.[49]

[48] Arita town office, 1999.
[49] Arita town office, Arita-cho Gaiyo, 2001.

To date, some efforts implemented by the municipality are becoming apparent. For example, the number of tourists from outside the Saga prefecture has had a notable increase since 1996. Contributing to this is the largest annual event in Arita, known as the Grand Porcelain Bazaar realized in May which possess 98 years of tradition. Although the exact number of participants is not available, there are new participatory-type events such as “Akae-za” and “Rokuro-za”, that have recently been introduced in fall. These new attempts are gradually contributing to the increase in the arrival of tourists. It should be mentioned that in introducing these new events, the Division of Tourism and Commerce of the city of Arita is coordinating the date of the events with nearby cities so to encourage a synergy effect in its promotion.

b. Attempts Currently under Implementation by the Private Sector: APGA

The private sector, represented by the APGA, is also active in improving the current situation. The principal activities of the APGA are as followings:

(1) Development of new products and technology;
(2) Development of new demands;
(3) Development of human resources (training);
(4) Information network project;
(5) Fulfill social responsibilities (recycling, clean production).

Based on these principles, the following committees were formed and currently being realized:[50]

(1) Committee for the Development of New Ceramics;
(2) Committee for Ceramic Association;
(3) Committee for Ceramic Association in Saga Prefecture;
(4) Committee for the Development for Ceramic Design;
(5) Committee for the Promotion of Non-leaded paint;
(6) Committee for a High-tech Arita Ceramic Doll;
(7) Committee for Recycling Waste Materials.

The producers, as well as academics and instructors of two technical institutions in Arita, participate in these committees. Although differences exist regarding advances in the activities within the committees, all are functioning. For instance, the Committee for Recycling Waste Materials has recently conducted extensive research on the condition of waste materials in Arita and the Imari-areas.[51]

Not only in the form of a formal committee, but also on a more personal level, producers are voluntarily forming groups to innovate new uses for ceramics and create new marketing channels. One particular group consists of younger producers who meet to present new products and discuss its advantages and possible marketing strategies. Some new ceramic products with innovative uses are: lampshades, computer mouse pads, decorative ceramic light-switch covers and pots and planters for gardening. The main objective of this group is to create products that correspond to the modern life-style and avoids historically established marketing channels. This group also held an exposition of their products in Tokyo to attract new types of customers.

[50] Interview, conducted on March 28, 2001.
[51] APGA, 2001.

The Association, together with small voluntary groups, promotes Arita ware in different ways. APGA realized expositions abroad as well as in larger cities such as Tokyo. The exposition of Arita Porcelain and spot sales were held in the major department store in Tokyo, which also had the demonstration effect of the "Arita-Brand". In addition, APGA actively promotes the porcelain from Arita overseas. For example, this porcelain was exposited as "Porcelain of Saga Prefecture" in the British Museum during October of 1999 to January 2000. A total of 50,000 people visited this exposition, while it had a great demonstration effect overseas since it renewed the image of the "Old Imari" created in Europe during the 17th to 19th century when the ware was first exported. Following the exposition in the British Museum, the exhibition was realized in Tokyo followed by an exposition in Saga Prefecture. Wholesale dealers in various locations in Europe also held an exposition for Arita products following this exposition. In addition, as a regular event, Association participated consecutively in the "*Frankfurt Meisse*" during the past 3 years with their products.

Parallel to such outward activities, there also exists inward activities. In order to identify and create a brand image, a common seal is being introduced for all producers of that work with the porcelain of Arita. Currently, as has been practiced historically, each producer places the individual name or symbols on his/her products as the "signature" of guarantee for its quality and design. However, a sticker of "Arita ware" is being placed in addition to this signature. Although the use is still limited, it aims to facilitate the recognition of the ceramics of Arita by its consumers.

c. Collaboration with Education and Research Institutions

Another attempt initiated by APGA is to improve the brand image of Arita through strengthening the environmentally friendly production process in response to the increasing public concern regarding such issues. At the same time, measures are being implemented against the introduction of new regulations that encourage the reduction of waste and recycling. The improvement of the production process requires investigation and technology, implying that collaboration with education and research institutions is deemed necessary.

APGA conducted extensive research regarding the recycling of materials used in the production process of the ceramic cluster. Although the ceramic industry uses primarily natural products such as clay, it actually generates a good quantity of waste. The following lists the waste materials generated in the production process:

(1) Sludge (clay material, glaze chemical, paint chemical, plaster for making mold) caused from the clay, glaze chemical, tile, and glass industries. This type of waste accounts to 70% of total waste. In order to avoid serious water contamination, restriction in the use of leaded paint is considered.

(2) Ceramic pieces (unbaked, unglazed, glazed, painted, used mold) caused in each process of ceramic production. The pieces may be recycled by crushing the waste into powder; however, separation is essential especially for those that are glazed and painted due to their chemical contents. This becomes especially important for the pieces containing the leaded paint.

(3) Other wastes (paper, embers, metals and plastics) [52].

[52] APGA, Kankyo ni hairyoshita Tojikisannchiwo Mezashite, Arita, 2001.

Currently, with the collaboration of education and research institutions, the development of unleaded but better coloring paint is in progress. Also, a better method to recycle crushed ceramic pieces into ceramics, as well as the production of ecological cement is currently under investigation. The education and research institutions are also conducting investigation regarding new ceramics such as hygienic ceramics (*koukinkouka*) and hard ceramics given the abundance of high quality clay in that area.

In the Arita-city, many attempts are being made to promote and maintain the ceramic cluster. According to the Director of APGA, Mr.Tsutsui, it becomes difficult to obtain the benefit of the cluster once the sales drop below 20 billion yen. Given that the economy of the city is largely dependent on the presence of the ceramic cluster, the continuous growth of this cluster is crucial for sustainability. As shown in Figure 19.3.8, it is noteworthy that the direction and emphasis of the cluster is changing. For example, it is becoming more service oriented and leans towards the strengthening of forward linkages.[53] A similar trend, though not exactly the same, may be drawn from the case of Valdivia. (Figure 19.3.9)

[53] Forward linkage is defined as a linkage from an industry to its users, which attempts to use such products as inputs to new economic activities.

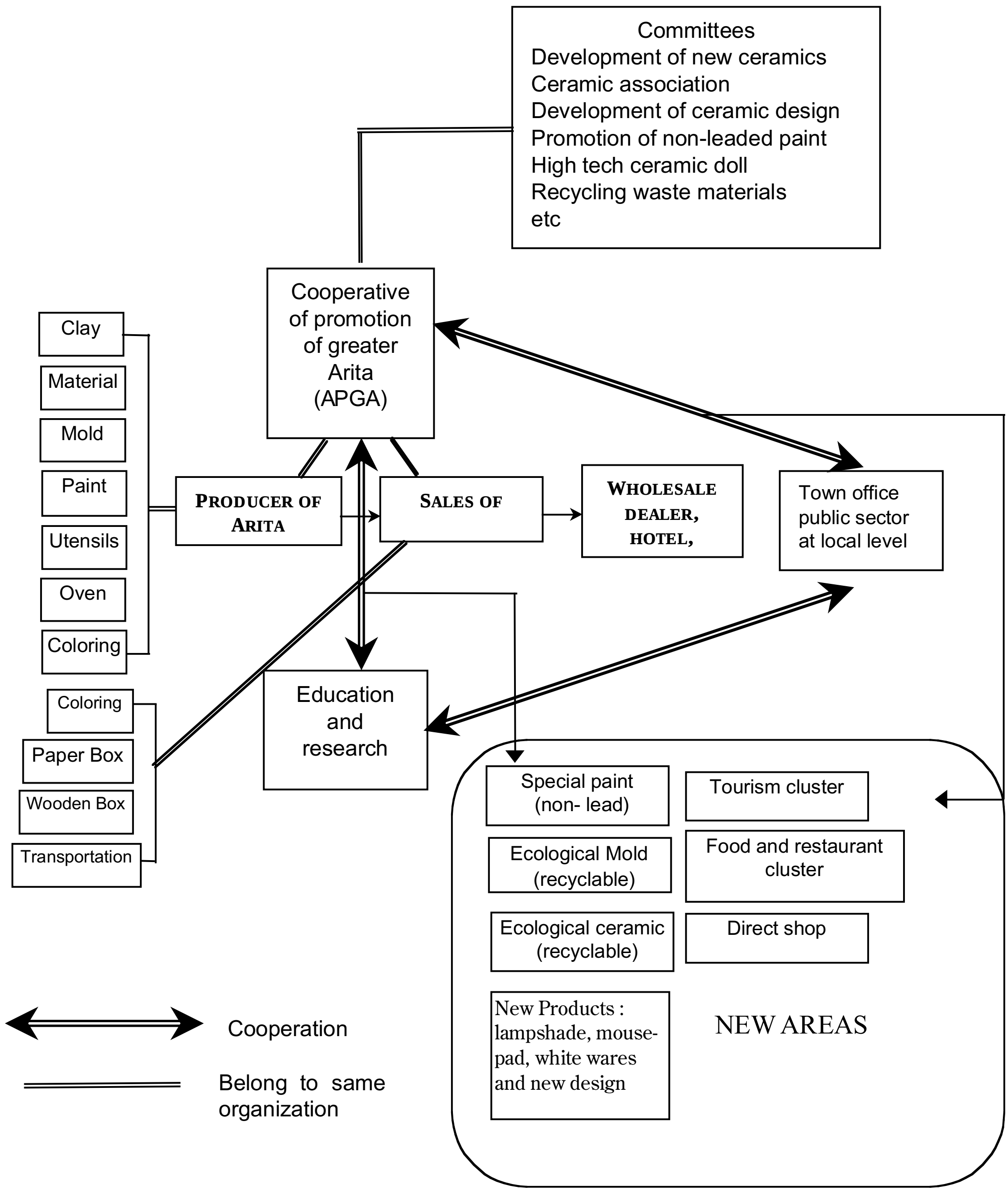

Figure 19.3.8 Anatomy of Arita

Source: JICA Study Team based on Porter, 1998

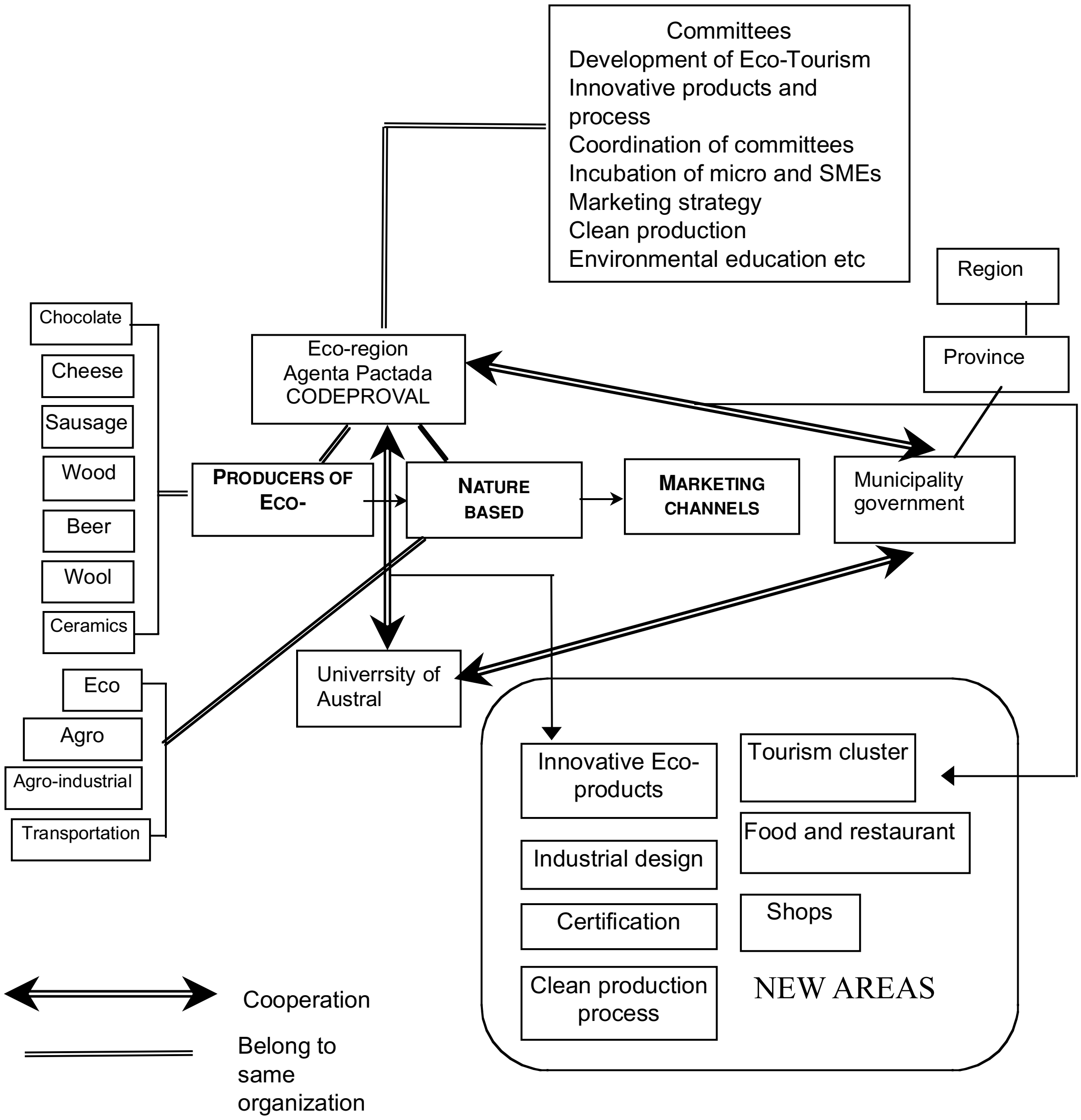

Figure 19.3.9 Anatomy of Valdivia

Source: JICA Study Team based on Porter, 1998

(6) Learning From the Experience of Arita

The experience of Arita is not directly applicable to the case of Valdivia since both cities are inherently different in their historical background and economic and social structures. On the other hand, it is true that some of the problems encountered by the city of Arita are quite similar to that of Valdivia.

The two cities are similar, for example, in the following ways. First, both enjoy being identified by their historical and cultural characteristics as well as products. At the same time, both cities lack a new means of promotion and are thus not identified well at the global level. Second, both cities are attempting to promote the following strategies: differentiation of their products, promotion of tourism and other areas related to the service sector, new approach to different market channels such as global and urban, the creation of new products through technological and incremental innovation and the promotion of cleaner production. In addition, both cities have a large number of small-scale enterprises in sectors whereby small-scale producers have advantages over mass producers. In both the food industry in Valdivia as well as the ceramic sector in Arita, consumers value product variety and diversity, allowing for a wider margin of preferences. Hence, smaller producers are more able to respond to the wide variety of consumer demands. Finally, in order to realize and achieve these strategies, collaboration among the private, public and academic institutions are considered essential.

As mentioned above, there are some factors that are essentially different regarding these two cities. One is the existence of a cluster in Arita, and the other is the strong collaborative mechanism among public-private and academic institutions. Compared to Valdivia, the industrial composition of Arita is profound. Though there are several attempts, Valdivia still appears to lack the group dynamic. Therefore, greater attention must be given to the creation of a cluster and how possible challenges may be confronted.

19.3.7 Public Support Schemes for the Eco-region

(1) Available Public Support Schemes

Several public supported schemes are implemented in Region X that coincide with the goals of the Eco-region development strategy. The new regional development strategy for the years 2000-2010,[54] beginning in March 2001, is one such example. Firstly, it considers tourism as one of the principal strategic sectors for regional development. Second, the new development strategy puts more emphasis on sustainability considering that many economic activities in the region are closely related to environmental conditions.

Moreover, many support schemes provided by the public sector orient enterprises in a direction similar to the Eco-region development strategy. For instance, CORFO supports small and medium sized enterprises with several of their instruments such as

[54] Gobierno de Chile, Secretaría Regional Ministerial de Planificación y Coordinación Región de Los Lagos and Gobierno Regional de Los Lagos, Estrategia Regional de Desarrollo:2000-2010, Puerto Montt, 2000.

PROFO, FDI, and FONTEC. These schemes are applied to projects that are in accordance with the Eco-region concept. The same is true for those instruments provided by ProChile, such as INDAP and FIA, to mention a few. Also, governmental institutions such as CONAF, SERNATUR, INFOR, INFOP, INIA are able to provide the private sector with information and policies similar to the Eco-region development strategy. The Team has realized that many innovative enterprises are making use of schemes such as Pre-PROFO for organic agriculture, PROFO for tourism development, FDI for clean production manuals, apple farm development using FIA, among others.

Also, the activities carried out by the regional and provincial governments and the municipalities play a crucial role in the implementation process of the concept. In relation to the above, there are initiatives in the province of Valdivia that bring together various small sized farmers in order to realize the formal commercialization of their products. In such a way, there exists the Program for the Local Rural Development of Valdivia (Programa de Desarrollo Rural de Valdivia, PRODESAL), which is an agreement between INDAP and the Municipality. Within this program, the participants are part of a larger organization called the Association of Small Agriculturists (Asociación de Pequenos Agricultores) that fosters the rural production of small agriculturists while also working in the area of tourism. In addition, the Foundation for the Development of Valdivia (Fundación de Desarrollo Social de Valdivia, FUNDESVAL) also supports the association of producers of eco-products. Due to such initiatives, individual producers are able to increase the quantity of their goods by working in such associations or micro-businesses.[55] It is thus clear that the development strategy of Region X, as well as many projects supported by public entities, point in the same direction as the strategy developed under the Eco-region concept.

Lastly, but perhaps most importantly, the Municipality of Valdivia holds a unique stance in Region X. With a presidential decree, the private and public institutions and agree to the *Agenda Pactada*. The regional and provincial governments, SERPALC, Austral University, the private sector represented by CODEPROVAL and all municipal governments of the Province of Valdivia have supported the development of this Agenda. This is the first regional based alliance declared among the private, public and academic institutions to promote coordinated, regional development under a common goal. This also permits the province to foster bilateral relations with Argentina. The strategic and prioritized areas in the *Agenda Pactada* are as follows: productivity development, increased attention given to the population facing critical poverty, promotion of investment, territorial ordinance and provision of basic infrastructure, conservation of resources and sustainable development, development of education, culture and sports, international relations and agreements and treaty.[56] Though these alliances are currently being formed, specific activities are yet to be developed.

(2) Shortcomings

The projects mentioned above are implemented by different governmental institutions and often suffer from lack of co-ordination. For instance, FIA assisted small-scale apple farmers in the province of Valdivia during a two-year project to develop organic

[55] Information provided by PRODESAL and FUNDESVAL, 2001.
[56] Illustre Municipalidad de Valdivia, 2001.

farming together with agro-tourism. The overall scheme of this project correlates with other schemes managed by governmental sectors such as CORFO (PROFO) or SERNATUR and ProChile. However, this particular project, at the time of the interview, was discontinued after two-years. If more sufficient co-ordination among the governmental sectors had been realized, the overall efficiency and effectiveness of such support mechanisms would be enhanced. Such co-ordination failures can be overcome through effective exchange of information between the public sectors, clarification and demarcation of the role of each institution, and the identification of a common regional development goal.

Another example of co-ordination failure worth mentioning is observed between the public and private sectors. This is due fundamentally to a lack of trust. A certain percentage of the private sector has little faith in governmental support. At the same time, the public sector tends to think that the private sector is not willing to take risks, and that the private sector demands the public sector to prepare everything. This lack of trust sometimes inhibits the emergence of new businesses. For example, the idea of building a commercial and tourist complex along Route 215 has been thought feasible by both the private sector and SERNATUR. However, the project is not being realized due to the fact that the private sector expects the public sector to provide basic infrastructure, while the public sector is not ready to accept such a request.

Lastly, co-ordination failure among the private sector must also be mentioned. During the fieldwork, the Team interviewed several enterprises that have already adopted the new approach of combining tourism and products. However, in many cases, a single company realizes these attempts. It is true that associative attempts are promoted by such schemes as PROFO however, in general, many enterprises act in an individual manner and do not realize the benefits gained from forming alliances.

19.3.8 Outline of Action Plans and Their Background

Considering these shortcomings and studying the case of Arita, the following are considered useful to promote the development of Valdivia: development of a cluster based on the Eco-region concept, establishment of global linkages through the promotion of international tourism, export and investment, promotion of innovation through the collaboration of private-public and academic institutions and policy coordination among and between public and private sectors.

The action plans for Valdivia are created in hopes of solving the above shortcomings using the following basic principles:

(1) Utilize exiting entities as much as possible.
(2) Minimize the financial burden by creating a system of auto-finance and eliminating the duplication of tasks by different entities.
(3) Incorporate the concept of Eco-region in on-going projects
(4) Incorporate the concept of Eco-region in the annual plan of operation
(5) Formulate the goals with a concrete target
(6) Prioritize projects that fall under the concept of Eco-region
(7) Evaluate the competitiveness objectively when formulating the plans of action. The Team perceives the political system of Valdivia as follows:

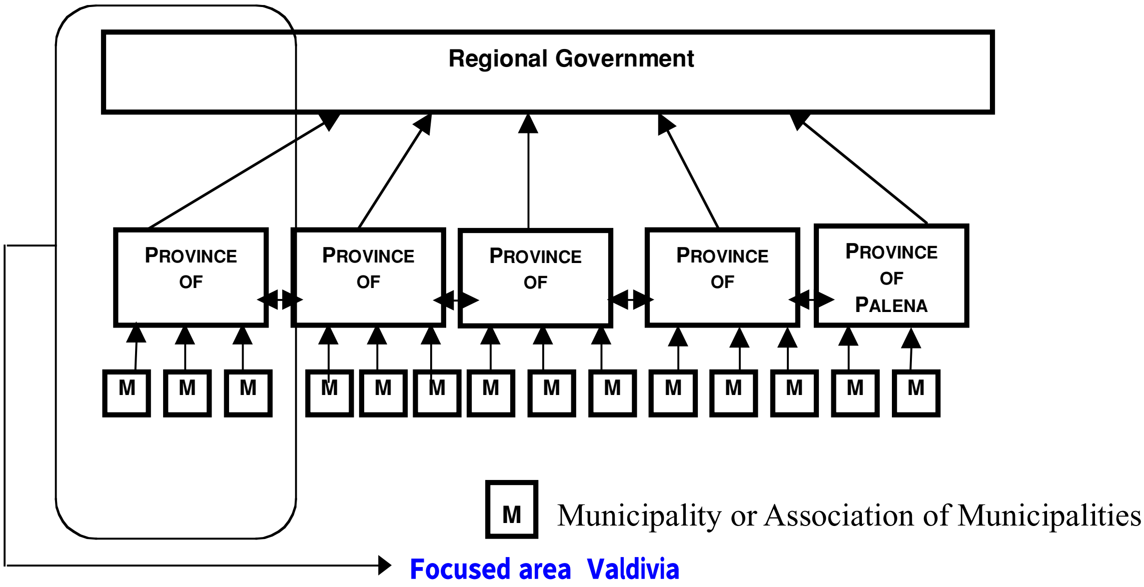

Figure 19.3.10 Political System of Region X

Source: JICA Study Team.

Action plan 1: Strengthening co-ordination

It was thought important to coordinate six areas of the Eco-region development strategy at the municipality level. These include the promotion of eco-tourism, promotion of clean production, the strengthening of SMEs, innovation of new products and processes, marketing of grouped products and the formation of education and consciousness. There will be a menstrual coordination meeting regarding the Eco-region concept organized by a coordinator who is dedicated and committed to such work full time. The decisions and discussions made in this committee are informed to the different levels of the government: municipal, provincial and regional. The following is the image of this relationship.

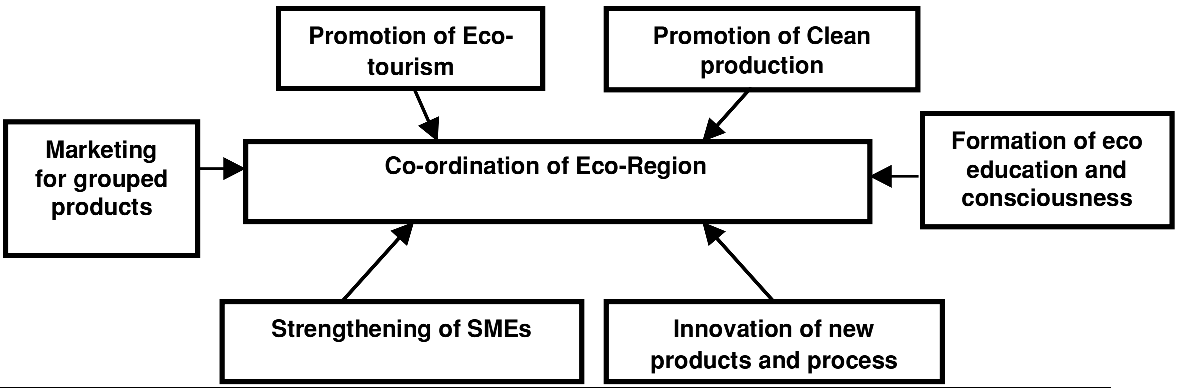

Figure 19.3.11 The Co-ordination of Strategies at Municipality Level in Validiva

Source: JICA Study Team.

Action Plan 2: Marketing and promotion of grouped products (tourism and products)

The new marketing strategy dedicated to market a "basket" of products, is necessary considering the difference between conventional marketing and the promotion method. Conventional marketing promotes the individual products; whereas, the thi method promotes both Valdivia as a city for tourism and typical products.

The conceptual figure is as follows. It is necessary that various public as well as private entities participate in this initiative. Each public entity should foster the promotion or marketing of those products related to their particular sector or market. For instance, ProChile specializes in international marketing; INDAP and FIA specialize in agricultural products and tourism; CORFO specializes in the development of SMEs; CONAF and INFOR specialize in the conservation of national parks; and finally, SERNATUR specializes in the development of tourism. It is worth mentioning that INDAP has realized, under the name of "Tastes from the Country" or *"Sabores del Campo",* an annual exhibition and the direct sale of agricultural products in Santiago. A store has also been established in Santiago where rural agricultural products are sold on a daily basis acting like an antenna shop. The action plan aims to coordinate these actions that are realized by each actor through coordination. Through such procedures, duplication is eliminated and a synergy effect may be created, thereby increasing effectiveness and efficiency.

The Municipality of Validivia and the private sector will share the role of coordinator for such a plan. The private sector should be the key actor for marketing, while the municipality is responsible due to its central role as promoter of the city. Also, the municipality is currently considering incorporating the development of productivity, which concerns those productivity sectors within the municipality.

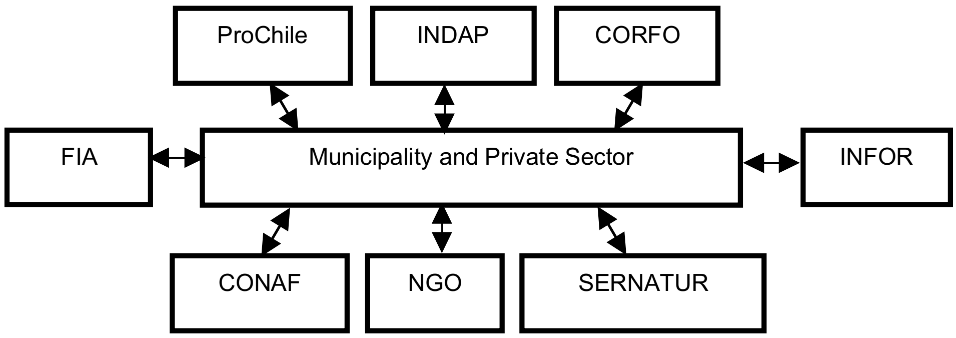

Figure 19.3.12 Coordination of Marketing Strategy

Soruce: JICA Study Team.

Action Plan 3: Promotion of eco-tourism

During the field survey, it was realized that many of the activities conducted for the promotion of tourism overlapped. In terms of promotion materials, the following is common. For instance, the municipality is making a video, pamphlets and maps for promotional purposes of the city. SERNATUR is developing promotional materials for tourism in general. Hotelga, an association of the private sector, is making a pamphlet of the gastronomy of Valdivia. The University is developing promotional devices via Internet called Tourismatico. Finally, CODEPROVAL, also an association of the private sector, holds an event annually in Santiago to promote Valdivia. These actions are directed towards a common goal: the promotion of tourism in Valdivia. However, these are done without appropriate co-ordination. Hence, the establishment of a coordinating body is thought to eliminate the duplication of tasks and costs, while improving the overall efficiency and effectiveness of such actions.

Co-ordination among the planning body, the municipality (city design) and SERNATUR (tourism) with the private sector, could stimulate investment in the tourism sector by assuring future prospects. For instance, in the short-run, co-ordination conducted by the municipality for various seasonal festivals and events within the city and with other municipalities in the Province would positively affect hotels, restaurants and other tourism-related industries. In this way, the private sector should plan ahead and adjust their schedules in accordance with such events. Also, in the medium-term, the improvement of signs and the appearance of the streets and general environment of the city by the municipality can stimulate investment by the private sector for longer time spans. Land use planning by the municipality would have a greater impact in this respect. For example, an investor would not be interested in investing in a resort hotel if a polluting factory is to be installed nearby. In this context, co-ordination among the private sector would also positively influence investment as well as avoid future possible conflicts between the sectors.

Finally, the incorporation of universities is important for human resource development and identification of new businesses and tourism products.

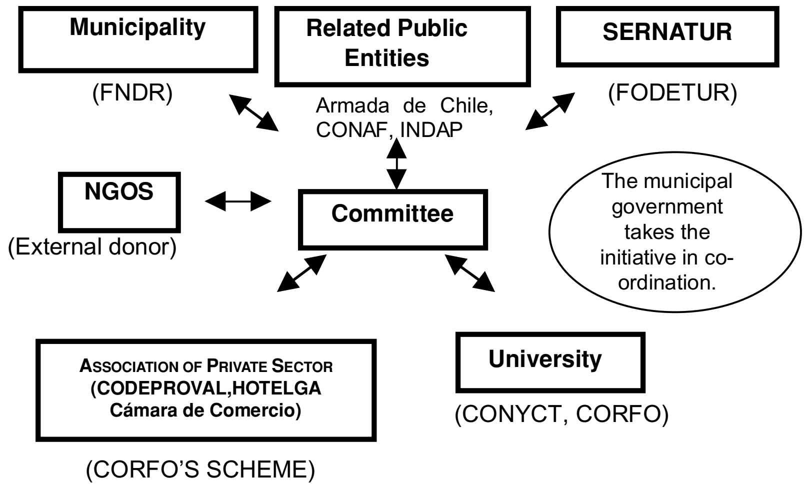

Figure 19.3.13 Promotion of Tourism through Collaboration of Various Actors

Source: JICA Study Team.

Action Plan 4: Development of new innovative products and processes through private-public-university alliance

The three factors that enable innovation are market information, research and development capacity and finance. The private sector, universities and the public sector represent each of these three factors. In Valdivia, there exists Austral University, covering important areas for regional economic activities such as agriculture, stock rising, forestry, and medicine. Despite the presence of an excellent institution in the region, it has not been fully utilized by the local private sector. The participation of the University in local economic activity is limited due to its strong academic focus. In fact, the *Agenda Pactada* is the first intent of the region to incorporate the University as a vital actor for the regional development strategy.

This tendency is currently undergoing some changes, however. Austral University is hoping to become more involved in local economic activities. In effect, the Department of Economics and Management is already assisting SMEs in collaboration with ProChile for export promotion. The same department is planning to create a "window" that may guide the private sector as they arrive to the university wishing to conduct joint research for new products and processes, thereby promoting closer relations between the University and local economic activities.

The following exemplifies the conceptual figure of the alliance:

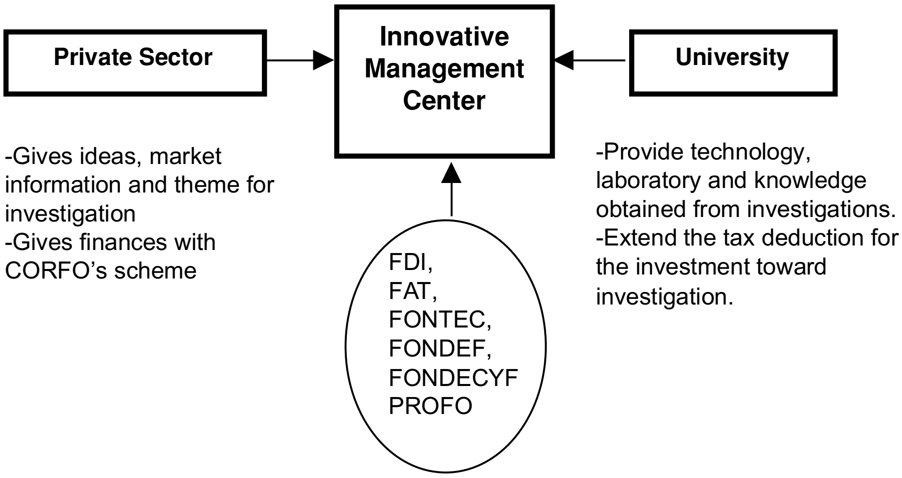

Figure 19.3.14 Development of Alliance Among Private-Public-University

Source: JICA Study Team.

Possible areas for cooperation regarding the private-public-university alliance are as follows: industrial design to reflect the characteristics of Valdivia, data bank for natural resources that may have some industrial and more value added usage, support initiatives for clean production, creation of new products based on local natural resources, establish standards for services as well as products (certification for quality) and training. Professionals, with whom the Team held interviews, have suggested these ideas.

Action Plan 5: Incubator for SMEs

Strong cluster development requires two-level strategies. The first level is to develop inter-firm linkages, while the second level is the development of micro businesses. Current competition among enterprises in Valdivia is quite minimal, making it difficult to form a competitive cluster. Hence, support for the fostering of micro and small-scale enterprises is crucial. This incubator will be designed for those micro and small enterprises with potential. Generally, to solve the problem of micro and small-scale industries there were a mix of two different approaches. The first is the alleviation of poverty, while the other is productivity development. Here the focus is given to micro and small-scale enterprises that have the potential for productivity development, as well as those working with ecological products and processes related to the Eco-region concept. This is aimed to provide incentives to those who are willing to expand their business through acquiring know-how and skills. The conceptual figure is as follows.

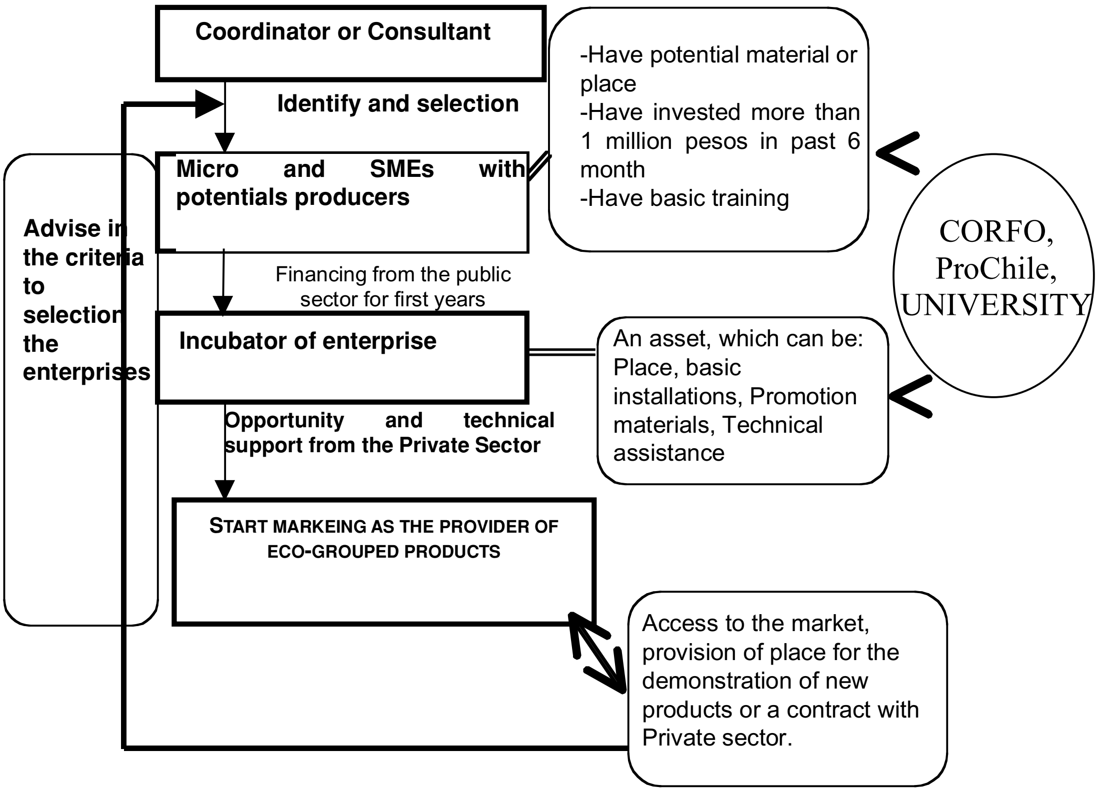

Figure 19.3.15 The Incubator of Micro and Small Enterprises

Source: JICA Study Team.

Detailed action plans are presented in the further section.