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**JICA
REPUBLIC OF
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CORDECRUZ**

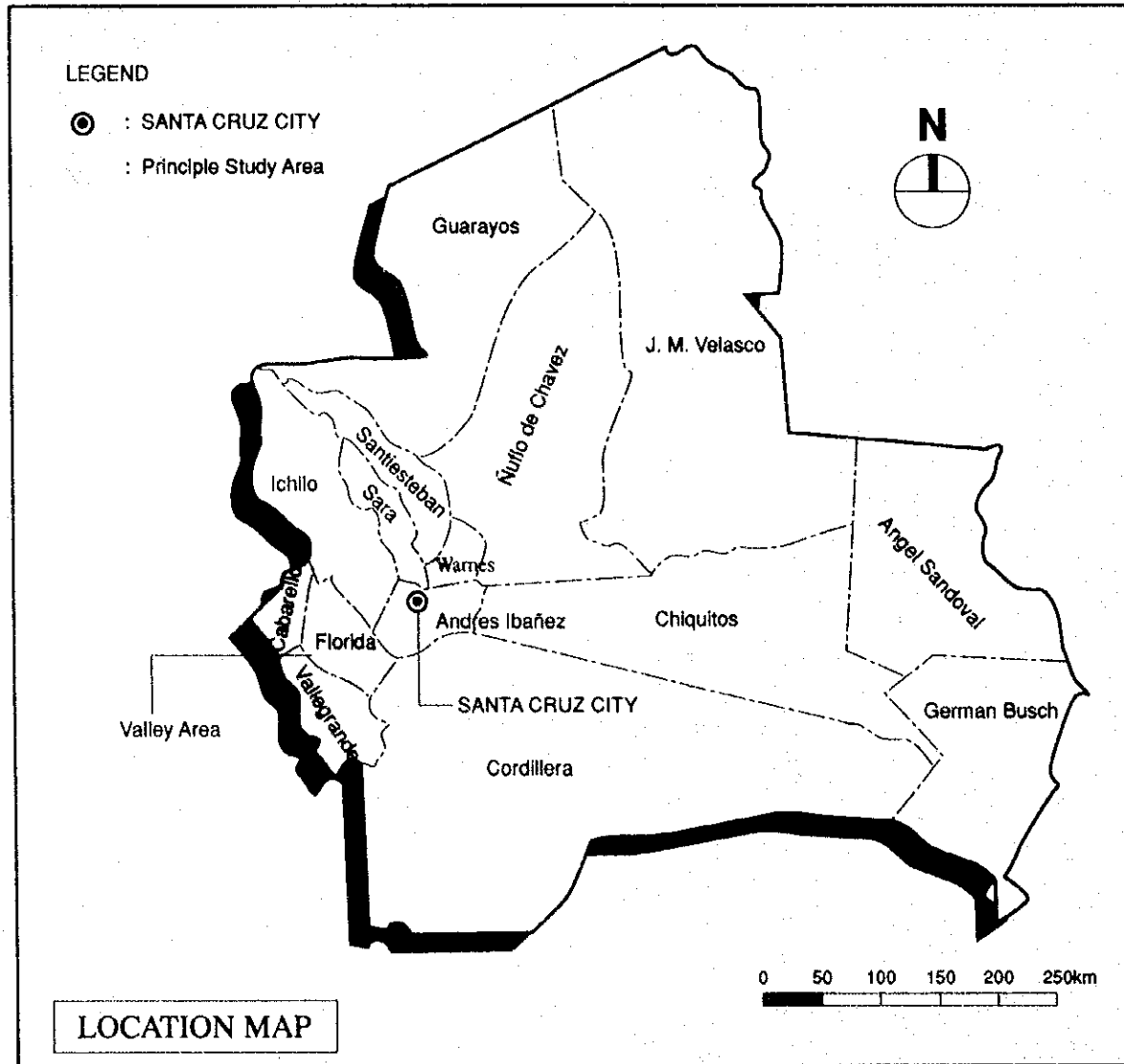
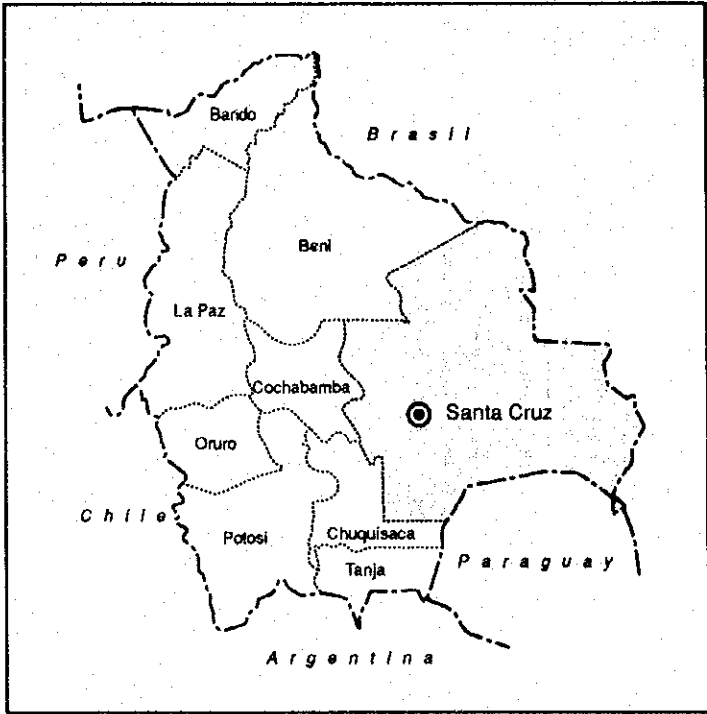
**THE MASTER PLAN STUDY
OF
THE AGRICULTURAL MARKETING SYSTEM
IN
SANTA CRUZ**

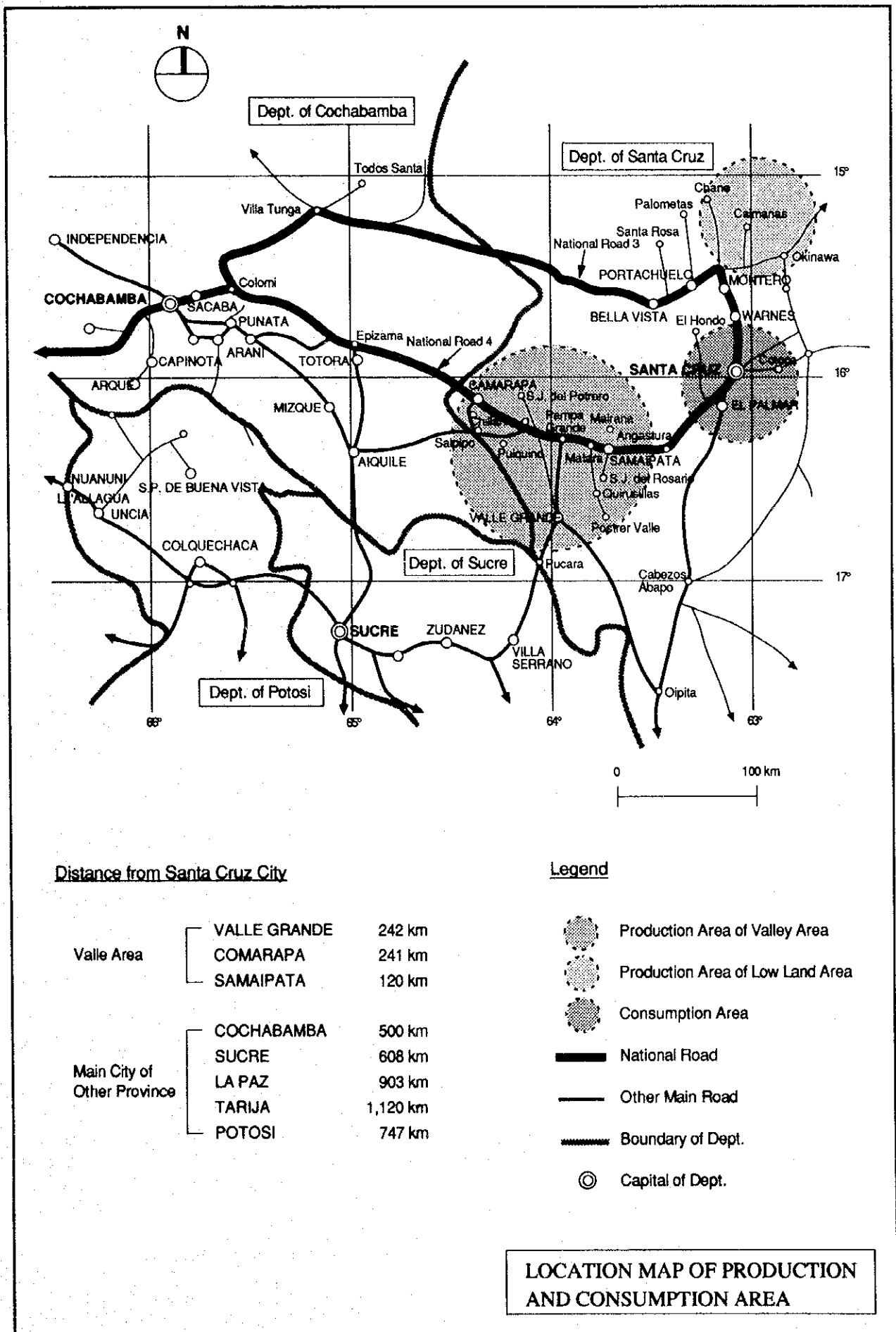
**FINAL REPORT
SUMMARY**

MAY 1995

SYSTEM SCIENCE CONSULTANTS INC.

KOKUSAI KOGYO CO., LTD.

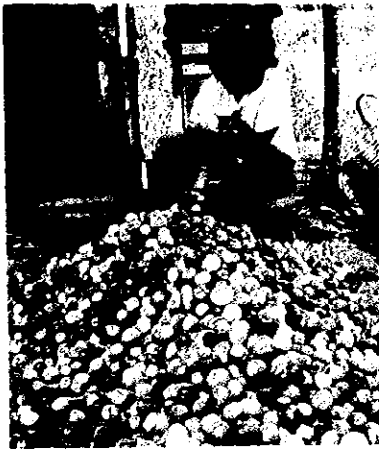




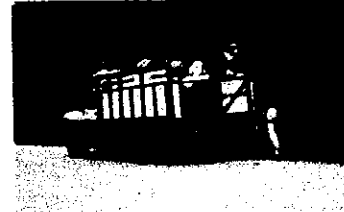
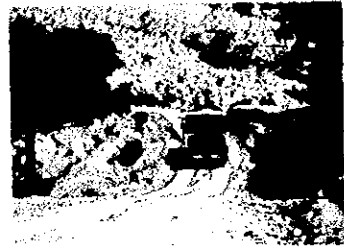
VALLEY AREA (MAJOR PRODUCTION/AREA)



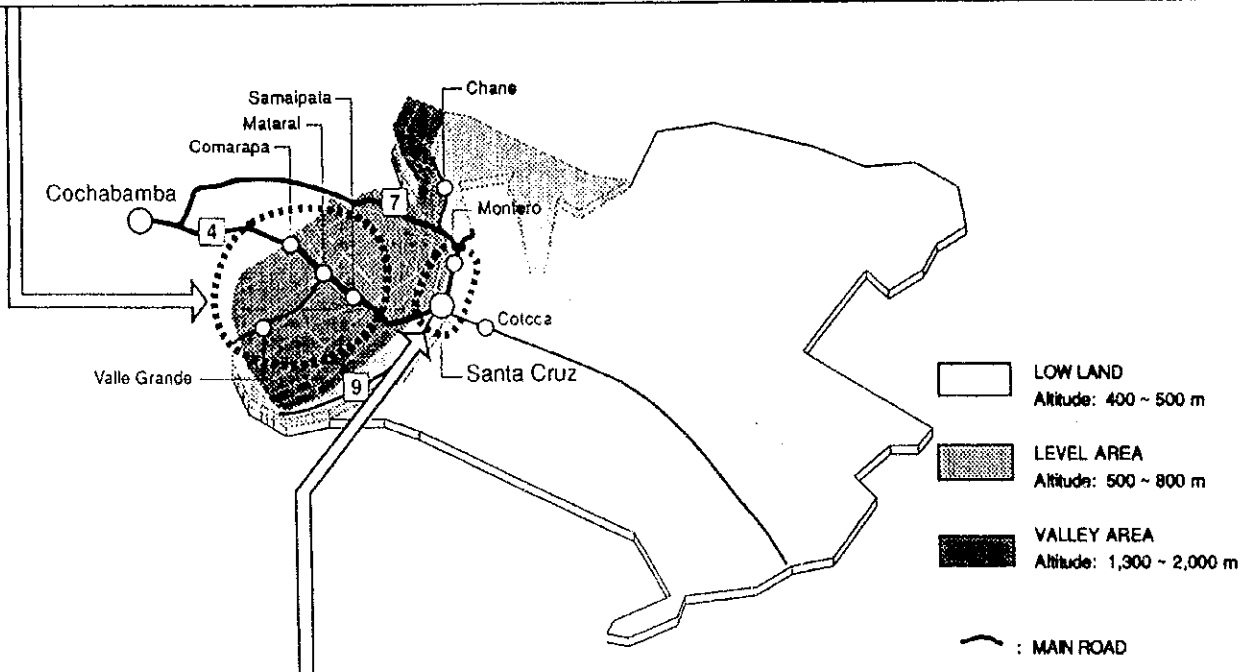
SMALL SCALE LABOR INTENSIVE AGRICULTURE



HARVEST AND SORTING OF TOMATO



TRANSPORTATION FROM PRODUCTION AREA



CONSUMPTION AREA (SANTA CRUZ CITY)



PUBLIC WHOLESALE MARKET IN SANTA CRUZ CITY (ABASTO MARKET)



SALES OF PRODUCTS BY WOMEN AND CHILDREN



DIRECT SALES FROM TRUCKS IN THE MARKET



• A TYPICAL PRODUCTION AREA OF
AGRICULTURAL PRODUCTS IN
VALLEY AREA

Production area of vegetables and
fruits is developed along a river in
the high land with altitude 1300 to
2000 m.



• SCENERY OF LAND PREPARATION

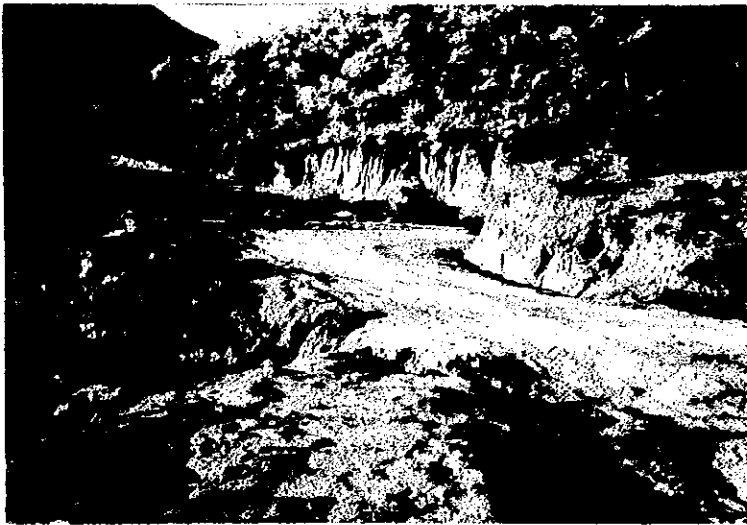
Intensive agriculture using
domestic animals is popular.
However, mechanized agriculture
utilizing tractors is performed in
some cases.



• SCENERY OF SORTING PRODUCTS

Left: Sorting of potatoes by size and
packing in sacks.

Right: Sorting of tomato by size and
packing in wooden boxes
(20 kg).



• ROAD CONDITION IN PRODUCTION AREA

Road width is sufficient for truck.
Road is not graveled and its
drainage is not developed.
Therefore, farmers are unable to
transport their products during rainy
season.



• SCENERY OF TRANSPORTATION IN
PRODUCTION AREA

Left: Donkey carrying potatoes from farm
Right: Collecting and transporting
products using truck.



• EXISTING FACILITY IN PRODUCTION
AREA (SAN ISIDRO)

Above: This facility was constructed as a
processing plant of vegetables
and fruits in production area.
Currently, it is not operated and
is utilized as a warehouse for
fertilizer and agricultural
chemicals.

Below: Scenery of inside of building.





□ ABASTO MARKET
• PRESENT CONDITION OF ABASTO MARKET

Left: Building constructed by Cooperative.

Right: Building for Labor Federation and Farmers Association constructed under the assistance of Argentine Government.



• SALES ACTIVITY

Left: Sales inside the Cooperative Building.

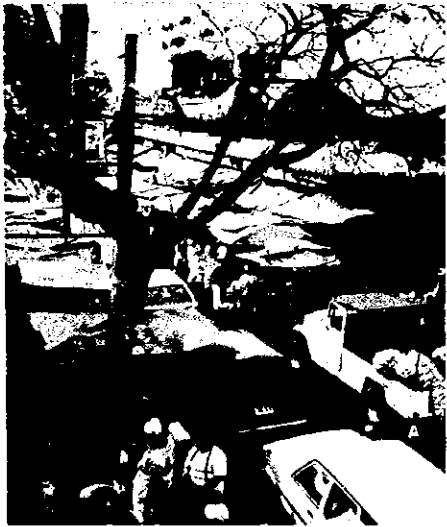
Right: Sales outside building.



• PROBLEM OF INFRASTRUCTURE IN MARKET

Left: Muddy condition due to absence of drainage.

Right: Dirty/cloggy condition of drainage trench and parking along the ring road 3.



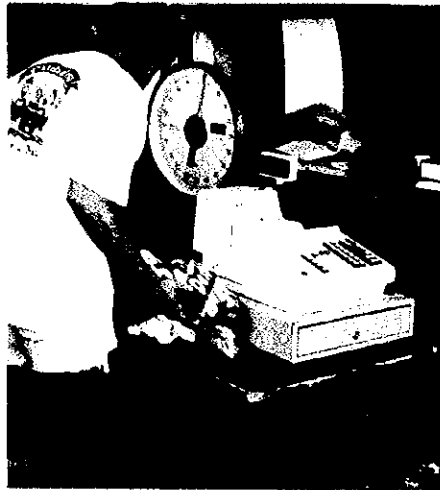
- PUBLIC RETAIL MARKET
- LOS POZOS MARKET
- Left: Congestion of street vendors and vehicles.
- Right: Sales in the open air.



- RAMADA MARKET
- Left: Temporary tents of street vendors.
- Right: Sales at a stall.



- MUTUALISTA
- Left: Market scene along the ring road 3.
- Right: Sales inside the market.



- OTHER MARKETS
- FERIACRUZ
- Left: Facility of FERIACRUZ along the ring road 3.
- Right: Sales using weighing machine.



- OPEN AIR MARKET AT THE SUBURBS
- Open air market for residents in the suburbs.



- SUPERMARKET
- A supermarket catering high income class a residents.

The Master Plan Study
of
the Agricultural Marketing System
in
Santa Cruz

FINAL REPORT
SUMMARY

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1. BACKGROUND

FINAL REPORT

SUMMARY

1. BACKGROUND

1.1 Details of the Survey

The Government of Bolivia has implemented agricultural policies reforms to increase economic growth and to reform the food supply system by strengthening production in the agricultural sector, in order to achieve social and political stability. Hence measures to reform the marketing system for agricultural products have been deliberated in the past in compliance with these policies. Under the current marketing system for agricultural products, problems at production, marketing, and consumer levels have developed due to an inadequate collection, shipping, and market management structure, and post-harvest losses. These factors have hindered improvements in the agricultural supply system as well as efforts to expand the consumer market. The demand for agricultural products has continued to rise with growing urbanization, increasing the need for separate functions at the point of production and consumer markets. Thus there has been a growing awareness of the need to improve the agricultural marketing system to connect the production base with consumer markets.

In September 1990 the Government of Bolivia requested the Government of Japan for technical cooperation in the form of a feasibility study, entitled Feasibility Study of the Santa Cruz City Wholesale Market for Agricultural Products. This F/S was implemented prior to the construction of an agricultural wholesale market in Santa Cruz City in Santa Cruz Province, a typical agricultural production center of the country with high potential for future agricultural development.

Upon studying the content of the request, the Government of Japan concluded the need to formulate a master plan to improve the agricultural marketing system and to clarify the problems inherent in agricultural marketing, prior to implementing a feasibility study concerning the construction of a wholesale market. Based on this proposal the Japanese government dispatched a pre-feasibility study team through JICA to carry out a "Plan to Improve the Santa Cruz Agricultural Marketing System" in April 1993; and the Scope of Work (S/W) was contracted on April 16 of the same year.

In accordance with the S/W mission, the study was divided into two phases, beginning at the end of March 1993. This survey report presents the findings of both phases, pinpointed the problems in the agricultural marketing system and has incorporated proposals for an improvement plan.

1.2 Objective

An improvement plan for the agricultural marketing system (master plan) targeting major produce items was formulated in cooperation with the Santa Cruz Department. The Santa Cruz area is an agricultural production center with very high potential expanded for agricultural development. In addition, technology was transferred to relevant personnel of the Bolivian government under the auspices of the survey.

1.3 Targeted Produce Items and Study Site

The area linking the consumer site centered in Santa Cruz City and the principal produce production site of Santa Cruz Department was selected as the study site. In addition, the consumer sites of Cochabamba and La Paz were also included in the survey, in order to analyze demand and evaluate the commodity flow.

The principle items targeted by the survey were fresh produce, but in an analysis of the overall flow of agricultural products, commodities other than produce was also included in the study.

1.4 Study Approach

The study was divided into two phases.

[Phase 1]

The conditions, problems, and factors hindering improvements in agricultural marketing were studied. Based on the results of the Phase 1 survey, the objectives and framework for improvements in agricultural marketing were established. These findings were compiled in an interim report.

[Phase 2]

- 1) A supplementary survey similar to the Phase 1 survey was implemented; and a master plan was formulated incorporating an improvement plan that is consistent with reforms in the agricultural production system.
- 2) A final draft report on the findings of the Phase 1 and 2 surveys was compiled and a final report was drawn up following the comments received from the Bolivian government.

1.5 Socio-economy

In the 1970s the international price for mineral resources soared rapidly increasing. The foreign currency earnings of Bolivia. At the same time its accumulated debt stemming from large foreign loans which were made in order to maintain the high economic growth rate in the latter half of the 1970s, rose abruptly. The national economy faced a financial crisis when the international price of mineral resources plummeted in the 1980s; and the economy experienced minus growth, abnormal inflation, etc. However, when a "new economic policy" was implemented in 1985, the economy showed signs of suppressed inflation, an improved trade balance, and reduced financial debt. However, only modest economic growth was experienced, and full recovery was not achieved. In conjunction with the financial retrenchment policy, the drive for decentralization and privatization has become active. Unemployment has risen rapidly and countermeasures to increase employment have become priority issues for Bolivia.

Many South American countries have been aggressively maneuvering to establish a capitalist economic zone, Bolivia established an Andes economic zone with the neighboring nations bordering the Andes Mountains including Brazil and Argentina. In the future, strengthening the socioeconomic structure is vital in order to remain in the free economic market which covers a broad expanse.

1.6 Agricultural Development

The major domestic agricultural products are rice, wheat, grains such as corn, root crops such as potatoes and cabbage, raw cotton, sugar cane, and soy bean. The majority of the grains and root crops are earmarked for the local market or are grown as subsistence crops. Raw cotton, sugar cane, and soy bean are mainly produced for export.

Presently, approximately 8 percent of the total national land area (8.77 million hectares of agricultural land) is dispersed throughout the nation. Of this figure, only 15 percent (1.3 million hectares) is actually under cultivation; and the remaining 85 percent of agricultural land remains unused. Moreover, the distribution of agricultural land varies from region to region, but agricultural land is predominantly located in the eastern lowland. This lowland which is mainly centered in Santa Cruz is mainly dominated by large mechanized farms. Small-scale farming prevails in the Andes plateau and valley area.

In order to rectify the geographical imbalance of land resources and accelerate agricultural development, the Bolivian government has, since 1953, continuously implemented "a domestic resettlement policy" to resettle farmers from the Andes plateau and valley area to the eastern lowland. Resettlement was initially centered in Cochabamba Department, but with the development of a national highway connecting Cochabamba and Santa Cruz, the focus of the resettlement movement shifted to the eastern lowland area of the Santa Cruz Department. In conjunction with extensive resettlement efforts, acceptance

of foreign immigrants has been aggressively implemented and a resettlement area comprised of Germans, Russians, and Japanese has been formed.

1.7 Agricultural Development Policy

The following outlines the agricultural development policy of the 1994-1997 new administration targeting increased production and improvements in rural areas.

(1) **Agricultural policy objectives**

- Increase private investments in the agricultural sector.
- Introduce principles of competition and promote expanded agricultural production.
- Accelerate assistance for producers and modernize the agricultural market.

(2) **Policy objectives for rural development**

- Accelerate improvements in the infrastructure of rural areas.
- Improve and promote the farm economy.

2. PRODUCE MARKETING SYSTEM

2. PRODUCE MARKETING SYSTEM

2.1 Existing Conditions in Vegetable and Fruit Production

The total area cultivated for vegetables and fruit in Santa Cruz Department was approximately 46,000 hectares in 1993. More than 60 percent of the acreage in the valley is producing potatoes and tomatoes, 70 percent of the acreage for other products in the valley, and more than 90 percent producing of the acreage for peaches and apples are located in the valley area. The planting season in this area is mainly during the dry season. In the agricultural land located near the rivers and mountain streams, an irrigation system utilizing the natural downstream flow of these waters is prevalent; and vegetables are cultivated throughout the year. The area of irrigated land in the valley area is estimated to be 6,700 ha or 70 percent of the irrigated land area in Santa Cruz Department. Santa Cruz is the leveling production center for fruits and vegetables.

2.2 Collection System

(1) Packing method

In the valley area, the fields are connected to the main roads by farm roads. Produce is selected, packed, and shipped from the fields by the producer. In the lowland, produce is collected by the producers' private vehicles or by brokers who visit the farms to purchase produce, using small access roads.

(2) Shipping methods

a) Transportation

Produce which is shipped from the highland area is in principle, transported by vehicles owned by the producers in the area. In the lowland, produce is mainly shipped by transporters hired by the producers.

b) Shipping methods

Producers harvest and ship their produce on the same day, because they do not have access to cold storage facilities. The majority of the personnel in charge of shipping are women who accompany the transport vehicle to the market and sell the produce at the market for half or the entire day. When the produce is not sold in day one, they are known to remain at the market for three days until all the produce is sold. There are four shipping methods which are 1) by the producer, 2) joint shipment with a transporter, 3) consignment shipment by a transporter, and 4) retail by broker, however the majority of the produce is shipped directly by the producers.

2.3 Characteristics in Produce Consumption

With the exception of the populace living in poverty, motorization is expanding consumers ability to visit a variety of markets. Among the upper and middle class there is a growing trend to purchase produce in bulk and store it in refrigerators in the home. The upper class places priority on produce quality, variety, and market hygiene conditions, whereas the poverty level group emphasizes produce price and distance to the market.

Findings of a large scale consumer survey of Santa Cruz City conducted by the study team in 1994 shows that the annual average per capita consumption volume of produce is 6kg. If there is a drop in production volume, produce is imported from neighboring countries as a short-term measure, in order to relieve the shortage of produce supply. The burden on consumer living costs is high. Produce price fluctuations is large in comparison to grain and meat prices which are stable throughout the year.

2.4 Volume of Produce

- (1) Balance in the supply and demand of produce (estimated 1993 value to the present)

The total volume of produce flow in Santa Cruz Department is 535,000 tons of which 82 percent (438,000 tons) is consumed within the department. The outflow volume of produce to areas outside the department is 97,000 tons or 18 percent of the total volume (volume of demand). The majority of this volume is comprised of root crops (cabbage), which are shipped from the lowland to the adjacent Beni Department. The volume of produce outflow from the valley area to regions outside the department is less than the outflow volume from the lowland.

The production volume of produce within the department is 386,000 tons or 72 percent of the total flow volume (supply volume). The volume of products imported from outside the department is 149,000 tons or 28 percent of the total flow volume. The balance in supply and demand is shown in Table S-1 given below.

Table S-1 Supply Demand Balance of Produce (1993)

Unit: 1,000 tons/year

	Supply			Demand			S/D
	Production	Inflow	Total	Production	Inflow	Total	Balance
Valley Area	94	0	94	22	20	42	+52
Low Land Area	292	6	298	183	77	260	+38
Santa Cruz City	0	143	143	233	0	233	-90
Total	386	149	535	438	97	535	0

Source: Field Survey of The Master Plan Study on Agricultural Marketing System in Santa Cruz, Bolivia, 1994, JICA

(2) Flow volume of produce (estimated 1993 value to the present)

The flow volume of produce in Santa Cruz Department is shown in Table S-2. When the regional self-sustenance volume is excluded from the total flow volume of 535,000 tons, there is an inter-regional flow volume of 336,000 tons of produce.

An inflow of 148,000 tons of produce to Santa Cruz City from areas outside the province comprises much of the inter-regional volume of produce flow. This is followed by an outflow of 77,000 tons from the lowland to areas outside the department, a flow volume of 52,000 tons from the valley area to Santa Cruz City, 38,000 tons from the lowland to Santa Cruz City, and an outflow volume of 20,000 tons from the valley area to regions outside the department.

Table S-2 O/D Pattern of Rootcrops, Vegetables and Fruits in Department of Santa Cruz

Unit: 1,000 ton

D \ O		Within the Department of Santa Cruz				Outside of Department	Total
		Valley Area	Low Land	Santa Cruz City	Sub Total		
Inside of Department	Valley Area	22	0	52	74	20	94
	Low Land	0	177	38	215	77	292
	Santa Cruz City	0	5	0	5	0	5
	Sub Total	22	182	90	294	97	391
Outside of Department		0	1	143	144	97	144
Total		22	183	233	438	97	535

Remarks : Inflow volume (5×10^3 ton) from Santa Cruz City to Low Land Area is transported through Abasto Market from Outside of Department.

Source : Field Survey of The Master Plan Study on Agricultural Marketing System in Santa Cruz, Bolivia, 1994, JICA

2.5 Handling Volume of Santa Cruz Market (estimated 1993 value to the present)

The special features which characterize the handling volume, according to marketing routes, for 233,000 tons of produce consumed in Santa Cruz City are given below.

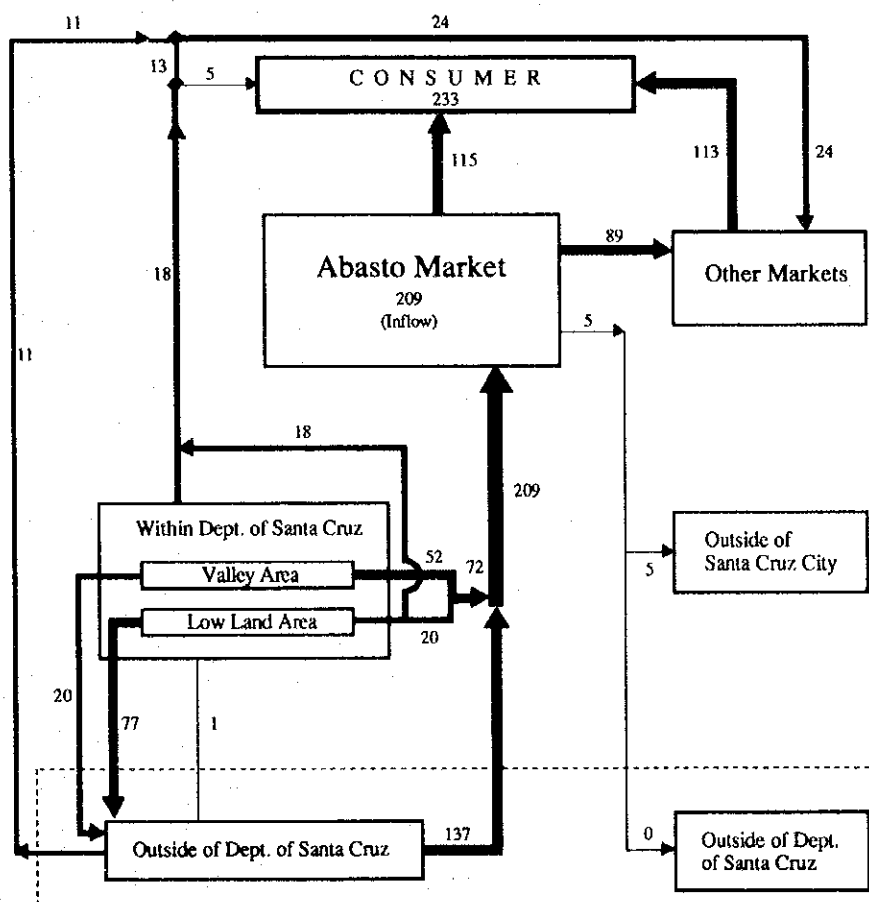
(1) Inflow volume from areas outside the department

Approximately 90 percent or 149,000 tons of the inflow volume of produce from areas outside the department pass through Abasto Market.

(2) The volume of produce flowing into the department

Nearly 88 percent of the inflow volume of 238,000 tons in Santa Cruz City pass through Abasto Market. Produce which bypass Abasto Market are mainly fruits produced in the lowland.

O/D patterns for produce in Santa Cruz Department are shown in Fig. S-1.



Source: Field Survey of The Master Plan Study on Agricultural Marketing System in Santa Cruz, Bolivia, 1994, JICA

Fig. S-1 O/D Pattern of Vegetables and Fruits in Department of Santa Cruz, 1993 (1,000 ton/year)

2.6 Marketing Structure of Abasto Market (wholesale market) in Santa Cruz City

Approximately 83 percent of the 209,000 tons of produce flowing into Abasto Market is brought in directly by the producers and the remaining 17 percent is transported in by brokers; and the bulk of the produce is directly brought into the market by producers. Of the volume of produce transported to the market, 57 percent is sold to retailers inside and outside the market by wholesalers. In addition, 30 percent of the produce volume transported into the market is sold directly to consumers by producers.

Wholesale activities of producer transporters comprise about 13 percent of the transported produce volume. There are many farmer merchants at the market who purchase the produce from producer transporters and carry out wholesale and retail activities. Those engaged in purely wholesale activities are few and members of the distributors' organization separate their wholesale and retail activities according to transitions in market conditions. Hence Abasto Market is comprised of a complicated mix of producer, wholesaler, and retailer functions. The marketing structure of Abasto Market is shown in Fig. S-2.

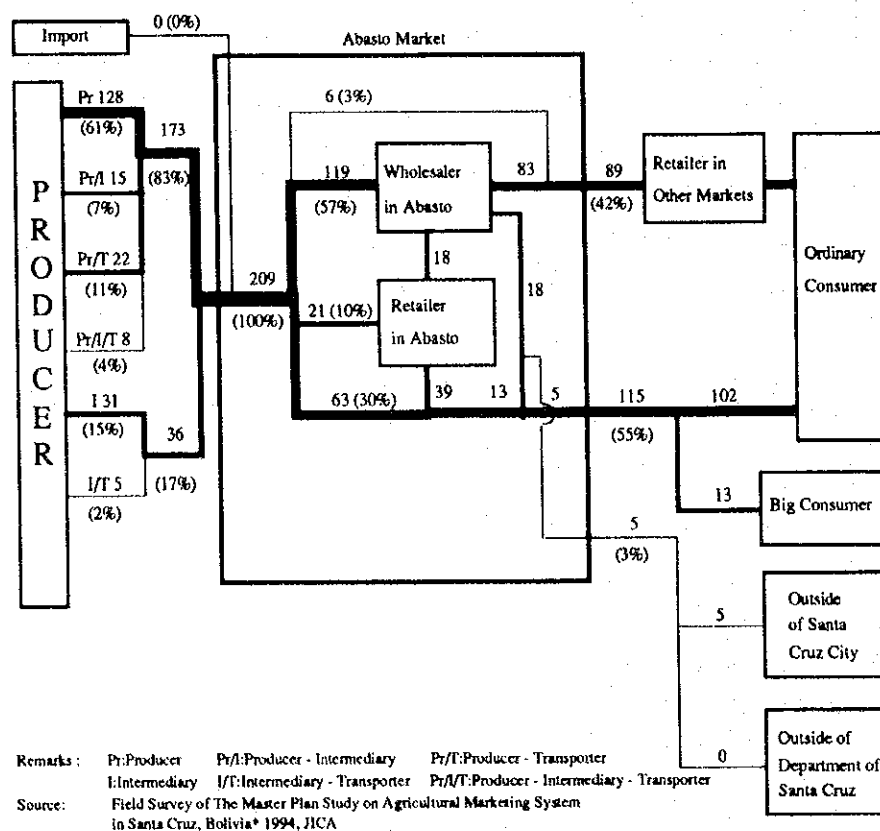


Fig. S-2 Marketing Volume of Vegetables and Fruits through Abasto Market by Marketing Route, 1993 (1,000 ton/year)

2.7 Distributor Aspirations to Relocate the Wholesale Market

According to a survey of the Distributors' Organization of Abasto Market in Santa Cruz city, the Farm Workers' Association, and the wholesalers at the second Abasto Market (Mutualista) on "aspirations to move the wholesale market", 74 percent of the 117 respondents or 86 people wanted to relocate the market. However, although many of the petty farmer merchants at Abasto Market felt that market functions were deteriorating, only half aggressively expressed their desire to move the market.

2.8 Establishing a Credit, Information and Price Mechanism

- (1) Producers are able to obtain direct information on market conditions since they transport their produce to Abasto Market. However, the information is limited to produce prices of the day and information on shipping volume to the market, conditions in market transactions, and other information required to procure customers is unavailable. As a result, adjustments in production and shipping at the production center can not be made.
- (2) The majority of the retailers and consumers at Abasto Market deal in small-lot consignments and transactions are in cash. Moreover, these consignments have been increasing yearly and a severe price war has ensued. A unilateral harvest of produce whose quality can be easily maintained by merchants has been suppressed. Excessive warring among these petty merchants has hindered the development of a marketing system.
- (3) Among the produce in Bolivia, potatoes which are the staple food of the country have the largest handling volume. Its distribution center is in Cochabamba and the distributors there decide the price of potatoes. Many potato growers in the valley area of Santa Cruz obtain seeds and fertilizer from the brokers in Cochabamba and they are obligated to sell their total crop to them after the harvest. Moreover, price fluctuations in Cochabamba are small and prices are stable in comparison to price fluctuations in Santa Cruz. Transport time is also short; and produce is generally collected first in Cochabamba and transported to the market in Santa Cruz.
- (4) For produce whose freshness is difficult to maintain, information necessary to make adjustments in shipment is meager. In addition, the control of distributors over producers is strong due to inadequate storage facilities. Hence the gap between production and consumer price is large and the producers' share is small. Unstable shipments, electrical power conditions, and many other operational impediments hamper storage and processing at the production site; and presently producers are required to rely on adjustments made by distributors.

- (5) Loans from financial institutions are greatly restricted and require large amounts of collateral which make loans to petty farmers difficult. A system of private loans has not developed and cash transactions are common. An organized and systematic credit system has not been developed and a lengthy period of time will be required in order to establish such a system.

2.9 Quality of Agricultural Products

(1) Product and packaging standards

Government product and packaging standards do not exist and producers simply select potatoes and tomatoes according to their size at the fields prior to shipment.

(2) Quality control

The government agency responsible for imported pesticides and food is SNAG. However, analysis of pesticide residues and testing of imported foods are essentially not carried out due to the limited number of technicians.

Although produce farms fear losses stemming from insect and fungal damages, technical knowledge on countermeasures using pesticide sprays is lacking and a system of guidance does not exist.

(3) Post-harvest losses

Harvest losses of potatoes in the fields are high and losses suffered at the retail stage are minimal. If selection methods are improved, the loss in tomatoes would be alleviated. Leafy vegetables such as lettuce and cabbage suffer from a high ratio of loss during the harvest and retail stages.

2.10 Legal System and Organizations Relevant to Agricultural Product Distribution

(1) Accelerate decentralization and privatization

Presently, the government of Bolivia has placed priority on policy measures that will reduce the national debt. Measures to reduce the financial burden of the central government, to accelerate citizen participation at all levels of planning and implementation, and to promote decentralization of authority to autonomous regions and privatization are being pursued.

(2) Market operations

In joint agreement with the Farm Workers Cooperative, the Bolivian government has pursued a policy of support for producer participation in market operations and agricultural marketing activities. However, in reality due to political intervention within the committee responsible for market operations, the inefficient marketing activities of producer organizations, and friction between distributors living in the city, the system of operations is in chaos. Promoting trust among market users and reaching consensus on market operations are issues which need to be resolved urgently.

(3) Division of roles for relevant organizations

In 1994 the government of Bolivia underwent massive reorganization in an effort to implement administrative structural reform. As a result, the national administration was placed under the jurisdiction of ten ministries and 30 agencies. The three ministries of Finance and Economy, Human Resources, and Sustainable Development and Environment and their 18 agencies are responsible for formulating national and regional development plans. Development plans are based on citizen participation; and relevant organizations and institutions at the national, department, and regional levels are involved in formulating development plans.

Regional development plans are formulated with the cooperation of public corporations in regional development and regional governments. The municipal and regional governments fall under the jurisdiction of the Citizen Participation Agency of the Ministry of Sustainable Development and Environment and regional public corporations in development are under the jurisdiction of the Technical Cooperation Agency of the same ministry. Guidance and adjustments in plan formulation are carried out by this ministry.

Presently, the functions and authority of CORDECRUZ have been drastically reduced. In the agricultural sector, UPRA, the agricultural development agency of CORDECRUZ, has been eliminated and the role of CORDECRUZ has been limited to overseeing foreign assistance and adjustment functions. This survey study has been placed under the direct jurisdiction of President's office; and project implementation will be basically transferred to the regional autonomous authorities.

(4) Abasto Market

Legally the operational policies of Abasto Market is decided by CRAMA, but the committee is presently inactive. City authorities are in charge of maintenance and control of basic market infrastructure and arbitrating disputes over market operations. Presently, producers transporting agricultural

products to the market, producer organizations, and distributor cooperatives are in confrontation and there is no general consensus or integration in market operations.

(5) Study of similar cases

A study was made of the wholesale market operations in Ecuador (Quito City) and Brazil (San Paulo City). In both countries wholesale market operations were managed by public corporations; and in principle, only direct consignments were transacted. In Ecuador the public corporation was directly involved in both market operations and marketing activities, whereas in Brazil the public corporation did not participate in marketing activities and limited their role to protecting market users and assisting efficiently run market operations. As a result, in Ecuador monopolistic abuse has appeared, in contrast to Brazil where a modern efficiently operated market has been created.

In Japan the land and facilities of large-scale markets are owned by autonomous bodies and the market is operated by several wholesale companies. Transactions of agricultural products are conducted by auction and the principle of impartial free competition has been established. In addition, a system of strict qualifications are enforced for users participating in market transactions and orderly market operations are maintained. A detailed system of quality control exists in Japan which is reflected in the quality and price of products; and fierce competition has contributed to improvements in production technology on the part of producers. Introducing auction transactions and a strict quality control system which typifies the Japanese wholesale markets to Bolivia, will require time, human resources, and cost; and effective results are not anticipated. Therefore, analyzing the advantages and disadvantages of the market systems employed by Ecuador and Brazil would be more appropriate in developing a policy to improve the wholesale market operations of Bolivia.

2.11 Study of Agricultural Marketing Related Facilities

(1) Social infrastructure

a) Roads

The arterial road running north to south which connects Santa Cruz City and Cochabamba City and the arterial road running between the development area of the lowland and these cities have not greatly hampered the transport of agricultural products. However, farm roads connecting the vegetable fields in the valley area to the arterial road are

in poor condition. Shipment and transport of produce harvested during the rainy seasons are difficult. As a result, this has led to losses in marketing and produce quality.

b) Communication

Both wired and wireless communication systems are concentrated in the cities. In rural areas, a receiver and transmitter base has been set up in the village center and pay services are available for some of the neighboring areas.

c) Electricity

Currently, there is sufficient electric power generated in Santa Cruz City. Although electric power conditions are extremely poor in rural areas, 24-hour electric power supply services were begun last year in the valley area of Florida, Caballero, and Vallegrande.

(2) Outline of Abasto Market facilities

a) Land ownership rights

Land within the market is owned by the city and members of the distributors' cooperative have signed a 30-year land lease with the city. Producers have no leased land rights and pay for the right to utilize the market to sell their agricultural products.

b) Improved facilities

The road, bridge, drinking and sewage water facilities have been built by the city which is also responsible for their maintenance and control. Marketing facilities for producers such as the building and refrigeration facility within the market were built with the assistance of the government of Argentina. Facilities within the building were improved by CORDECRUZ. The refrigeration facility is currently used as a warehouse and does not store agricultural products. The marketing facilities for distributors, built by the distributors' cooperative, are currently being renovated and expanded. Producers transporting their produce to the market and brokers have been given priority in the use of the parking area and vehicles remain parked until all produce has been sold. The majority of the retailers park small delivery trucks within the market area, but a few of the retailers and the majority of the consumers utilize taxis and buses and disembark along the arterial road outside the market. Vehicles parked along this arterial road are the cause of congested traffic around the market area.

(3) Retailer market facilities

The land is owned by the city and retailers have signed land lease rights with the city. Basic market infrastructure has been installed by city authorities and market facilities have been constructed, maintained, and controlled by the retailers' cooperative. Santa Cruz City authorities collect fees from retailers to clean the market area and collect the garbage.

(4) Collection and processing facilities at the production site

Facilities to collect, store, process, etc. agricultural products are located at the production sites. However, due to the lack of equipment and disagreement between producers over operations, the facilities have not been utilized according to initial objectives. Presently, they are being used as storage facilities for fertilizers, pesticides, and other agricultural production supplies.

**3. ISSUES PERTAINING TO THE AGRICULTURAL
MARKETING SYSTEM**

3. ISSUES PERTAINING TO THE AGRICULTURAL MARKETING SYSTEM

3.1 Production Site

Basic systems and facilities such as irrigation facilities, a system of price compensation, guidance and extension activities in production technology, etc. which support production activities are weak; and production has been unable to cope with the rising demand in produce.

3.2 Collection, Shipment, Transport, Storage and Processing

The majority of produce is cultivated by petty farms, but measures to organize producers in marketing activities ranging from post-harvest to the market are lagging. If the system of small-lot shipments by individual producers can be reformed to allow rationalized marketing to take place, the producers' burdens would be reduced and farmers' incomes would rise. In some areas, producers' organizations have evolved and there are indications of an organized marketing system. This movement should be supported and disseminated throughout the entire region.

3.3 Consumer Site

There are 24 retail markets and one wholesale market, the Abasto Market, in Santa Cruz City. Improvements in Abasto Market which is the produce marketing center linking the production and consumer sites and overseeing marketing activities that bypass Abasto Market are priority issues confronting reforms in the wholesale functions of Santa Cruz City.

(1) Abasto Market operations

a) Complicated system of operations

The city authorities, the market management committee (comprised of members who represent the interests of relevant personnel), farm workers' cooperative, the producers' cooperative, the distributors' cooperative, etc. all have differing land ownership rights, land lease rights, facility ownership rights, facility usage rights, as well as differing marketing management and operations, varying responsibilities in maintenance and control of facilities and in supervising transactions, which has made it difficult to carry out adjustments mutually agreeable to all parties.

b) **Qualifications needed to use the market**

Although regulations on usage of market space exists, there are no legal regulations pertaining to market user qualifications. Producers, wholesalers, retailers, large and general consumers freely participate in buying and selling activities at the market. As a result, market operations are disorganized and unregulated.

c) **WID**

Women, representing the farmer producers, accompany the trucks to the market. They usually sleep at the market and work in an inferior environment.

d) **Environment**

Sanitary environmental conditions of the market are poor and basic infrastructural improvements such as drinking and sewage water, electricity, road surface, and garbage disposal are urgently required.

(2) **Urban development and environment**

a) All markets are located relatively near the city center; and with an increasing number of motor vehicles and a development of commercial functions, congestion around the market and a general worsening of the city environment are anticipated. Hence it is necessary to consider relocating the market as part of the city's redevelopment plan.

b) In the area of employment, the number of small-scale distributors buying and selling agricultural products is rising. Employment for these petty distributors and the poverty class is a social problem of Santa Cruz City which has come under close scrutinization.

c) In conjunction with a rise in the number of motor vehicles, the spread of refrigerators, televisions, etc. has greatly increased and consumer patterns have changed abruptly. In addition, consumers have clearly indicated the need for stable prices and improvements in the sanitary environment of the market; and the demand for a modernized marketing system for agricultural products is anticipated to rise.

(3) **Establish a widespread marketing network**

The population of Santa Cruz City is expected to double in the next 10 to 15 years. The demand for produce will continue to rise and produce supply will increasingly be unable to cope with the large demand. As a result, developing a widespread produce marketing network will greatly change the currently antiquated marketing structure.

4. PRODUCE MARKETING SYSTEM IMPROVEMENT PLAN

4. PRODUCE MARKETING SYSTEM IMPROVEMENT PLAN

4.1 Framework of Improvement Plan

(1) Framework of produce supply

1) Short-term supply system (target year 2000)

An improved collection and shipment ratio of produce and reduced loss rates will be targeted by improving the legal system and organization of existing marketing facilities at the production sites.

2) Middle and long-term supply system (target year 2010)

The collection and shipping network within the department will be expanded by improving the marketing centers and subcenters at the production sites.

3) Very long-term supply system (after 2010)

Expand and improve a nationwide network by continuously improving the collection and shipping network.

(2) O/D framework of produce

1) Short-term market improvements (target year 2000)

Organized operations and infrastructural improvements at Abasto Market will be implemented. Produce which cannot be handled by Abasto Market will be rerouted to other markets or a temporary collection and delivery site will be set up.

With the completion of the new wholesale market in 2000, wholesalers and producer organizations who plan to move will begin shifting to the new market. The total handling volume of the market, estimated at 193,000 tons, will be comprised of 165,000 tons handled by wholesalers and 28,000 tons handled by producer wholesalers. The handling volume at Mutualista and Ramada markets is estimated to remain the same.

2) Middle and long-term market improvements (target year 2010)

When the new wholesale market begins its operations in 2000, the remaining wholesalers, producer organizations, and the wholesalers at Mutualista and Ramada markets will all transfer to the new market. Thereafter, Abasto Market will become a general retail market.

The estimated flow volume of the new wholesale market is 632,000 tons and produce flowing into the Santa Cruz market from both within and outside the department will all pass through the new market. In conjunction with an increase in inflow volume, the market will be expanded in 2005 and 2010 in order to fulfill the demand.

(3) Framework of the marketing system

- 1) Short-term marketing system (target year 2000) [Improve the utilization rate of the existing Abasto Market]

The production of produce in Santa Cruz Department has been unable to keep up with the rising demand and increasingly, has had to depend on an inflow of agricultural products from other departments. A confusion of wholesale and retail functions will continue to exist at Abasto Market with producers bringing in produce from within and outside the department, combined with a net increase of shipment to the market until 2000.

Under these circumstances, compulsory measures which directly regulate shipment to the market by the city or other public agency should be avoided and efforts to accelerate an agreement between relevant personnel, in order to supervise market use are essential.

In order to accomplish this, an Abasto management committee made up of representatives of every group involved in produce marketing, should be established in place of CRAMA; and a wholesale market system of operations, based on a method agreed upon by all parties, should be consolidated.

- 2) Middle and long-term marketing system (target year 2010): [Consolidate a produce marketing system at the newly established marketing center and at the existing Abasto Market]

The produce marketing system organized during the short-term plan will be implemented at the new market and at the existing Abasto Market at this time.

- a) New market: The market will function strictly as a collection center and a wholesale market. All retail activities will be eliminated.
- b) Existing Abasto Market: The market will function as a retail market and wholesalers will be excluded. Retail activities which cannot be absorbed by other markets will be relocated here.

- 3) Long-term marketing system (after 2010): [Expand the marketing system over a wide area]

In order to expand the completed market management system nationwide, the new market will serve as a "model marketing center for agricultural products". It will transfer its management technology and fulfill a role as a market information center.

4.2 Reforms of The Marketing Improvement Plan In Phases

In view of the socioeconomic growth and the development of a marketing system for agricultural products in Santa Cruz Department and throughout the nation of Bolivia, the marketing improvement plan will be divided into five phases and implemented according to Phase 1 (preparation period), Phase 2 (corroboration period using model), Phase 3 (create a model), Phase 4 (dissemination period), and Phase 5 (develop independence, self-reliance). The improvement plan according to the five phases is outlined in Table S-3.

Table S-3 Marketing System Improvement Plan According to Phases

	Phases	Improvements
Short-term	Phase 1 [Preparation Period]	[Trial implementation of improvements in existing legal system and organization through independent effort; preparation period for transition into the next phase] 1) Trial implementation of improvements to the organization, system, and operating structure of the existing Abasto Market. 2) Improve the structure of market use between market users and public agencies (CORDECRUZ, Santa Cruz city officials,, etc.) 3) Establish mutual consensus between concerned parties on organizational and structural improvements. 4) Utilize technical guidance from foreign institutions on organizational and system reforms and management methods.
	Phase 2 [corroboration using model]	[Implement the improvement plan developed during Phase 1] 1) Review the results of the improvements implemented in Phase 1. 2) Conduct a F/S study (on marketing related facilities at both the production and consumer sites) for new marketing related facilities. 3) Renovate existing marketing related facilities. 4) Consolidate the new organizational system and management method. 5) Technical guidance from foreign institutions. 6) Financial cooperation from foreign institutions.
Mid-term period	Phase 3 [Create a model]	[Establish a model based on corroboration obtained during Phase 2.] 1) Improve marketing related facilities and establish a management system. 2) Technical guidance from foreign institutions.
	Phase 4 [Dissemination period]	[Disseminate the marketing system for agricultural products throughout the department.] 1) Expand and increase marketing related facilities. 2) Create a model agricultural marketing system in Bolivia. 3) Technical guidance from foreign institutions.
Long-term period	Phase 5 [Develop independence and self-reliance]	[Period of expanding the agricultural marketing system nationwide and developing an independent and self-reliant system] 1) Apply the successes achieved from the reforms implemented in the model agricultural marketing system nationwide. 2) Improve the entire agricultural marketing network of Bolivia.

5. STRUCTURE OF ACTIVITIES

5. STRUCTURE OF ACTIVITIES

5.1 Organ which is responsible for implementing and regulating activities

This Project is concerned with diverse aspects of Bolivian society from organizational and legal system reforms to improvements in facilities and it involves the cooperation of the President's office, in addition to the three ministries of Finance and Economy, Human Resources, and Continuous Development and Environment, and the seven respective agencies of Overseas Economic Investment, Agriculture and Livestock, Public Works, Rural Development, Citizen Participation, Technical Cooperation and Environment. In addition, the relevant institutions at the regional level are CORDECRUZ, Santa Cruz City, rural governments (provinces), and front-line rural organizations (OTB). As a result, in order to implement and manage this Project efficiently and effectively, it is recommended that a project implementation and coordination committee comprised of a "national development and coordination committee" at the national level and a "Santa Cruz rural development and coordination committee" at the regional level is established.

5.2 Division of Roles of Relevant Institutions

SNAG will take the initiative in leading the "national development and coordination committee" and will be the chief coordinating body at the central government level. CORDECRUZ will head the "rural development and coordination committee" and will be in charge of coordination activities at the rural level. Both parties will work closely with each other in implementing this Project and fulfill their respective roles and functions accordingly. In addition, in compliance with the precepts of the citizen participation act, the "national development and coordination committee" will not impede the activities of the "rural development and coordination committee."

The relevant organizations comprising both committees and their respective roles and functions are shown in table S-4.

Table S-4 Division of Roles of Relevant Institutions

Project Implementation and Coordination Committee	Function and Role
1. [National Development Coordination Committee]	
1.1 Foreign Investment Agency	Witness the agricultural marketing improvement plan
1.2 SNAG	Support formulation of the agricultural marketing improvement plan/Approval
1.3 Rural Development Agency	Support formulation of the agricultural marketing improvement plan and countermeasures to improve women's status/Approval
1.4 Citizen Participation Agency	Support marketing related organizations and legal system/Approval
1.5 Development Cooperation Agency	Formulate cooperation plan on marketing improvement technology/Approval
1.6 Environmental Agency	Formulate plan on environmental reforms and improvements/Approval
2. [Santa Cruz Rural Development and Coordination Committee]	
2.1 CORDECRUZ	Pursue and coordinate Project agricultural marketing improvement plan.
2.2 Santa Cruz City	Improve legal system and organization relevant to market distribution/Formulate plan on facility maintenance and control.
2.3 County Agency	Formulate plan on production, collection, shipping facilities/Support facility operation.
2.4 OTB	Select site for collection and shipping facilities/Facility operation
2.5 ASOFRUT	Support Project agricultural marketing improvement plan
2.6 CAO	Support Project agricultural marketing improvement plan
2.7 CIAT	Implement technical assistance and guidance.
2.8 FDC	Finance operating funds.
2.9 FIS	Provide funds to improve rural infrastructure.
2.10 SNAG Branch Office	Coordinate between the "rural development and coordination committee" and the "national development and coordination committee".

5.3 Project Management Organizations

The following organizations are proposed to maintain and operate the marketing centers at the production and consumer sites.

- (1) **Marketing center at the production site**
 - a) **Objective:** Establish a Collection and Shipping Cooperative (temporary name) to operate and maintain the center.
 - b) **Board of Directors:** Comprised of rural governments, produce producers, and ASOFRUT representatives.
 - c) **Function:** Supervise selection of produce, shipping methods, shipping and repacking.
 - d) **Management Organization:** Board of Directors, management and operations, auditing, and project sections
 - e) **Technical Assistance:** Initially, the shortage of personnel will be resolved with the assistance of foreign technical experts and officials dispatched from SNAG, Ministry of Human Resources, Citizen Participation Agency, CORDECRUZ, etc.

- (2) **Marketing center at the consumer site**
 - a) **Objective:** Achieve efficient and effective wholesale functions and assist personnel relevant to all aspects of marketing to effectively operate their activities. Organize petty farmers and distributors and set up efficient marketing operations, in order to help achieve improved incomes and lifestyles.
 - b) **Management structure:** Establish a "Public Corporation for Wholesale Produce" (temporary name). Implement improvements in stages with the establishment of a public corporation. Matters pertaining to the establishment of a public corporation will be placed under the inquiry of the "regional development and coordination committee". This corporation will be founded solely on investments by the regional government and regional autonomous bodies and it will be privatized in future.
 - c) **Institute a committee:** A management and operations committee will be set up as an inquiry board of the public corporation. The committee will be comprised on CORDECRUZ, Santa Cruz City authorities, marketing organizations, producers, and ASOFRUT representatives. In addition to its duties as an inquiry board, the committee will make recommendations for the job of president of the corporation, deliberate

on policies pertaining to management and control, and will implement audits.

- d) **Function:** Maintain and control market facilities, issue licenses to wholesalers, issue leasing contracts to traders, monitor effective use of facilities, and collect and provide information on produce price and shipping volume.
- e) **Organization of public corporation:** Establish management, market, and accounting divisions under the president and vice-president.
- f) **Technology transfer:** Initially, the shortage of personnel will be resolved with the assistance of foreign market management experts and officials dispatched from CORDECRUZ, Santa Cruz City, ASOFRUT, etc. Personnel with the appropriate knowledge and experience will be recruited for Project implementation not only from the implementing government ministries and agencies, but from the public sector as well.

**6. IMPROVEMENT PLAN FOR RELEVANT AGRICULTURAL
MARKETING FACILITIES**

6. IMPROVEMENT PLAN FOR RELEVANT AGRICULTURAL MARKETING FACILITIES

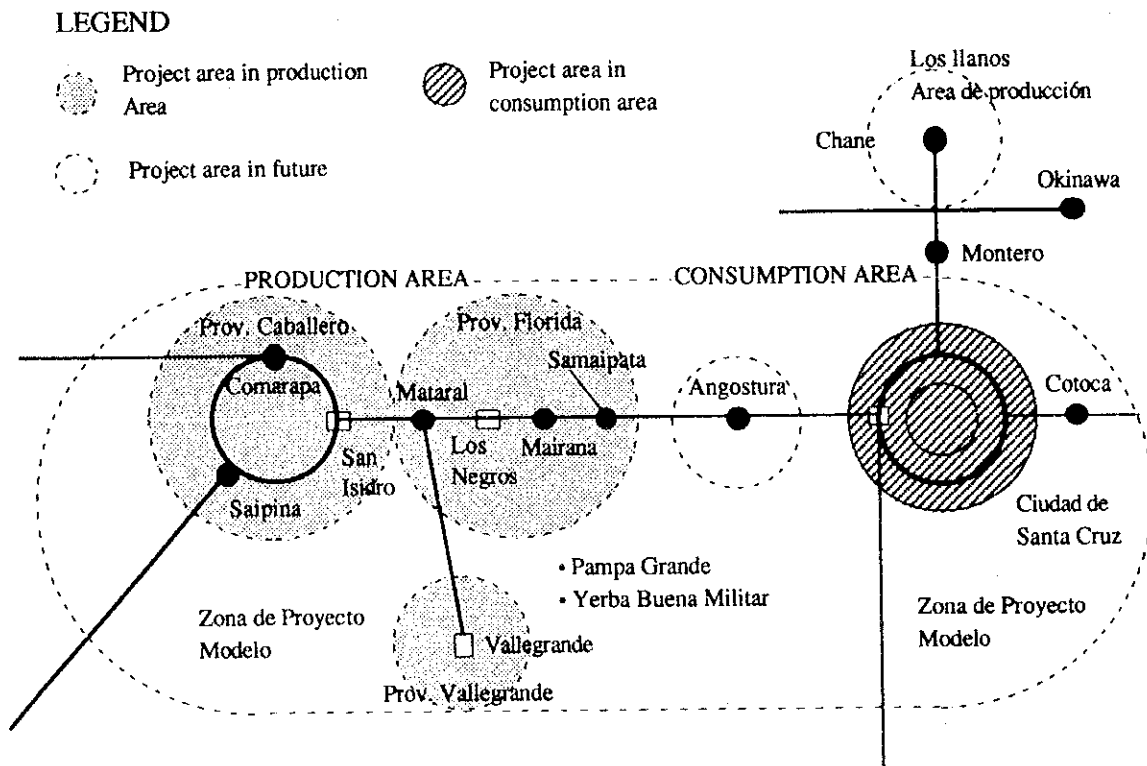
Relevant facilities capable of coping with an agricultural marketing network between the production and consumer sites will be improved. A summarized outline of the improvement plan for marketing facilities is given in Fig. S-3. A summary of this plan is explained below.

6.1 Outline of Marketing Related Facilities

- a) Main marketing center at the production site: One facility will be improved in the valley area. Collection and shipping support facilities:
- Site: San Isidro, Los Negros, Vallegrande
 - Facilities: Collection and shipping warehouse, sales area, administrative office, equipment storeroom, sanitary facilities, etc.
 - Equipment: Road repair equipment, collection and shipping equipment, information disposal equipment, communications equipment
- (Note) The existing San Isidro facility will be repaired.
- b) Marketing subcenter at the production site: Subcenters at several locations will be set up to supplement the main center.
- Sites: Comarapa, Saipina, Mairana, Samaipata
 - Facilities: Produce selection/sales area, combined equipment warehouse and office, sanitary facilities, etc.
 - Equipment: Collection and shipping equipment, information bulletin board, etc.
- (Note) The existing facility at Samaipata center will be repaired.
- c) Marketing center at the consumer site: Create a marketing network with the production site. The center will coordinate the flow of products with other markets at the consumer site.
- Site: Outskirts of Santa Cruz City, along the arterial road.
 - Facilities: Administrative office, market hall, truck berth, warehouse, sanitary facilities, etc.
 - Equipment: Cargo handling equipment, information management equipment, weighing scales, etc.

6.2 Correlation Between the Marketing Centers at the Production and Consumer Sites

A diagram showing the network between the marketing centers at the production and consumer sites is given below.



Source: Field Survey of The Master Plan Study on Agricultural Marketing System in Santa Cruz, Bolivia, 1994, JICA

Fig. S-3 Diagram of Marketing Network Between Production and Consumption