

Country-program evaluation



Project Sites Bolivia (nationwide)

1. Background and Objectives of Evaluation

Japan has extended cooperation for development of Bolivia, reflecting a traditionally close relationship between the two countries and the fact that Bolivia is one of the least-developed countries in South America. Bolivia gained eligibility for debt-relief under the Heavily Indebted Poor Country (HIPC) initiative in September 1997 and the enhanced HIPC initiative reaching the Decision Point in February 2000. Under these initiatives, resources made available through debt relief are to be allocated to anti-poverty programs outlined in the Poverty Reduction Strategy Paper (PRSP)¹⁾. Bolivia has been making efforts to reduce poverty accordingly. Against this background, the program-aid approach is becoming more important, with the Bolivian government and the donors establishing common priority topics and sectors by sharing targets, and harmonizing procedures for development, and then implementing multiple projects with a shared objective to improve the effectiveness of the aid.

Based on the policy discussion of the mission that the Ministry of Foreign Affairs (MoFA) sent in October 1997, JICA, the implementing agency, has extended assistance using a wide range of cooperation schemes for five important issues/sectors, namely; basic human needs (health and medical care, basic sanitation), agricultural development, infrastructure, environmental conservation and resource development.

JICA decided to implement country-program evaluations to consider how effective the cooperation was and to determine the future of the cooperation, taking into account the PRSP described above.

The goals of this evaluation study are:

- (1) to provide a holistic evaluation of JICA's cooperation in Bolivia, including relevance in choosing sectors and topics that have been provided aid intensively;

- (2) to gain feedback on evaluation results for future implementation of JICA projects including strengthening the country-specific and issue-specific approach by devising lessons and suggestions.

2. Evaluated Programs/Projects

The present study deals with technical cooperation and grant aid projects from FY1985 to FY1999. Individual evaluations are conducted for the total of 27 projects: 11 in the basic human needs sector, 9 in the agricultural, forestry, fishery and livestock sector, 5 in the infrastructure sector and 2 in the environmental conservation and mining sector²⁾.

3. Evaluation Process

The evaluation study team conducted two studies in Bolivia. In the preliminary study, the study framework was discussed with the Bolivian government. In the full-scale study that was conducted after preparation based on existing documents and data, consultants implemented a detailed evaluation study and analysis focusing on interviews with various participants.

¹⁾ PRSP is the acronym for "Poverty Reduction Strategy Paper" and is a document that enables the World Bank and the IMF board to determine if the country in question should be applicable for debt reduction and is fulfilling basic prerequisites such as policy reform. The PRSP includes the country's economic policies and measures to alleviate poverty. Bolivia's PRSP was prepared based on their national development plan and the Citizen Dialogue 2000 held in August 2000, and it was formally presented to the board as the March 2001 edition.

²⁾ The projects falls under the category of Basic Human Needs in this evaluation covered from FY1980. This is because most of the cooperation combined Grand Aid and Project-Type Technical Cooperation began in the early 1980's.

(1) Preliminary Study (1 July, 2000—15 July, 2000)**Head of the Mission:**

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4. Framework and Method of Evaluation

The framework of this evaluation study, as shown in Figure 1, is comprised of three steps: (1) review of social and economic development and the current situation, (2) project evaluations, sector evaluations, cross-sector evaluations, and comprehensive evaluations and (3) devising lessons and obtaining recommendations. Step (1) and (2) elicit basic information, the analysis of which yields (3).

(1) Review of social and economic development and the current situation

The study examined the relevance of the choice of sectors that JICA intensively supported, by studying Bolivian social and economic trends, the government development policies, trends of donors and NGOs, and JICA's activities.

(2) Evaluation

For the second step of the evaluation study, the following were conducted.

1) Project evaluation

Each of the 27 projects were rated using a five point system, for the five evaluation criteria as shown in Table 1. Each of the evaluation criteria is divided into large (five items), medium (sub-items for each large item) and small (sub-items for each medium item) components. Evaluation points for "effectiveness" and "relevance" were derived by weighing medium sub-items.

Table 1 Evaluation Criteria

Five Evaluation Criteria					
	5	4	3	2	1
1. Relevance	Considering the four factors, (1) appropriateness for Bolivia's needs, (2) appropriateness of plan, (3) participatory nature when plan was created and (4) external factors for linking the purpose to the overall goal, the relevance is				
	very high	high	generally relevant	weak	very weak
2. Effectiveness	The originally planned goals were achieved to a level of				
	about 100%	more than 90%	more than 80%	more than 60%	less than 60%
3. Efficiency	From the perspective of outcome (project goal), inputs are used				
	very effectively	effectively	generally without waste	with some waste	with quite a bit of waste
4. Impact	The project has realized				
	a very significant outcome in terms of overall goal.	significant outcome in terms of overall goal	an outcome to some extent	not much outcome	almost no outcome
5. Sustainability	In terms of the financial and technical capacity, the project's implementing institutions are				
	independent and developed	independent	generally independent	not very independent	not independent at all

2) Sector evaluation

The evaluation team conducted interviews with governmental agencies regarding the sectors targeted for the two described above, and reviewed reports of the World Bank and of other international institutions to clarify sector outlines of the last 15 years. Prioritized development issues in the study period were then verified for examining (1) the effect of aid by using sector and sub-sector indices and (2) the appropriateness of Bolivian prioritized development issues and JICA operations.

3) Cross-sector evaluation

To supplement sector evaluations, each project

was evaluated and analyzed from a scheme-wise and poverty/gender perspective. The schemes targeted were Project-type Technical Cooperation, Grant Aid and Development Studies. The poverty/gender perspective was obtained from the results of questionnaires and interviews with communities in project areas.

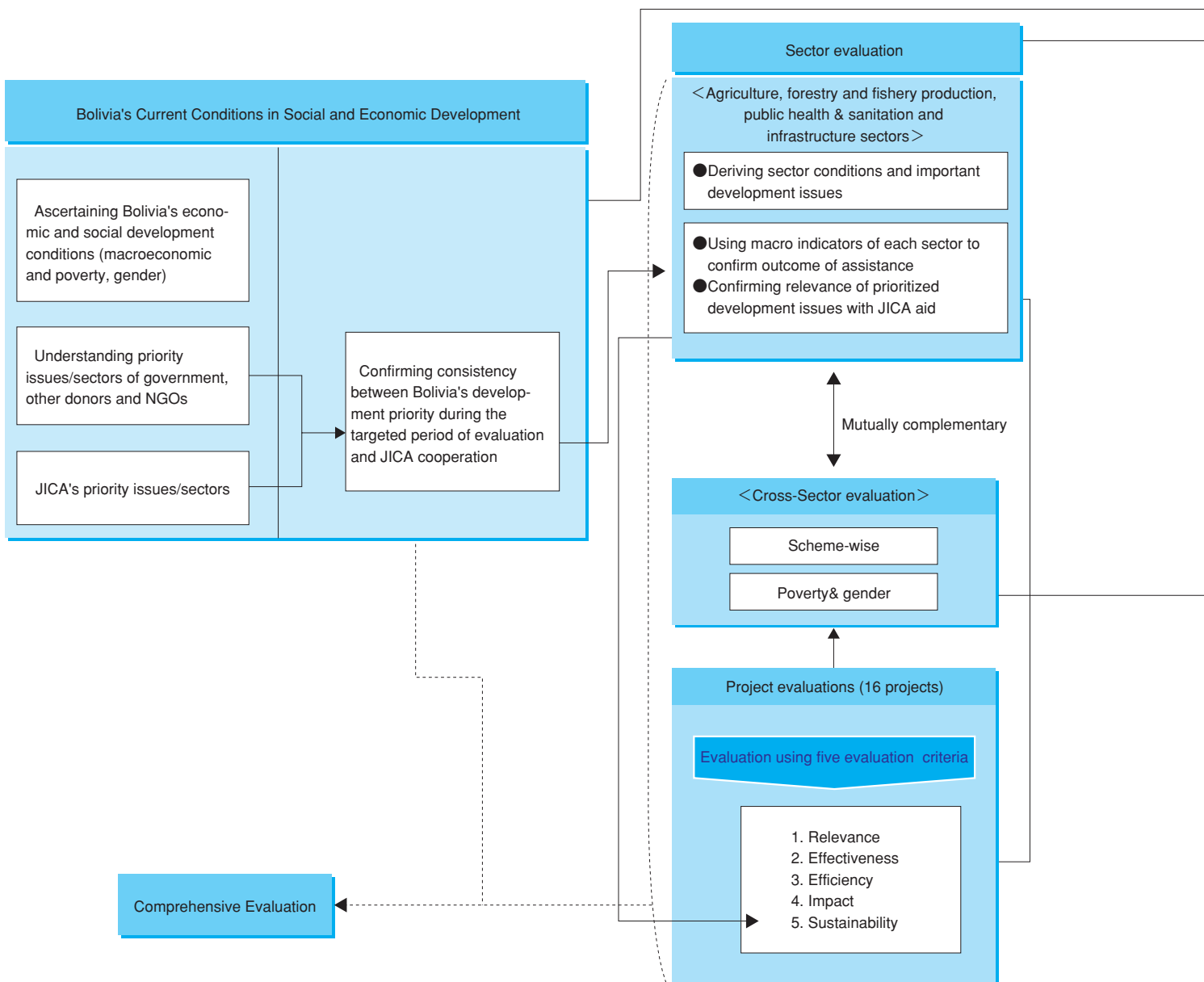
4) Comprehensive evaluation

Based on the results of evaluating 1) to 3), the evaluation team conducted a comprehensive evaluation to make an overall assessment of its cooperation.

(3) Recommendations

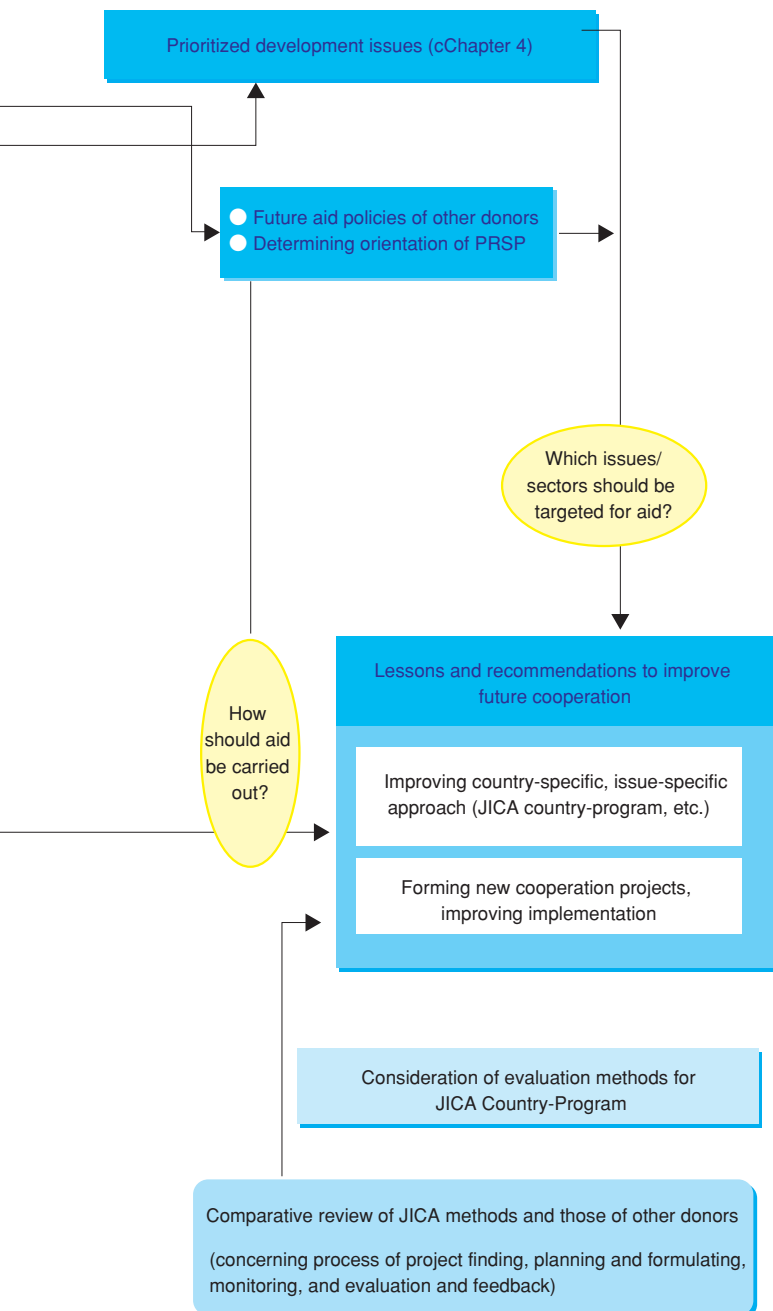
The following kinds of lessons and recommendations

Figure 1 Framework of Bolivia's Country-Program Evaluation



were derived, based on the results of evaluating the results described above, the future development issues of Bolivia, formulation of PRSP and trends in donor communities, as well as the need to reduce regional disparity.

- 1) Review of JICA Country Program and recommendations for sectors that should be prioritized
- 2) Improve the formulation and implementation of cooperation projects
 - Recommendations regarding introduction of the program approach
 - Recommendations regarding improvement of existing cooperation schemes



5. Limits of Evaluation Study

Because of the limitations in conducting the evaluation study mentioned below, this report does not necessarily display full-fledged analysis.

- (1) There were several projects where the extent to which project purposes were achieved was difficult to value. This is mainly because the initial indicators of the project purpose were not clear or because measurements of the level of achievement at the time of terminal evaluation were insufficient.
- (2) Planning had been done more than ten years ago in many projects, where indicators of the overall goal at the initial level were not clear and baseline surveys were not implemented beforehand. As a result, measurements of the impacts were insufficient.
- (3) Project implementing institutions, overall institutions and local communities participated in the evaluation study through interviews and questionnaires. However, not many Bolivian government officers, experts or academics participated in the analysis. The analysis of the study results might have the excessive influence of the Japanese perspective.
- (4) Since it was not possible to precisely sum up the expenses of each project, the total cost difference of each project was not reflected in the calculation of evaluation points for project, scheme and sector.

6. Results of Project Evaluation

In JICA's prioritized development sectors (public health and sanitation; agriculture, forestry, fishery and stock farming; infrastructure and environmental conservation and mining) for Bolivia, each project was evaluated based on the five evaluation criteria on a five-point scale. The evaluation point for each sector is the average of the score of the projects categorized in the said sector. This rating indicated that JICA projects showed relatively high impact in the public health and sanitation sector, while it showed moderate impact in infrastructure along with the agriculture, forestry, fishery and stock farming sector, which has relatively low sustainability compared with the other three sectors. One of the reasons why is that a great deal of technical cooperation emphasized research and development in agriculture sector, while direct support for industries was very limited, such as spreading techniques to farmers and fishermen or improving distribution.

1) Basic Living Standards (11 projects)

- ① National Public Health College Construction Project (Grant Aid)
- ② Trinidad Maternal and Child Health Hospital (Grant Aid)
- ③ Construction of Santa Cruz General Hospital (Grant Aid)
- ④ Project on Santa Cruz General Hospital (Project-type Technical Cooperation: PTC)
- ⑤ Health and Medical Care Delivery System in Santa Cruz (PTC)
- ⑥ Gastrointestinal Disease Control Project (PTC)
- ⑦ Project for Cleaning Equipment for La Paz City (Grant Aid)
- ⑧ Project for Urban Cleaning Equipment (Grant)
- ⑨ Study on Provincial Ground Water Project (Development Study)
- ⑩ Project for Ground Water Development in Rural Areas (Grant Aid)
- ⑪ Environment and Hygienics (Public Health Nurse) (Region-focused Group Training)

Overall: Relevance and sustainability of the sector were relatively high. Although the achievement of the project purposes was comparatively high, there was still room for improvement in the use of inputs. The long-term impact of the projects appeared good overall.

Relevance: 3.6 Relevance of the health sector was relatively low, while relevance of the public health and sanitation projects was generally high. This is because this sub-sector had insufficient confirmation regarding consistency with local policies and lacked clear definition of beneficiaries at the planning stage.

Effectiveness: 3.4 The overall effectiveness was relatively high. The Santa Cruz medical system projects (③, ④ and ⑤) aimed to build up the facilities and functions that would

form the core of local healthcare system. In this respect, goals were achieved. However, the construction of the health system as a whole was not sufficiently achieved.

Efficiency: 2.9 Efficiency was fair in general. However, efficiency of the Santa Cruz Medical Supply System project (⑤) was evaluated rather low, as the maintenance staff frequently replaced, the allocation of Bolivian counterparts was not appropriate, and input tended to be biased.

Impact: 3.8 After the project implementation, those involved in the healthcare project noted many positive impacts such as an increase in the number of cumulative patients, improvement in patient satisfaction, and prevention of infection to others during treatment. Meanwhile, it was reported that the Urban Clean Equipment Plan (⑧) had inadequate equipment maintenance that resulted in burdening the city with repair expenses.

Sustainability: 3.5 Most of the projects were evaluated relatively highly, except some project rated low because of the weak organizational structures and insufficient equipment maintenance.

2) Agriculture, Forestry, Fisheries and Stock Farming (four projects)

- ① Livestock Improvement Project (Grant Aid, PTC)
- ② Aquaculture Development Center (Grant Aid, PTC)
- ③ Multiplication and Extension of Superior Vegetable Seeds (Grant Aid, Expert Team Dispatch Program)
- ④ Master Plan Study and Feasibility Study for Agricultural Marketing System in Santa Cruz (Development Study)

Overall: In this sector, the effectiveness was rated relatively low, while the relevance of the projects was fairly moderate. Much room for improvement was found in the use of inputs. The efficiency of project implementation was below the middle range because of the weaknesses in extension. Despite the positive results in research and development and technical transfers, the extension was not as successful, resulting in low achievement of project purposes. Consequently, impacts on ordinary farmers were less than expected.

Relevance: 3.1 All projects were consistent with Bolivian development needs. However, external factors were not sufficiently confirmed, which were necessary to link the achievement of the project purpose and overall purpose set at the national level. In concrete terms, confirmation of a route was insufficient to let technical extension to result in increases in production amounts and income.

Effectiveness: 3.1 Overall, research and development objectives and technical transfer to counterparts were sufficiently achieved. However, technical transfers to end ben-



Slum district of La Paz City

eficiaries, such as farmers and fishermen, has yet to be completed.

Efficiency: 2.6 The efficiency was deemed to be low due to the timeloss caused by the followings: delay in facility construction, expert dispatch and absence periods of experts, as well as the low retention rate of counterparts.

Impact: 2.5 Activities linked to the overall goal, such as improving domestic productivity (e.g. strategic extension activities) were insufficient. Therefore, there was little significant impact that could be attributed to project implementation. There have been no negative impacts so far.

Sustainability: 2.6 In most of the projects, technical transfer has been carried out within the organization, despite low retention rates of counterparts. On the other hand, funds for maintaining facilities and developing activities were insufficient.

3) Infrastructure (three projects)

- ① Road Improvement between San Borja and Trinidad I and II and Environmental Impact Assessment (Development Study)
- ② Public Road Repair and Factory Plan (Grant Aid)
- ③ Plan for Bridges of Construction in Northern Department of Santa Cruz (Grant Aid)

Overall: In this sector, both the relevance of the projects and the effectiveness was comparatively high. The efficiency of project implementation was in the middle range but there was a great deal of variance. Similarly, the impact was evaluated to be in the middle range on average with projects scattering result of high and low impact. Sustainability rated a little lower than the medium range.

Relevance: 3.7 All projects met Bolivia's needs and had high relevance.

Effectiveness: 3.5 In the Public Road Repair Factory Plan (②) the reform of the organizations responsible for road maintenance inhibited proper operation of the repair factory, and therefore prevented the project from achieving its goals. In other projects, high-quality inputs and appropriate plans enabled achievement of the initial purpose.

Efficiency: 3.0 There were discrepancies in the level of efficiency between the projects. For example, some study recommendations in development studies could not be used due to changes in external conditions. This change reduced the validity of a part of the study results and had a negative effect on the efficiency of the study.

Impact: 3.0 Among development studies, only 11% of the recommended projects in the final reports were carried out. Others have failed to secure funding, making their impact very low.

Sustainability: 2.5 The organizational, technical and finan-



"Construction of Bridges in Northern Department of Santa Cruz" (Okirawa Payrón Bridge)

cial sustainability of the projects were deemed to be low due to the downsize of organization, retrenchment in finance, and the transfer of employees who had acquired transferred techniques.

4) Environmental conservation and mining (two projects)

- ① Control of Water Contamination of the Rivers in the City of La Paz (Development Study)
- ② Study on Evaluation of Environmental Impact of Mining Sector in Potosi (Development Study)

Overall: Relevance was generally high, inputs were effectively used and goals were achieved. On the other hand, these studies had rather abstract recommendations, so that a more effective examination of external conditions was required in order to carry out its action plan. Actual impacts were rather low.

Relevance: 3.8 Recommendations from the development study were very important both in terms of policy and social development.

Effectiveness: 3.3 Technical transfer was relatively smooth, and reports were made user-friendly. However, specific recommendations such as methods for fund procurement could have been improved.

Efficiency: 3.3 There could find no problem in the use of inputs in implementation of the studies.

Impact: 2.3 Recommended projects in a study did not materialize because of a drastic reform (privatization) in the counterpart organization. However, the results of the other development study, the "Mining Environmental Research Center" were to be processed as JICA project-type technical cooperation.

Sustainability: 2.5 In the Plan for "Control of Water Contamination of the Rivers in the City of La Paz" (①), opinions on the applications of study results are subject to change due to the privatization of the counterpart organization. Though the transferred techniques were handed

down relatively well, it would be very difficult for the projects recommended in "Study on Evaluation of the Environmental Impact of the Mining Sector in Potosi" (②) to be launched with Bolivian funding.

7. Results of Sector Evaluation

1) Public Health and Sanitation

a. Public Health sector

For the last 20 years, JICA has placed emphasis on providing primary health care services and strengthening its service network. The issues included were: basic healthcare and medical services for children, with diarrhea, and nutritional disorders, vaccines maternal care both pre- and post-labor, and treatment of cholera and malaria. The average life span increased from 48 years in 1980 to 62 in 1999, while the infant mortality rate fell from 151 per 1,000 infants in 1976 to 62.6 in 1999. The maternal mortality rate fell from 416 per 100,000 births in 1984 to 390 in 1990. These results can be attributed to the efforts of the Bolivian government and major donors such as JICA. On the other hand, tuberculosis increased from 4,777 cases in 1982 to 9,272 cases in 1999 and AIDS increased from one case in 1985 to 225 cases in 1999. Infectious diseases are likely to become more of a problem.

JICA's projects were concentrated on strengthening secondary and tertiary health and medical services. Secondary services offer basic in-patient hospital services, while tertiary services offer advanced specialized treatment and serve as reference/technical aid centers. In many cases, facilities and equipment were provided to one organization along with technical cooperation. Development and extension to surrounding area were left to the Bolivian side.



Internship of medical student at the project site of "Gastrointestinal Disease Control Project"

In the future, it is necessary to conduct projects that provide better services to rural and suburban areas, along with operations that redress disparities in qualities of services between that of cities. This has been one of the major issues since basic health care insurance was first introduced around 1995, based on the concept that all Bolivian people should benefit from basic health and medical services. Therefore, sector analysis should be used in the discussion with recipient countries and major donors to confirm the position and role of projects.

b. Water and sanitation sector

One of the key issues for the Bolivian government has been redressing the gaps in access to sanitation services, such as water supply facilities in cities and rural villages, sanitary facilities (toilets) and garbage collection. The water supply rate increased from 36.5% in 1980 to 58.2% in 1995, while the diffusion rate for sanitation facilities rose from 18.4% in 1980 to 66% in 2000. The water supply rate in rural areas remained low, though it increased from 10.1% in 1980 to 24% in 1997. JICA implemented projects to improve residents' access to safe water, targeting rural villages with populations of over 200 people, where ground water development was technically possible. This was consistent with the targets of the Bolivian government to resolve technical problems in water resource development in rural villages to improve the water supply. Further efforts will be needed by the Bolivian government and aid organizations for waste disposal, since it is an infrastructure and social service that control the deterioration in living environment caused by the rapid increase in urban population. Improvements in the waste disposal system and technical abilities of major cities were achieved by the initiatives of donors, including those from Japan.

There is growing importance in the dissemination of water supply and sanitation facilities in the suburbs and rural areas, as decentralization progresses and more concrete measures are taken to redress gaps in social service delivery. Garbage sorting and recycling services are also becoming increasingly important as industry and lifestyles in cities become diversified, and as concern for environmental conservation has increased. In addition, problems with water supply, waste disposal and sewage treatment would increase with the rapidly increasing flow of the urban population into suburban areas of the lowland cities.

2) Agriculture, Forestry, Fishery and Stock Farming

All of these sub-sectors observed some outcomes of development. However, the growth of outputs by the overall sector is less than that of the whole economy. Important issues for the agricultural sector have been the improvement of production, establishment of quality control standards, establishment of a financial system for farmers and development and extension of substitute crops for narcotics. In the forestry sub-sector, it was regarded as important to establish sustainable forestry. The stock farming and fishery sub-sectors needed to increase their international competitiveness. The fishery industry has also been targeted to reduce poverty by encouraging the entry of poor farmers.

In the agriculture sub-sector, recognizable outcome from projects could not be observed. Production of grain, vegetables, fruit and root crops did not show much change on average. Average production in 1990 was 6,342 kg/ha, while that in 1999 was 6,222kg/ha. During this period, total outputs increased from 7 million tons to 8 million tons. However, this was mainly because the area under cultivation increased from 1.25 billion hectares to 1.88 billion hectares. Although the spread of irrigation agriculture was a major contributing factor for increasing unit production, donors have not been proactive, and JICA had not been involved until 2000. This was mainly because the targeted area was too large and the amount of investment needed for water infrastructure too large.

Although prioritized development issues have been basically applied to JICA's cooperation, several issues remain. Project-type technical cooperation has put emphasis on research and development, but not on the process of extending production techniques to farmers. Moreover, high-skilled agricultural technology was transferred, but there remain difficulties in actual learning and application for poor farmers. It would have been better to incorporate technical development and extension methods that were more accessible to poor farmers.

In the forestry sub-sector, major Western donors are involved in forest conservation using afforestation and soil erosion prevention methods. However, no slowdown is evident in the rate of deforestation, as its average rate from 1980 to 1990 remains the same as that from 1990 to 1995 at 1.2%.

At the same time, the amount of lumber produced increased from 328,000 tons in 1990 to 419,000 tons in 1999. This indicates that the forestry industry is growing, but could also mean that it still depends on a



Recollection of Seeds ("Multiplication and Extension of Superior Vegetable Seeds")

wasteful method by cutting down forest resources. As JICA cooperation, one development study was conducted and another is currently being implemented. However, as the scale of inputs of these projects have been small, their outcomes are too limited to measure.

The stock farming sub-sector has become more effective. A comparison of indicators in 1990 and 1999 shows that meat production has increased by 20% and number of cattle by 18%, while land use increased by only 2%. JICA has conducted technical cooperation in the Santa Cruz Province on the fields of improvement of both dairy and beef cattle varieties, breeding, fattening and feeding. The JICA project presumably contributed to the increase of indicators in the above fields, but it is difficult to see its direct effect since the project only targets farmers in one province.

In the fisheries sub-sector, there are commercial fisheries such as trout aquaculture, small-scale fishing of Amazon water catfish in Lake Titicaca, and carp and pejerrey fish in major rivers and dam lakes.

JICA implemented a rainbow trout aquaculture project through project-type technical cooperation and grant aid. As a result of the cooperation, the Fisheries Research and Development center acquired basic techniques, and as the extension of aquaculture techniques activity was added during implementation, the catch of rainbow trout increased significantly, though in a small scale. However, production fell after the project termination in 1996, as aquaculture industry suffered international competition against Peruvian products and escalating feed prices. In order to transform aquaculture into a vital industry, the center, the implementing organization, should strengthen its extension and distribution functions, as it is currently making efforts to achieve.

3) Infrastructure

A comparatively good development effect was

achieved in transportation infrastructure in terms of the regional roads and airport sub-sector. However, since the railway management was privatized in 1996, it has come under the ownership of a Chilean private company. Due to this, operations have been in diminishing trend as unprofitable routes was abolished. In addition, the railway network remains divided into western and eastern sides. Because of these reasons, aid outcome from donors including JICA cannot be seen.

From 1990 to 1999, total road length were extended by 25%. As a result, road traffic increased by 83% for cargo and 101% for passengers. Moreover, 2,630 km of regional roads were repaired from 1990 to 1992, using construction equipment provided by Japanese grant aid. This is equivalent to 72% of the total length of road that was repaired during that period.

JICA provided aid for constructing highways by means of plans and designs through a development study and for national road bridge construction through grant aid cooperation. Since the IDB has been the major donor for improving highways, JICA cooperation has not had a significant impact on a nationwide level. In the road maintenance sub-sector, equipment was provided to the repair plant of the public highway corporation. However, it was almost impossible to measure the impact; indicators could not be obtained because road-related organizations were reorganized under a decentralization policy.

Regarding air transportation, international line traffic volume (the sum of arriving and departing passengers and tons of cargo) for the three Bolivian airports increased by 101% from 1990 to 1998. At the same time, domestic line traffic volume for the domestic airports, including the aforementioned three, increased by 82%. Two out of these three airports were repaired after implementation of JICA development studies.

JICA has implemented two development studies concerning railways. However, projects recommended by these studies have not been implemented since the number of rail passengers is declining and the national railroad was privatized in 1996. Aid from other donors only offered loan cooperation to repair locomotives.

8. Results of Cross-sector Evaluations

1) Evaluation by Scheme

In this section, aforementioned JICA's cooperation were divided into (1) Project-type Technical Cooperation and Expert Team Dispatch, (2) Grant Aid and (3) Development Studies, and each of which was evaluated according to the five criteria and a rating in a five-point

scale. Results are as follows.

<Project-type Technical Cooperation and Expert Team Dispatch (seven projects)>

The plans and input were generally relevant, and the management also comparatively appropriate. However, effectiveness was rated as 3.0. This is mainly because of changes in external conditions that affected the achievement of project purposes. The project implementation more or less contributed to the achievement of overall goals, despite the severe effect of the external environment. This implies that even though the effectiveness was low when the project was completed, cumulative effects may arise if the recipient country's implementing institutions were sustainable, and project activities continued after completion. Negative impact from these cooperation was not be seen. Without negative influence of external factors, the extent to which the project purposes were achieved would have been higher.

<Grant Aid cooperation (twelve projects)>

Plans were appropriate for many projects, inputs and management were adequate. Despite a slightly negative influence from the external environment in accomplishing project purposes, they were generally achieved. Furthermore, sustainability of the counterparts can be also seen, and the impacts were relatively high. Regarding Plans to Provide Equipment for Road Repair, due to inappropriate goal-setting, insufficient consideration on selecting equipment and project design, the plan's relevance was lower than it could have been. If external conditions that linked the project's purpose to the overall goal were further confirmed, a greater impact may have materialized.

<Development Studies (eight projects)>

The relevance of these projects was very high in terms of consistency with Bolivian needs and the appropriateness of plans prepared. The effectiveness was rated at 3.4, though inputs and management were adequate. Due to the reorganization of counterpart institutions and counterpart transfers, it was very hard to secure organizational and technical sustainability. In particular, the financial foundation was rather weak and the external conditions necessary to link project purposes to overall goals were not ascertained well enough. Conditions were not very favorable for realizing recommended projects in the final reports of the studies, so impacts were more limited than initially expected.

2) Poverty and Gender Perspective

From the perspective of poverty and gender, JICA

conducted macro-evaluations targeting all the project and evaluations on groups of individual projects that shared the same purpose.

The only project implemented specifically to address poverty was the Santa Cruz Medical Cooperation Project. However, as national health insurance covered basic healthcare service including maternal and child check-ups and AIDS and tuberculosis treatment, the extent of the direct contribution of the project was rather low. Also, the project did not particularly perceive the issue of poverty with clear indicators or priorities. Road-related projects seem to be the only examples that did not only revitalize overall society but also encouraged opportunities for social service and participation in development as well as contributed to redressing regional disparities. Cooperation in agriculture, forestry, fisheries, and stock farming sectors is regarded as having made it possible to reduce poverty by increasing rural incomes. As projects in the public sector and sanitation were concentrated on urban areas, they could not contribute to redressing regional disparities. The regions targeted for environmental projects were broad, including rural villages. However, these did not particularly aim to redress regional gaps.

Two projects employed a gender perspective: the Grant Aid for the "Trinidad Maternal and Child Health Hospital" and the "Santa Cruz General Hospital Project". These two projects helped to improve women's access to basic healthcare services and encouraged efforts for reproductive health. The gender contribution in the evaluated projects was rather low, except these two projects.

Of the targeted projects, those that aim to reduce poverty and alleviate gender disparities were not many. This is mainly because projects evaluated were planned and designed when poverty and gender were not regarded as the most prioritized issues for development among donors including Japan. This can be regarded as a limitation of timing.

9. Results of Comprehensive Evaluation

A comprehensive analysis of JICA's technical cooperation based on the results of evaluations 6. to 8. is shown in Figure 2.

Ideally, JICA should carry out projects regarding important sectors and development issues, and produce sufficient effects through appropriate management. These effects should also be gauged by the degree of development and improvement in these sectors by indicators and statistics.



Pediatric Ward of Trinidad Maternal and Child Health Hospital

From macro-evaluations, the relevance of JICA's cooperation for Bolivia is high in allocating them to important sectors, and development issues. The impact from each project was roughly associated with development conditions of each sector to which it belongs, and the results of the five-grade ratings were fairly high for the public health and sanitation sector and were in the medium range for the infrastructure and agriculture, forestry, fisheries and stock fostering sectors.

Overall, there were not many successful projects that aimed to reduce gaps in poverty and gender. This was largely due to the timing limitations as described in the previous section.

10. Lessons and Recommendations

(1) Sectors and issues for future JICA cooperation

Reviewing the JICA Country Program was conducted by using the following seven steps to clarify issues that JICA should prioritize for future implementation. Results of the reviews are shown in Table 2.

1) Ascertaining basic direction of Bolivia's development

The five goals summarized in the March 2001 PRSP, (①expanding opportunities for employment and income generation for the poor, ②capacity-building for the poor, ③promoting social participation for the poor, ④improving safety and protection for the poor, ⑤promoting overarching issues of gender and poverty) were ascertained as an outline for Bolivia's development orientation.

2) Setting prioritized development issues by sector

Based on the future issues prioritized for development, as ascertained in this evaluation, priority levels of issues described in the PRSP, version issued in March 2001, were evaluated in two stages (high and low) in

order of importance.

3) Identifying issues in which Japan has technical advantage

From the issues described in the PRSP, sectors in which Japan had technical advantage were identified and a two-stage evaluation was conducted. Taking into account Japan's past aid performance and comparative advantage, the issues in which Japan had great technical advantage were identified as "high," and those in which Japan had relatively high technical advantage as "low."

4) Setting issues (first proposal) prioritized for aid from Japan

Here, "Japan's technical advantage" was emphasized, and no matter how important the development issues were, if Japan did not have technical advantage in the issue, it would not be included as a "priority issue for Japanese aid." Conversely, if Japan did have technical advantage, it would become a "priority issue for Japanese aid," even if it had not been recognized as a priority development issue in the previous phases 1) through 3).

5) Confirming prioritized issues and sectors of other aid donors

Of the issues described in the March 2001 PRSP, the study team interviewed major donors and clarified which issues and sectors were being prioritized by other donors. A two-stage evaluation was then implemented, according to their importance.

6) Setting priority issues for Japanese aid (final proposal)

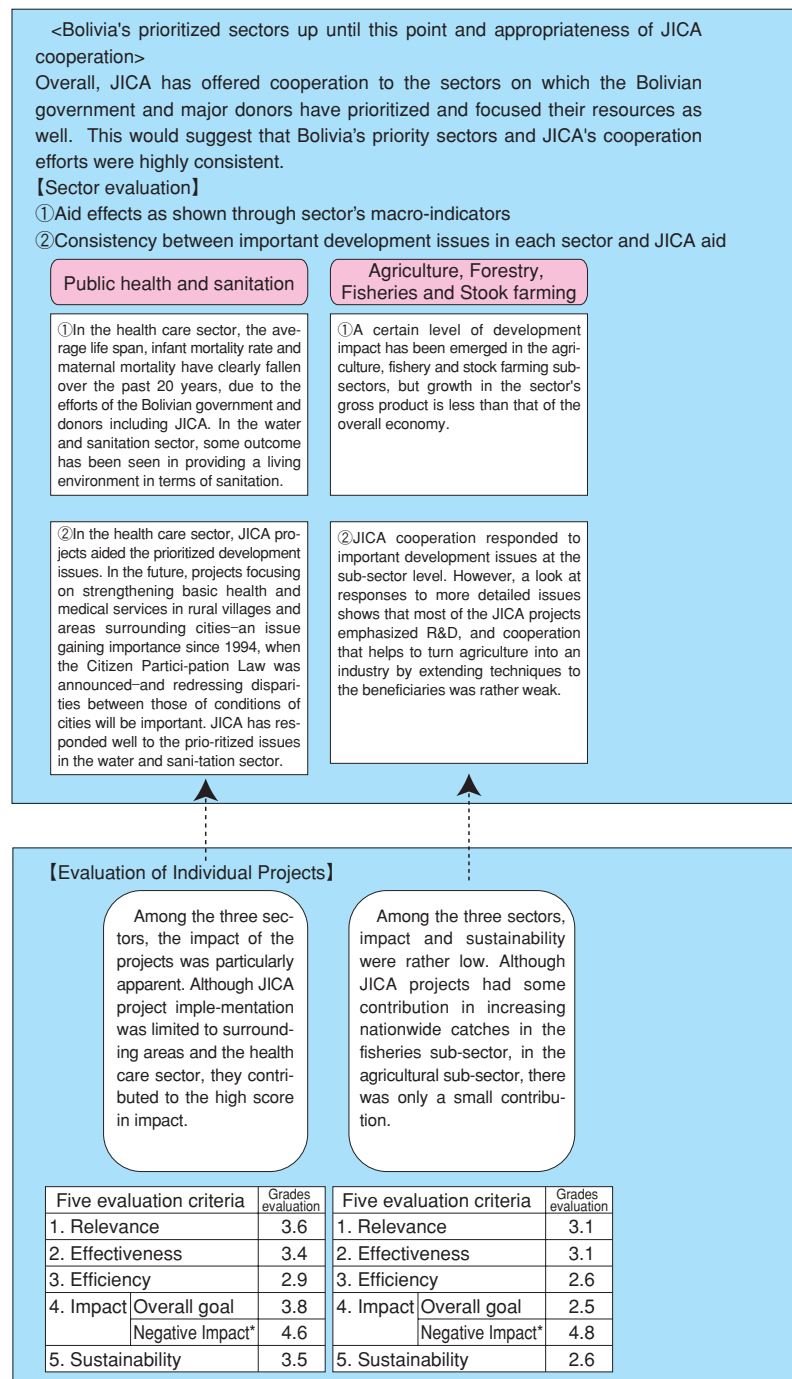
Taking into account an efficient division of roles among donors, the results of 4) and 5) were integrated, and issues deemed of slight importance in the review conducted in phase 4) would be prioritized if other donors were not covering them. Conversely, issues judged to be of high priority in 4) would not be prioritized if they were already prioritized by other donors.

7) Organizing recommendations for the JICA Country Program by comparing Japan's priority aid issues (final proposal) of the study team and those of the existing country-program

Referring to the final proposal in 6) and the JICA Country Program, issues were divided into three categories: A, B and C. Category A represents development issues described in the Country Program and are issues in the final proposal of this evaluation. Category B also represents development issues described in the Country Program, but are not included in the final proposal. These issues should be reconsidered whether to continue support as development issues. Category C does not repre-

sent development issues described in the Country Program, but those prioritized as significant in the final proposal. These should be reviewed for inclusion into

Figure 2 Bolivia Country-Program Evaluation · Results of Comprehensive Evaluation



* 「Negative impact」 indicates negative results that were not initially expected. Since it is better when no negative outcome impact appears, 5 is chosen from the five-step evaluation when it does not appear at all.

JICA Country-Program. Table 3, showing the results of these categorizations, revealed that 16 out of the 18 issues⁴⁾ were recognized as important issues and contin-

ued aid is relevant. Furthermore, three additional issues were recommended as issues for future JICA cooperation. However, consideration of necessary costs and

⁴⁾ 16 issues include those issues which initially identified as category B, but were regarded as important after detailed examination.

Infrastructure

①The regional road and air sub-sectors saw relatively high indicators for development impact, which JICA projects contributed significantly. However, in the railway sub-sector, the railroad networks have still not been connected, and the aid from JICA and other donors has not shown a clear outcome.

②JICA projects responded to important development issues and were appropriate. In particular, through multiple JICA schemes and ODA loans, JICA was able to contribute in providing efficient aid to establish an infrastructure for main airports.

Overall, the score was the same as that of the public health and sanitation sector, but the outcome was rather low. JICA projects took a large part in boosting the infrastructure rate for airport repair and regional road repair, but it did not observe outcome in other subsectors.

Five evaluation criteria	Grades evaluation
1. Relevance	3.7
2. Effectiveness	3.5
3. Efficiency	3.0
4. Impact	3.0
Negative Impact*	3.5
5. Sustainability	2.5

Scheme	Five evaluation criteria	Score	Comments	
1. Project-type technical cooperation	1.Relevance	3.1	The plan was generally relevant, and the appropriateness of management was relatively high. However, the external environment had a negative influence on achievement of the project purposes, and in the end effectiveness was rated only 3. Nevertheless, the recipient's implementing institutions were sustainable, and although the external environment hindered the ability to achieve overall goals to some extent, there were no negative outcomes. If there had been less negative influence from the external environment, the effectiveness would have been higher and the overall goal would have been achieved. However, the goals should have been more clearer in terms of relevance, and the external conditions should have been better ascertained when the project was planned. Efficiency should also be improved by ensuring that input was not wasted.	
	2.Effectiveness	3.0		
	3.Efficiency	2.6		
	4.Impact	Overall goal		3.4
		Negative impact		4.7
5.Sustainability	3.1			
2. Grant aid cooperation	1.Relevance	3.9	Most of the project was relevant, and the relevance of input and appropriate nature of management ensured a satisfactory level of achievement of project purposes despite some negative influence from the external environment. The recipient's sustainability was good, and although there were some negative influences on the way to meet the overall goal, impact was relatively high. In this scheme, there was more to improve in the project relevance. In other words, when the plan was drafted, the external conditions (legal system, organization and financial aspects of the implementing institutions and capacity of beneficiaries) that link the project purposes to the overall goal should have been better ascertained. This would have raised the level of impact achieved.	
	2.Effectiveness	3.9		
	3.Efficiency	3.5		
	4.Impact	Overall goal		3.6
		Negative impact		4.2
	5.Sustainability	3.1		
3. Development study	1.Relevance	3.8	The proposal relevance was quite high, given the consistency with Bolivia's needs and the appropriateness of the report preparation. In addition, the relevance of the input and appropriateness of management were fairly good, and the score for effectiveness marked 3.4, signifying that project purposes were generally achieved. However, there are problems with the sustainability of the implementing institutions. In addition, the external conditions that link the project purposes to the overall goal were not well executed proposals ascertained. This made the share of the in the study reports low, and thus impact as initially planned was not attained. In this scheme, definite confirmation of the external conditions that link the project purposes to the overall goal and improvement of the quality of recommendation are necessary.	
	2.Effectiveness	3.4		
	3.Efficiency	3.0		
	4.Impact	Degree of materialized proposals		2.8
		Overall goal		2.2
		Negative impact		5.0
5.Sustainability	2.7			

【Poverty and Gender Evaluation】

1. Public health and sanitation sector: With the exception of regional groundwater development, the projects were executed primarily in cities, hence the attempt to redress and ease the disparities in urban and rural poverty could not be regarded as active. As for the alleviation of gender gaps, the systematic efforts with the Grant Aid for the "Trinidad Maternal and Child Health Hospital" and the projects on Santa Cruz General Hospital were implemented.
2. Agricultural sector: All the project areas targeted for were rural villages, areas with large strata of the poor. The project goal was to improve production for agriculture, forestry, fishery and stock farming products, and this was related to improving the income of local residents. However, it did not particularly focus on eradicating poverty or redressing inequalities. It did not particularly address gender issues.
3. Infrastructure sector: Road projects linked urban areas to rural villages along the way, and therefore were directly involved in redressing regional qualities in transportation and access to social services. The projects related to the environment covered a wide area, including rural villages, while did not specifically aim to redress disparities between cities and rural areas. It did not particularly address gender issues, either.

Table 2 Prioritized Areas and Review of Issues in JICA Country-Program 1

PRSP issues			1. Important development issues by field	2. Issues in which Japan has technical advantage	3. Priority issues that Japan should support (1)	4. Priority issues of other donors	
Major issues	Middle issues	Small issues	(◎, ○)	(◎, ○)	(◎, ○)	(◎, ○)	
Goal 1: Expanding opportunities for employment and income generation	1. Rural Development	Expanding productive infrastructure	Construction, maintenance and management of village roads	◎	◎	◎	
			Construction, maintenance, and management of irrigation and micro-irrigation	◎	◎	◎	
			Expansion, maintenance and management of electricity network	◎	◎	◎	○
			Development of telecommunications network in villages		○	○	
		Diversification of non-agricultural employment opportunities, income generation	Small-scale processing agricultural products and commercialising promotion of rural tourism vocational training		○	○	◎
	2. Aid for micro small-sized companies	Rising competitiveness of small companies			○	○	
		Promoting Non-financial services that meet needs (aid for market research, etc.)			○	○	◎
		Strengthening organization and Management of micro companies			○	○	
	3. Technical guidance support	Sistema Boliviano de Tecnología Agropecuaria (SIBTA)		○			
		Technical aid and training through private sector					
Creation of technical aid supply/demand information system						○	
Creation of technical aid consultant system							
4. Promotion of micro-finance	Diversification and improved dissemination of micro-credit		◎				
	Strengthening organizations and legal framework					◎	
	Raising efficiency of credit						
5. Improving road infrastructure, maintenance and management	Implementation of traffic master plan			○	○		
	Introduction of private sector in road construction		○	◎	◎	○	
	Increased investment for basic road network		◎	◎	◎		
Goal 2: Capacity-building	1. Improving educational environment and access	Curriculum modification					
		Reorganization of teacher management and training system					
		Encouragement of decentralization in education sector and community participation in education					
		Strengthening of supervisory abilities of education management organizations					
		Other strategies					
	2. Improve health care services and access	Appropriate management of health care workers		◎	○	◎	
		Expansion of medical and health insurance service		◎	○	◎	
		Strengthening of system for preventing major infectious diseases		◎	○	◎	
		Improvement of citizen's nutrition		◎	○	◎	◎
		Introduction of other cultural views in medicine	Improvement of health care service network strengthening of medical institutions		◎	◎	◎
	Other strategies		◎	◎	◎		
3. Improvement of living environment (waste, sewage, housing)	Strengthening of management system for sewers, waste disposal infrastructure		◎	◎	◎		
	Improvement of housing infrastructure and its management		○			○	
Goal 3: Improving security and health for the poverty group	1. Social health system	Elderly				○	
		Youth, infants					
		Food security					
	2. Urgent programs	Natural disaster measures, Urgent employment creation			○		
3. General children's care							
4. Securing ownership	Land ownership						
	Water usage					○	
	Land registration in urban areas			○	○		
Goal 4: Participation	1. Organization of citizens	Study for participation of citizens in the local government				○	
		Establishing Consejo Consultivo					
		Promotion collaboration between local government					
	2. Equal rights for indigenous population	Provide information		◎	○	◎	
Train on the use of natural resources							
Improve access to legislation						○	
Strengthen human rights committees							
	Improve education (multiple languages, improve access)						
Cross-sector themes	1. Gender	Promotion of policies and activities that expand women's opportunities					
		Improvement and practice of women's participatory capacities					
		Establishment of women's rights					
2. Conservation of natural resources	Improvement of efficiency of land and water usage		◎	◎	◎		
	Strengthening of environmental reform policies		◎	○	◎		
	Development of method for appropriate management and protection mechanisms for diverse ecosystems		◎	○	◎	◎	
	Encouragement of sustainable use of forest		◎	○	◎		

Notes: 1: Evaluation columns 1-5 and evaluation of geographical priority use ◎ to indicate the most prioritized issues, ○ to indicate prioritized. Depending on the criteria, evaluation of geographical priority uses three stages rather than two from which to evaluate. Consequently, 2: Evaluation column 6 uses ○ for JICA country-program and prioritised fields/issues. 3: Evaluation column 7 uses the following as evaluation criteria:
 ◎: Continues as a development issue. ▲: Continued status as development issue will be reviewed. △: Addition as a development

Table 3 Prioritized Areas and Review of Issues in JICA Country Program 2

Field	Development Issue	JICA program	Category (Note)	Recommendation
(1) Improve basic living standards	1. Water supply, sanitation, water resource policies and administration	Drinking water supply program	A	Keep as a development issue. Prioritize suburbs and rural villages.
	2. Improve health and sanitation and maternal and child health care at the city level	Program to improve maternal and child health care	A	〃
	3. Improve clinical examinations as measure to deal with infectious diseases	Program to control infectious diseases	A	〃
	4. Upgrade development of health personnel	Program to strengthen regional health care	A	〃
	5. Disseminate of primary and secondary education and improve quality	Program for education reform	B	Not included as an issue in PRSP program tree, but mentioned in PRSP document as an important issue; should continue to be considered as a development issue.
	6. Revitalize vocational training and aid to small and medium enterprises	Program for vocational capabilities	A	Should continue to be considered as a development issue.
	7. Improve living standards by raising the rate of electricity-use in rural areas	Regional electrification program	A	〃
(2) Agricultural development	1. Institute and strengthen system for plant and animal quarantine.	Program to strengthen system for plant and animal quarantine	B	Not included as an issue in PRSP, but considered essential in future agricultural export; should continue as a development issue.
	2. Improve productivity of superior crops and strengthen organizations of small-scale farmers	Program to generate income of small-scale farmers	B	This is important in the income generation of farmers, but Japan is not strong at extending its technology. This would require an appropriate approach, such as dispatching experts that are superior in extension. Similar projects are implemented by other donors, and more attention should be paid to collaboration and coordination.
	3. Develop technology for agriculture, fishery and stock farming and establish system for extension of the technology	Program to strengthen competitiveness of agricultural products	B	
(3) Infrastructure	1. Establish plan for roads and regular implementation	Program to support transportation agency and administration	A	Should continue as a development issue.
	2. Infrastructure aid	Program to aid plan and establishment of domestic highways	A	Coordination between major donors in the road division, such as the World Bank and IDB, is crucial.
(4) Environmental conservation	1. Prevent of mine pollution	Environmentally-conscious resource development program	B	Should be reviewed to determine its continuation as a development issue.
	2. Conserve of water resources	Program for reduction of water pollution	A	Should continue as a development issue.
	3. Measures against environmental disruption such as forest degrading	Participatory forest conservation and reforestation program	A	Implementation and achievements by other donors is significant, so efficient implementation through coordination is essential.
	4. Improve environmental policies and administration	Program to strengthen environmental administration	A	Should continue as a development issue.
	5. Protect natural heritage and create employment by developing tourist resources and fostering industry	Program for tourism development	A	〃
(5) Resource development	1. Stabilize economy and create employment through mine development and diversification of mineral types	Program for resource development	B	Should be reviewed to determine its continuation as a development issue.
(6) Issues that should be added	1. Training on use of natural resources		C	Very important, and its addition should be examined.
	2. Build and maintain village roads		C	〃
	3. Build and maintain irrigation and micro-irrigation systems		C	〃

Notes

<p>A: Development issue described in the JICA country -program and included in final proposal of "Priority Issues for Japanese Aid" B: Development issue described in the JICA country -program but not included in final proposal of "Priority Issues for Japanese Aid" C: Not a development issue described in the JICA country -program but included in final proposal of "Priority Issues for Japanese Aid"</p>

Source: Prepared based on JICA fiscal 2000 country-program and "Prioritized areas and review of issues in JICA country-program 1"

cooperation are provided and a model project is implemented to the necessary and prioritized areas. To improve project impact and sustainability, combining schemes was confirmed effective such as grant aid cooperation, experts and JOCV, whereby offering technical assistance related to newly installed equipment.

Cooperation with other donors should not just involve dividing targeted regions or beneficiaries, but rather it is important to provide aid through in-depth coordination. Also, it is very effective to share one goal and implement aid in different fields in which each donor has expertise. This kind of coordination should not only involve execution, but also planning, monitoring and evaluation as well.

3) Recommendation for efforts at the project level

Very few projects proposed in development studies have been implemented with funding from the Bolivian government, instead many relying on external funding sources. Therefore, currently, not many development study suggestions have been realized in Bolivia. Consequently, it is important to clarify external conditions, of recommended projects analyze implementing capabilities including the concerned organization's capability to raise funds, or suggest specific ways to raise funds in the study report.

In project-type technical cooperation, it is important to set specific and clear project purposes and indicators, and conduct systematic activities that will lead to the achievement of project purposes. It is also essential to set up a system that enforces monitoring and appropriately evaluates outputs at an early stage. In agriculture projects, it is often observed that focus has mainly been placed on research and development but not on the extension of techniques developed, and that there were very few cases that led to development of the industry. As a result, in order for these projects to contribute to development outcomes, such as higher production and income generation for the poor, project design should focus not only on research, development and technical transfer, but also on extension and distribution. In Bolivia, where the retention rate of counterparts at implementing organizations is low, appropriate implementing organizations should be chosen and strengthening the system for management and operation would be essential in order to ensure sustainability. To improve project efficiency, the management of implementing institutions should be strengthened while using inputs effectively.

Equipment installation projects with grant aid are plagued by chronic problems such as delays in equipment



Seminar targeting the farmers ("Master Plan Study and Feasibility Study on Agricultural Marketing System in Santa Cruz")

customs clearance, theft and damage. The Bolivian government should be fully aware of the influence of these problems. Also, to avoid the problem of defective equipment management after the provision, JICA's participation in monitoring should also be considered.

Additionally, as an overall recommendation, more consideration should be given to poverty and gender issues. In this study, almost no projects specifically and clearly considered gender and poverty-related issues due to different trends in development at the planning period. It is important to specify a social group from the perspective of poverty and the social gender gap, and to consider whether it could be a target in the project. To improve awareness, the consideration of poverty and gender issues should be made compulsory in reports when planning not only projects focusing on the subject, but also those that do not appear to be directly related to poverty and gender.

11. Feedback of Evaluation Results

After preparing the final report, an evaluation seminar in Bolivia was held in January 2001 to announce the evaluation results to those involved, and discuss the direction of future cooperation based on these results.

The seminar on January 22 in Santa Cruz focused on the agriculture, stock farming and fisheries industry, and the seminar on January 24 in the capital city La Paz focused on the health and medical sector. Bolivian participants, other donors and the media were invited.

The consultants in charge presented an overview of the evaluation results. The explanation followed on activities to be conducted after the completion of JICA cooperation by the implementing organizations. Then the participants exchanged opinions.