

provides low-interest loans for individuals installing biogas plants, but this has not especially boosted their spread. Financial support is needed to encourage the introduction of alternative energy sources such as solar cells in areas where it is difficult to supply electricity. These energy sources will definitely help raise the level of public health and education in rural areas by providing power for refrigerators at the health posts and for lighting at adult education classes held in the evening.

(3) Small-scale Hydroelectric Power Generation and Local Electrification

Local electrification will serve not only those economic objectives such as irrigation and promotion of cottage industries, but will also greatly contribute to improving living conditions with respect to public health and education. Electrification will also encourage a switch away from firewood for fuel and a breakaway from traditional life style.

As mentioned earlier in the discussions of large-scale hydroelectric power generation, local electrification requires major funding, be it through expansion of the existing distribution lines or construction of large hydroelectric power plants.

Consequently, the areas which can be served in this way are quite limited. Local electrification for many villages, particularly those in remote areas, can be achieved far more effectively by installing small-scale hydroelectric power generation facilities (micro-hydros or mini-hydros) with the capacity of between several kilowatts and 50 to 60 kilowatts each. This can be achieved by utilizing Nepal's many steep valleys. These power plants can be built with local materials and labour, making use of the indigenous technology accumulated in the 25,000 water mills existing in the hills and mountains of Nepal, with a view to further raising the standard of that technology. The cost will be low, the work simple, and the detrimental effect on the environment minimal. These plants can be used for irrigation, refrigeration, and processing of farm products, cottage industries, village industries, drinking water, health posts and district hospitals, evening classes, tourist lodges and electric home cookers. Construction of such small-scale plants hydroelectric power plants should be encouraged with foreign assistance and Nepal's own public financing and subsidy policies.

1-5-2 Transport and Communications Infrastructure

(1) Construction of Inland Road Networks

Roads have far-reaching effects on other sectors. They also have a significant impact on regional development both economically and socially. However, as with other infrastructure building, road construction requires huge amounts of funds, particularly in the hills and mountains. An additional problem with roads is the high costs of repairs and other maintenance work. Because of its topography and climate, landslides often occur in Nepal during and after the rainy season. Roads themselves can trigger collapse of slopes, making the maintenance costs still higher. The condition of the Kathmandu-Pokhara road, one of Nepal's major trunk roads, is said to be steadily deteriorating. Future construction and maintenance of roads will require revisions in the budget and taxation systems, including such steps as the levying of toll and automobile taxes.

The roads in Nepal are classified into highways, feeder roads, district roads and city roads. At present, the construction of the East-West Highway traversing the Tarai is almost completed. Under the present Eighth Five-Year Plan which aims to raise the living standard and develop agriculture and other industries in the local areas, a top priority will be the construction and maintenance of feeder roads, particularly north-south roads connecting the base towns in the hill and mountains with the East-West Highway.

Roads are also classified into "all weather roads (paved roads, called highways)", gravel roads, "fair weather roads" open to traffic during the dry season and "mule tracks" open only to people and cattle. The costs and economic benefits should be taken into account when deciding on the type of road to be constructed. Paved roads may well cause landslides, and particular care should be accorded their impact on the environment. We have often witnessed cases in which major paved roads threatened the safety of people and cattle. We are in total agreement with a Nepalese economist who contends that what Nepal needs most at this moment are mule tracks in the hills and mountains.

(2) Development of Domestic Airline Networks

Development of domestic airline networks also requires major funding for aircraft and the construction and maintenance of airports. However, air-

line networks can be economically superior to roads in developing remote areas when the cost and time needed for road construction is taken into consideration. The Midwestern and Far Western regions, which have many links with Nepalgunji by air, are a case in point. Part of the funds coming from the increase in tourists to Nepal may be used to open new air routes. The importance of domestic air routes as a means of cargo transport will also increase if the hills and mountains can produce agricultural products and their processed goods can be exported to India or other international markets.

In this connection, the importance of improving safety standards at Kathmandu and other airports in the country cannot be overemphasized.

(3) Development of Communications Networks

The development of communications networks is probably the most effective infrastructure-building step Nepal could take, because by their very nature, communications networks can overcome Nepal's topographical constraints and are not as costly as road construction. They will be particularly beneficial to people in remote areas, enabling them to receive an education via radio or gain information in the event of emergencies such as accidents and natural disasters.

The significance of information services further increases in connection with expansion of export markets and in tourism promotion. Hence expansion of communications networks may hold the key in developing Nepal's industries.

2. Development Strategies for Different Topographical Regions

2-1 Strategies for Development of Hills and Mountains Centred Around A Local Township Programme

2-1-1 Importance of the Development of Hills and Mountains

The discussion thus far has generally taken a sector-by-sector approach. This section, by contrast, tries to reconstitute the previous discussion in terms of the three ecological belts or topographical regions of Nepal, and by so doing, to further clarify the main points of our recommendations.

Economic growth in Nepal has taken place primarily in the Tarai. By comparison, the hills and mountains have rarely enjoyed the benefits of development and have been left behind, as illustrated by statistics on population movement. While the population in the hills increased only 1.4 times between 1971 and 1991, it nearly doubled in the Tarai. This differential suggests that tens of thousands of people are moving from the hills and mountains to the Tarai every year. The population in the Tarai was 75 percent that of the hills in 1971, but it exceeded the latter in 1991. Despite this situation, food shortages still exist in the hills and mountains, as mentioned earlier.

As the result of this population movement, the Tarai, which constitutes only one-quarter of Nepal's entire land mass, now supports 47 percent of the total population. Because of this, the Tarai's population density now stands at 253 persons per square kilometer, which is approaching that of the densely populated north Indian states across the border. The figure for the eastern half on the Tarai exceeds this average. The population increase of the last 20 to 30 years has seemingly transformed the Tarai into an extension of the north Indian plains. Given the present level of agricultural productivity, the Tarai can be said to have reached the saturation point as far as its carrying capacity is concerned. This is the result of Nepal's regionally lopsided growth. It is not desirable to continue this strategy, nor is it politically and economically feasible to do so. The pendulum of development must be swung back from the Tarai to the hills and mountains.

As for the situation in metropolitan area, the Kathmandu basin now supports 10 percent of Nepal's population. This figure is not particularly high compared to the metropolitan areas of some other developing countries. However, there has been a large inflow of people into the basin in recent years,

resulting in problems which were not seen there before, such as air pollution, traffic congestion and water shortages. Today, the population of Kathmandu basin is also almost at the saturation point.

The only alternative is to develop the hills and mountains. The salient question here is whether it will be possible to develop the hills and mountains and make them attractive enough to stop the migration to the Tarai, and whether or not an alternative development strategy for Nepal can be considered. We take the view that it is possible.

Possible methods of developing the hills and mountains have already been addressed several times. Those ideas may be roughly summarized as follows:

1. Identify and promote the cultivation of horticultural and other cash crops suited to each agro-climatic zone. Encourage marketing of these products in the Tarai and cities in northern India.
2. Secure supplies of household fuel and organic fertilizer through the conservation and restoration of the natural environment. Introduce concepts of agro-forestry and forestry-linked industries.
3. Improve the quality of health posts and district hospitals; strengthen liaison between those two.
4. Reduce the mortality rate through the supply of safe drinking water and promote public health through adult education.
5. Create bases for tourism development and improve living standards in remote areas.
6. Upgrade the general technological level by setting up vocational and technical schools.
7. Introduce small-scale hydroelectric power generation which makes use of steep valleys and indigenous technologies.
8. Construct road networks.

We believe there is rich potential for development in the hills and mountains which would require a relatively small amount of investment. If appropriate investment along these lines is not provided, however, the conditions in hills and mountains will surely deteriorate much faster.

This development approach is not designed to pit the hills and mountains against the Tarai and Kathmandu basin. While the emphasis is relative and is not intended to ignore the Tarai or the Kathmandu basin. It is designed to clarify the role of the hills and mountains in the development of Nepal and to raise the general standard of living by reducing the economic disparities between the different regions of the country. In this sense it falls in line with the current democratization trends.

Nor does this approach turn its back on industrialization or modernization in general. True, it does not lead the way to rapid industrialization. But it will however, create purchasing power throughout the whole country, a condition that is necessary for the development of industrialization.

2-1-2 Local Township Programme

The salient question here is whether this approach should be applied to the entire hill and mountain area. No doubt that would be desirable. Given funding constraints, however, it will be necessary to designate priority areas. This means the relatively inaccessible mountains, which are less populated and where it is difficult to create bases must be left aside for the moment. The hill areas will form a starting point. Here again, however, work should target certain particular areas before expanding to other areas. Once work has taken root extensively in the hills, then the mountains can be considered as well.

The development of the hills will hinge on the creation of base towns, which may be called "local townships". These townships will occupy a key position in developing the hill areas along the lines suggested above. They must have diverse functions and enable government staff, doctors, teachers and engineers who are needed for development to settle down in those towns. At the same time, they must be able to provide economic support for nearby rural areas. Such functions would include marketing of general consumer goods, the existence of district hospitals and other medical institutions, sewage systems and safe drinking water, hotels and lodges for tourists, schools, government offices, financial institutions, sports and entertainment facilities, sup-

ply of electric power to neighbouring areas, and provision of telephone and other communications networks. These local townships will provide some employment opportunities for people from neighbouring areas. However, it must be emphasized that these townships are primarily intended to support rural areas and agriculture, and are not meant to promote urbanization or concentration of population in cities in the hill areas. In this sense, this programme should be seen as a regional development plan which takes base towns as nuclei. To be sure, the local townships will have relationships with the metropolitan area, Tarai, and even some parts of northern India across the border. But they are not intended to be dependent on the metropolitan or other areas, but must be independent entities central to their own hinterland.

2-1-3 Selection of Local Townships

The next question is the location of these townships. It is desirable, for obvious reasons, to supplement the functions of existing towns rather than creating new ones. Therefore, we must discuss the criteria for selecting those townships.

The first point is whether they should be selected from the entire hills area extending east to west, or from parts of it. Nepal is divided into five development regions from east to west. Of these, the Midwestern and Far Western regions have a much lower population density, so their development is not quite as urgent as in the remaining Eastern, Central and Western regions. Also, as mentioned earlier, these two regions are fairly well served by air routes and the cost of road construction exceeds the cost of air routes. Therefore, the necessity of road connections is not as high as in the other three regions. Connection by road is a major facet of our plan. It is inevitable, therefore, that the Midwestern and Far Western regions are allotted lower priority for the time being. While our programme is designed to create townships independent of the metropolitan and other areas, it does not exclude the Central region where the metropolitan area (the Kathmandu basin) is located. It is thus included because of the necessity to take into consideration parts of the Central region other than the metropolitan area.

The 1991 census shows that Nepal has 36 municipalities including Kathmandu. Most of these are seats of district government. About two-thirds are located on the Tarai. If those municipalities in the two western development regions and those in the metropolitan area, as well as the famous tourist

city of Pokhara and Hetauda near the Tarai are excluded from the remaining one-third located on the hill areas, only a few municipalities, such as Ilam and Dhankuta remain. These municipalities already possess some degree of urban functions and can be listed as potential local townships. Nearly 20 other towns in the hills (with the exception of the two regions to the west) which are not municipalities but are seats of the district government can be added to the list. In principle, the local townships should be selected from this list. Once the development of these local towns gets on track, the list can be expanded to include the Midwestern and Far Western regions or even the mountains. If such a programme succeeds in the hill areas, the benefits will naturally flow into the adjoining mountainous areas. The candidate towns are mostly seats of district administration. This is because districts are going to be the key in the ongoing decentralization policy that fits in well with our plan.

Several points should be mentioned in regard to the selection of those towns. First, priority should be given to those towns which already have some of the above-listed functions. Roads deserve particular attention. The programme excludes, for the time being, the two western development regions which are fairly well served by air links. Therefore, roads are viewed as the main means of access. Over the short term, mule tracks will suffice as the means of connecting local townships and the surrounding rural areas. However, each township must be guaranteed access to the Tarai, or at least to the East-West Highway traversing the Tarai, by means of better roads. Such roads are indispensable for transporting farm products to the Tarai and exporting to India, sending food from the Tarai in case of shortages, attracting tourists and enabling educated people to settle down there. Today few roads run north to south. Hence, consideration of whether a particular town should be selected as a local township should also take into account not only the present accessibility by road but also the feasibility of linking it up with the East-West Highway in the future. In this way, the country's comprehensive road construction plan should give top priority to the construction of road networks centred around local townships. The integration of different regions into a national economy hinges precisely on this point.

It will also be necessary to select several different types of towns, so as to reflect Nepal's topographical diversity, taking into account the types of farm produce found in each area and the potential of respective regions as tourist bases. Such consideration will also be useful in clarifying the difficulties faced

by the hills and mountains in general. In our view, the local townships should have a population of around 10,000.

Thus far the discussion has focused on the qualifications associated with the local townships themselves. In selecting the local townships, however, it will also be necessary to examine the district where it is located as a whole. If the rate of population increase in the district is low, for example, perhaps there is a more urgent need to develop the district.

We are not suggesting that local townships will bring about rapid economic benefits. However, economic benefits will emerge in due course in the form of purchasing power in the hills, then in the entire hills and mountains area, higher living standards in these areas and the emergence of a major role for the hills and mountains in the national economy in parallel with the Tarai. They will also enable societies outside the Tarai to gradually build up the capacity to accommodate modernization rather than collapsing under the impact of outside influences. It will surely point to the way for long-term sustainable development in Nepal. This fact must be kept in mind when apportioning ODA for the sectors discussed in the first half of this chapter.

2-2 Strategies for Development of the Metropolitan Area (Kathmandu Basin)

The role of the Kathmandu basin in the future development of Nepal will be to coordinate development programmes implemented in different regions of the country. A particularly important role to be played by Kathmandu is in the training of human resources and posting them appropriately to different parts of the country. Although it is desirable to develop human resources in local areas, under the present circumstances where there is a shortage of both facilities and manpower, it will be better to strengthen the existing training institutions and ensure that they function continuously. It will be necessary to provide housing and allowances to overcome the shortage of skilled personnel to live in areas with standards of living that are substantially lower than the metropolitan area.

Around 90 percent of Nepal's population live in the countryside. However, the population of the Kathmandu basin has increased seven times from around 230,000 in 1952 to 1.6 million in 1987. There has been a conspicuous concentration of population in cities over the last 20 years. Recently, various

problems have surfaced owing to the inability of urban areas to assimilate this rapid increase apace.

Improving the social infrastructure, such as service water and sewage systems will have a dramatic impact on the lives of the urban poor. Drinking water supplies, in particular, cannot keep pace with demand, so solving the water shortage problem has become a critical issue.

Air pollution, pollution of the Bagmati River, and waste disposal have also become increasingly serious problems and reflect the acuteness of environmental pollution. The rapid increase in passenger cars in recent years is the main cause of air pollution. The serious traffic congestion has had a significant impact on economic activity. Because there are first-time problems for Nepal, it would be advisable to look into possible means of solving them by studying how other countries have coped with similar issues. These problems, however, can be traced to the fact that the Kathmandu basin's capacity to absorb the people and industries has been strained to the limit. It is necessary, therefore, to completely review the master plan for social development of the Kathmandu basin in the relation to the public transport system and the programmes for land use, including housing construction. If it is found that concentrating more social activities in the basin is difficult, it will be necessary to curb such concentration and transfer factories to areas outside the basin.

Our local township programme will certainly help ease the concentration in to the Kathmandu basin.

2-3 Strategies for Development of the Tarai

The Tarai is better positioned than the hills and mountains for agricultural management in terms of land fertility and access to transportation networks. It will be important to raise agricultural productivity by effectively utilizing this advantage and establishing efficient agricultural management.

Presently, however, management is marked by pronounced inefficiency, as reflected in the failure to utilize existing facilities at full capacity. Issues to be tackled include the rehabilitation of existing irrigation facilities, improvement of the agricultural financing system and procurement of chemical fertilizer and other agricultural input. However, the administrative and financial capacity for solving these problems is insufficient.

As the granary of the country, the Tarai needs not only to increase its rice output but to absorb and support the landless peasants through intensive agriculture. In reality, however, agricultural labour on the Tarai is dominated by labourers from India, and rice and other agricultural products are flowing out to India.

Given the existence of relatively large cities in the Tarai, suburban-type agriculture has the potential to meet the needs of urban residents. Cash income can be obtained by supplying horticultural products such as vegetables and fruits, milk and dairy products, and meat. It would also be beneficial to set up plants for the secondary processing of agricultural products which have undergone primary processing in the local townships in the hills and mountains.

Many factories have sprung up along the East-West Highway and other road networks running through the Tarai, including some large-scale industries. However, most of the factories are inefficiently managed state-owned factories. This situation calls for gradual and prudent privatization of state-owned firms and the construction of an economic environment conducive to private investment. Nepal's manufactured products consist primarily of import-substituting goods used in daily life. Most of them are not only dependent on imported raw materials, but are not internationally competitive in terms of price or quality. Apart from the need to improve quality, there is also a need to develop products which have comparative advantages over foreign products. As many factors affecting industrial output, such as the acquisition of raw materials and transport of products, are influenced by Nepal's relationship with India. This issue will have a great impact on the future development of the Tarai, as this region has an open border with India.

Improvement of environmental conditions, raising the level of public health and education, and improvement of general technological standards are all urgent tasks for the rapidly increasing population of the Tarai.

Chapter 3 Japanese Assistance in the Development of Nepal

1. Recommendations for Japanese Assistance to Nepal

1-1 Recommended Approach to Assistance

1-1-1 Establishment of an Efficient Role for ODA in Role Sharing

The main objective of ODA is the promotion of the economic development and welfare of developing countries. Donors must bear in mind the importance for countries, such as Nepal, with many development issues and a limited development budget to make the most effective use of limited domestic funding and foreign assistance. Japan, therefore, must not only recognize the role of its ODA among the aid disbursed by other donor countries but clarify an efficient means of role-sharing in the process of pursuing development in Nepal.

In Nepal's case, role-sharing can be categorized in terms of those areas which can be developed smoothly by the private sector, areas where it will be desirable to seek coordination by NGOs, and areas in which ODA should play the primary role. Such sharing of roles will bring about balanced development in Nepal. In many cases these roles are more or less broken down on a sector-by-sector basis. In other words, private capital usually serves as the prime locomotives of development in areas such as manufacturing, which produce direct or immediate profits, while public funds, including foreign aid, are generally applied for the development of infrastructure, such as road and communications networks, and social services infrastructure, such as medical services and educational facilities. In Nepal's case, however, it may be more appropriate to study the allotment of roles on a region-by-region, rather than sector-by-sector basis. Development has been relatively easy on the Tarai for reasons of topography and the existence of a certain degree of infrastructure. Hence, development is expected to be promoted to a considerable degree through private initiative. In reality, private capital, be it from Nepal or India, is accelerating the economic growth of the Tarai. In contrast, huge amounts of private capital cannot be expected on the hills and mountains, because in many cases investors cannot expect an immediate or effective return on investment. Hence, the government must take the initiative in implementing development of the hills and mountains. While donors should expect the Nepalese government to

redouble self-help efforts to develop the country, the fact remains that assistance from foreign countries and international aid agencies is essential for development of Nepal, especially the hills and mountains area. In this regard, Japan and other donors should help in the development of the hills and mountains area over the short term.

When implementing projects in the hills and mountains, donors should make efforts to spread the benefits and technology to the surrounding areas to some extent. Hence, the targets of such projects will be inevitably focused on areas which have some of the capacities required of bases of development. In contrast, there are many areas in the hills and mountains where NGO's activities are appropriate to the promotion of development in light of their ability to adapt themselves easily to the circumstances and act prudently. In such areas, Japan and other donors should provide positive support to NGO activities.

1-1-2 Establishment and Development of Human Resources in Rural Areas

(1) Establishment of Human Resources in Rural Areas

At present, few people in rural areas have the ability to promote development. Consequently, administrative officials and other personnel will have to be dispatched from the centre (capital) to local areas over the short term. The poor living standards in rural areas discourage personnel from seeking postings there. And even when posted to such areas, they are often incapable of promoting development effectively, due to an insufficient understanding of local conditions. In the last chapter it was noted that implementation of assistance to improve the living conditions in local townships via development of social service infrastructure can indirectly contribute toward solving the former problem. The solution of the latter problem depends on the efforts of Nepalese government. In other words, the salient question is the extent to which democratization and development efforts can increase social mobility and arouse true consideration for the people among leaders of the government.

(2) Development of Human Resources in Rural Areas

Nepal's multicultural features and topographical diversity and the resultant individualized character and conditions of each locality has made development of local areas difficult. It will be necessary to take into account the

problems and constraints caused by individualized regional conditions and to utilize these characteristics positively as a comparative advantage. This will require use of local personnel with sufficient knowledge of the living conditions.

Given the present conditions, it will be necessary to secure manpower dispatched from the capital, as mentioned in (1). At the same time, it will be even more necessary in the future to develop local manpower. The dispatch of personnel from the central government is essentially an issue to be handled by the Nepalese governmental administration, so there is a limit to the amount of direct cooperation Japan can provide on this issue. Yet it should be possible for Japan to actively assist with development of human resources in rural areas.

At present we cannot realistically expect the Nepalese government to provide the appropriate human resources to be trained as counterparts in each project. Japanese projects will need to actively introduce mechanisms for developing human resources locally. Personnel should include mid-level technical staff, such as health assistants who will actually manage health posts, and conscientious farmers who can help with diffusion of agricultural technology. It is also important that community leaders be actively involved in the management of social service related infrastructure. Actively training and utilizing human resources, who have not been targets of technical cooperation until now, but who have influence in the area, will enhance the effect of assistance.

While one means of developing human resources is providing direct assistance to training institutions, such as vocational schools, it is also necessary to develop and expand systems to train local manpower within projects, as mentioned above. It will be necessary to find qualified local people through a contract staff system (of employing people using project funds) to overcome the shortage of trained Nepalese counterparts. But as this raises financial problems related to regulations governing Japanese ODA, costs should basically be covered by profits from the project itself. If this is not possible, flexible operation of the system may be necessary, e.g. by appropriating counterpart funds for grant aid for increased food production.

1-1-3 Cooperation with NGOs

The need for Japanese aid-disbursing agencies to cooperate with Japanese or foreign NGOs has already been pointed out. In this connection, sys-

tematic improvements have been effected in recent years. In countries such as Nepal, with a history of successful NGO activities, it is necessary to coordinate Japanese assistance with NGO activities. Many possible patterns of cooperation are conceivable. All these possibilities should be thoroughly examined and put into practice when feasible.

Before examining definite plans of cooperation, it will be necessary to first recognize the nature of NGO activities and build a relationship beneficial to both by establishing lasting channels of dialogue through the initiative of the local JICA office or by exchanging opinions and information with NGOs. Since NGOs have established track records in development assistance in Nepal, it would be desirable to provide financial support through the Small-Scale Grant Aid for significant NGO projects and clarify the respective roles of Japanese ODA assistance and NGOs, as suggested in section 1-1-1.

There are many areas in which cooperative ODA and NGO activities are possible, including diffusion of horticulture, construction of small-scale hydroelectric power plants, family planning guidance, management of health posts, sinking wells for drinking water, conservation of the environment in tourist areas, adult education and guidance on toilet-building in villages. These will contribute to the improvement of minimum living standards.

However, some Nepalese NGOs have been criticized for their failure to address grass-roots problems. This point should be considered when selecting Nepalese NGOs as partners.

1-1-4 Emphasis on Local Participation in Assistance Projects

Often times the equipment and facilities provided by aid are not properly utilized and maintained after being handed over to developing countries, and Nepal is no exception. This problem tends to arise in projects undertaken in rural areas in particular. While the Nepalese government is expected to boost the powers of local administrative bodies in the near future through the policy of decentralization, these local governmental systems are weak at present. Some contend that the introduction of the Panchayat system has hindered the development of local administrative systems, but self-governing capacities are still functional at the village level. Local self-governing organizations should be able to manage and control projects, so it would be useful to intrust them with such tasks.

Local residents should be able to participate in the identification, planning and formulation stages of projects. JICA has prepared an "Environmental Guidelines for Infrastructure Projects" to give consideration of the environmental impact of infrastructural projects. In the future, guidelines should be established to consider effective ways of securing participation by local residents. Needless to say, it is beyond the donors capacity to determine which views are to be reflected in the planning and implementation of National Development programme. The important thing is that it is formulated in a democratic manner.

1-2 Recommended Methods and Systems for Implementing Assistance

1-2-1 Assistance from a Long-Term Viewpoint

In LLDCs, where conditions conducive to development are severely constrained, it is crucial to approach assistance from a long-term perspective. Merely implementing projects which can be categorized as "efficient aid," which mean "aid which can easily be implemented and produces quick results" will not contribute to the sustainable development of Nepal. This report in particular sees development of the hills and mountains areas as an important and essential facet of sustainable development. This will require a continuous assistance programme extending over a long period and including detailed preliminary studies. While such assistance will naturally be geared toward the attainment of self-sufficiency, the duration of a project should be based on the country's individual condition and characteristics of individual project rather than setting a fixed maximum term. Support systems, also, should be set up in Japan so that the experts and JOCV volunteers can be dispatched on a continual basis.

1-2-2 Appropriate and Flexible Implementation of Grant Aid

Grant aid brings forth immediate effects and can directly meet the demand for development funds in Nepal. Under Japan's current aid policy, which takes a cautious approach toward extending ODA loans to LLDCs, the need for grant aid becomes inevitably greater in terms of encouraging capital flow. Meeting Nepal's diverse development needs will require the flexible application of grant aid. Consideration should also be given to appropriate and effective

implementation.

(1) The Problem of Local Costs

Inefficient use of equipment and poor maintenance and management after turn over are commonly cited problems related to grant aid to Nepal. These are often due to technical problems on Nepal's side. But Japan has also been blamed for not conducting sufficient preliminary studies to grasp the level of Nepal's technological standards. This problem should be resolved in a review of survey implementation methods.

In contrast, the greatest problem with maintenance and management stems from insufficient financial resources to apply to the purchase of replacement parts. It is, in short, a problem of the inability of the recipient country to adequately shoulder the local costs burden. It is sometimes necessary for Japan to share these of local costs in the cases of LLDCs such as Nepal. The grant aid scheme should be reviewed in this respect. Of course, this may have the opposite effect of impairing the self-help efforts of the Nepalese and the continuity of the project. In such cases, only the minimally required local costs should be borne by donors. Some projects will produce profits, which should be used to cover the local costs on a priority basis. Such steps will heighten the awareness that these projects are to be managed on a continuous basis.

As mentioned above, there are various views as to the propriety of Japan bearing local costs. Doing so would require modification of the grant aid scheme itself, and would consequently require further in-depth consideration. The most appropriate measure to take now is to carefully consider the most appropriate ways of extending aid from the recipient's standpoint. In light of Nepal's technological and financial problems, it would be desirable to provide as much equipment as possible that can be repaired or replaced locally or that does not require special maintenance. These measures should be undertaken in as far they do not impede the achievement of the project's purpose.

(2) Implementation of Appropriately Sized Projects

Large-scale financial assistance projects do not necessarily produce the best results in Nepal. This is not only because of technical problems associated with maintenance and management but also because of problems related to topographical constraints. In fact, some post-project evaluation reports suggest that smaller projects have had more success due to problems associated with

maintenance and management. The comparative advantages of large and small irrigation facilities and hydroelectric power plants are often debated, but such decisions should be made only after sufficiently examining the project's objectives and location. With regard to local development in particular, emphasis should be on access to the facilities, such as health posts, rather than the grandeur of the facilities. The construction of a large number of low-cost health posts is far more meaningful in some cases. In general, the number of procedures necessary to implement aid is more proportional to the number of projects than its cost. Consequently it is often logistically difficult to implement a large number of projects even if each one is small amounts. To prepare for an anticipated increase in demand for smaller projects, the system needs to be improved by strengthening the administrative structure for implementation or streamlining the procedures required to implement smaller projects.

As mentioned above, Japan takes a cautious attitude toward the extension of ODA loans to Nepal. For this reason, it could become difficult to extend some financial assistance which would be implemented principally under the ODA loan scheme because of objectives and funding scale. In meeting these development needs it will be necessary to take a flexible approach to the application of grant aid. Projects involving huge sums of money can be implemented as projects covering a few fiscal years, which are called "Aid Projects Incurring Liabilities on the Treasury." Another problem of grant aid is that, in principle, it does not cover profit-making projects. However, Japan should consider providing positive grant assistance to profitable projects which can contribute toward the redemption of debt in LLCs like Nepal, which are not likely to receive ODA loans and suffer from debts.

1-2-3 Reinforcement of Preliminary studies and Evaluation

(1) Improvement of Preliminary Surveys and Accumulation of Data and Information

It goes with saying that adequate preliminary studies are required before starting a project. However, the usual survey period and methods are insufficient in Nepal's case due to its topographical diversity and regional peculiarities. More detailed long-term surveys or studies involving local consultants, well acquainted with local conditions, are needed.

As more improved surveys are conducted, the information acquired should

be used, not only for the project in question, but for many other objectives, a step which will require systematic gathering and storage of such information. At present, the Institute for International Cooperation of JICA has a library storing all sorts of information in various media acquired from various surveys on developing countries which can be utilized whenever necessary. In the future it will be necessary to supplement information acquired from aid-related surveys with more information gained through exchange with research organizations in Japan and abroad and to establish a system to analyze the information obtained.

(2) Quantitative Evaluation and Evaluation of Projects Implemented by Other Donors

The importance of evaluation has been widely recognized and developed and refined accordingly. Evaluations of assistance to Nepal should continue to be amplified. Taking into account the fact that regional development projects in Nepal should be implemented on a longer term and continuous basis in the future, the present method of evaluation, which is centred around assessment of the manner in which projects are implemented, will not suffice. The economic and social impact on the region should also be quantitatively evaluated in the future.

Also, as mentioned in chapter 1, many donors have made various attempts to overcome the unique constraints which countries such as Nepal face in promoting development. Exchange of information with other donors is vital in making use of such valuable experience. Such cooperation could include exchange of evaluations of other country's projects and mutual evaluation of such projects.

1-2-4 Training of Personnel for Aid

The Japanese government should give top priority to increasing the ranks of aid personnel in its efforts to strengthen the administrative system of discharging Japanese aid. It is often noted that the number of the certain central government officials and Overseas Economic Cooperation Fund (OECF) and JICA staff who oversee ODA is quite small compared to other donors. Similarly, the number of Japanese engaged in NGO activities is also small compared to other Western countries. Further efforts should be made to boost the number of aid personnel not only bureaucrats administering ODA disburse-

ment but representative from the private sector such as NGOs. Only when this is achieved will it be possible to implement assistance sensitively geared to meet human needs, as mentioned above. Besides increasing personnel, attention should be given to elevating the competency of existing aid personnel and making better use of them.

(1) Training of Aid Personnel from Local Governments and NGOs

Both in terms of providing development assistance to Nepal, and in terms of reinforcing the present ODA system, it would be useful to consider the efficacy of "village revitalization" measures local governments have taken to effect regional development and the NGO grass-roots approach to aid. The most important thing for the Japanese government to do to increase the numbers of Japanese aid personnel is to actively support the development of the human resources from local governments and NGOs.

A system which Local government personnel receive training in international cooperation has been already implemented. However, systematic support will be required, particularly in regard to defining their status. Specifically, institutional support will be necessary before more local government personnel can be dispatched to project sites abroad. Given the character and doctrine of some NGOs, in some cases it is not appropriate to provide direct training for NGO personnel to serve as Japanese aid personnel. However, the official assistance agencies can assist in the training of NGO personnel or support them by providing information on recipient countries through mutual exchange.

(2) Dispatch of Experts Familiar with Local conditions

Given the diversity of local conditions, it will be important to provide assistance which emphasizes development of human resources in local areas and to dispatch experts who are familiar with local conditions. A considerable period of the experts' stay in the field is spent learning the language and adapting to the living environment. Extending the period of stay is not necessarily advisable since this will make it difficult to recruit experts and often produces more harm than good. The best approach, at present, is to expand the Development Specialists System of JICA by drastically increasing the number of specialists, so as to create a system in which experts with specialized knowledge in a specific sector can provide expertise on a country and regional basis. The Development Specialists System would allow for the gath-

ering of information and experiences acquired through the activities of these regional Development Specialists in the system itself. ODA activities in recipient countries can also be assessed on a continual basis through the data stored in this institution. This system can counter the often-heard criticism that projects lapse with each turnover in the administrators.

A grass-roots approach is also required of the experts dispatched to Nepal, and to local areas in particular. Hence, the important issue is how to utilize the experience of people on the grass-roots level, such as JOCV volunteers and NGOs. One possible step would be to assign these people to experts. In this case it will be necessary to establish and expand training systems for them to improve their technological competence and to give them management tasks.

(3) Staffing of Local JICA offices with Experts in Local Development and the Dispatch of JOCV Teams

The Nepalese government has emphasized local development, as have all central government agencies associated with development. However the effects of bureaucratic sectionalism have prevented the various agencies from adequately coordinating specific development projects. Local governmental offices supplement the local offices of central agencies at the local level, but their respective powers are not clearly distinguishable, nor does the division of labour function effectively among them. This situation has quite serious ramifications on local development. It is difficult to find a suitable Nepalese administrative organization which can formulate a master plan for developing each local area. In reality, Japan, as a donor, needs to formulate scenarios for local development itself. JICA's Nepal office is well suited to the task, and so the staff at the JICA office should be boosted and staff specializing in survey activities and formulation of development programmes ought to be posted there permanently. There is not enough time and energy to consider and analyze the situation from a broader perspective under the present system and staff pool. Should it prove to be difficult to promptly bolster this system, it will be necessary to expand the current Project Formulation Specialist System instead and to dispatch such staff on a long-term and continuing basis.

Dispatch of volunteer JOCV teams is a useful step in discharging local development. Such teams should be composed of a volunteer who can take the initiative and formulate development plans and other volunteers specializing in various areas, such as agriculture, handicrafts, civil engineering and nursing, who will spread knowledge and technology of each area.

2. Recommended Development Projects for which Japan is Considering Provision of Cooperation(*) (*) The cases noted below have not necessarily been designated for implementation. The planning and implementation of specific projects will be determined following surveys and analysis by the Nepalese government and responsible Japanese organizations.

Primary Development Challenge	Projects to be Considered for Cooperation	Targeted Areas (**)	Considerations and other Comments
1. Stable Production of Food and Creation of Employment Opportunities	(Improvement of Agricultural Productivity (Increased Foodstuff Output))	Tarai, Mountains, Capital	Improve and popularize new rice strains which are suited to Nepal's diverse natural environment, resistant to blight or harmful insects. Provide guidance and popularize double cropping and other effective farm management methods. In an effort to promote efficient spread of new techniques, initially exemplary farmers will be targeted to receive instruction.
	- Development of system to test, study and popularize new rice strains		
	- Expansion of irrigation facilities	Tarai	The upkeep and management of existing large-scale irrigation facilities are plagued by problems. Resident participation should be encouraged from the planning and construction stages and farmers should be urged to form water management associations. Development of small-scale irrigation utilizing ground water would be effective.
	- Establishment of a loan system for farmers	Tarai, Mountains, Capital	A loan system to help small farmers meet operating expenses. This plan will require the organization of cooperative groups like mutual-help societies. It would be valuable to consider two-step loans, etc.
	- Organization of various agricultural co-operatives	Tarai, Mountains, Capital	Cooperatives should be set up to help provide local input into questions such as execution of development projects, to encourage resident participation in programmes, to oversee joint deliveries of products and joint purchase agricultural input, and to manage, maintain and operate commonly owned productive facilities.
	- Vitalization of distribution system of agricultural input	Tarai, Mountains	
	(Adjustment of Supply-Demand Balance for Foodstuffs)		
	- Strengthening of Nepal Food Corp.'s functions	Tarai, Mountains	Adjust the inter-regional balance in supply and demand for foodstuffs in order to slow migration flows to the cities.
	- Construction of grain warehouses	Tarai, Mountains	Optimal use should be made of locally procured materials and equipment. Facilities need to be subject to standardization.
	(Encouragement of Diversification and Commercialization of agricultural products and Livestock)		
- The survey, study and development of biological resources	Mountains	The bountiful biota found on the southern slopes of the Himalayas should be surveyed and studied with an eye toward conservation and commercialization of useful plants.	

(**) Targeted Areas: Targeted areas is classified in Tarai, mountains and capital.
 Tarai means Tarai Plain. Mountain means the hills and mountains.
 Capital means Karamandu and Karamandu Basin.

Primary Development Challenge	Projects to be Considered for Cooperation	Targeted Areas	Considerations and other Comments
	<ul style="list-style-type: none"> - Development and popularization of useful cultivated crops 	Mountains	Develop and popularize highly marketable cultivated crops that make use of Nepal's diverse climatic conditions. This will require the establishment of agricultural co-ops to oversee the joint delivery, distribution, marketing and cooperative purchases of agricultural input. Surplus farm products should be subjected to primary processing when distribution of fresh foods is difficult.
	<ul style="list-style-type: none"> - Development of horticultural crops nearby areas with high food demands 	Tarai, Mountains, Capital	Improve and popularize strains of vegetables and fruits traditionally grown near Kathmandu, the cities in the Tarai and tourist resorts in the mountains. These include citrus fruits resistant to the cold, apples, grapes, persimmons and chestnuts suited to cool climate in the hills and mountains.
	<ul style="list-style-type: none"> - Study and development of programmes to extract plant seeds 	Tarai, Mountains, Capital	Seeds of radishes, turnips, carrots, etc.
	<ul style="list-style-type: none"> - Development and guidance into dairy farming and livestock husbandry (Development of Distribution Channels and Markets) 	Tarai, Capital	Provide technological guidance on dairy and meat processing, poultry raising, processing animal feed and management-related advice in nearby-areas with high food demands.
	<ul style="list-style-type: none"> - Construction of market facilities 	Tarai, Mountains	Administrative guidance on operation of markets and permanent market facilities are required.
	<ul style="list-style-type: none"> - Development of information network regarding distribution (Agro-forestry and Conservation of Forest Resources) 	Tarai, Mountains, Capital	Upgrade the system which transmits information on market trends, commodity prices, etc.
	<ul style="list-style-type: none"> - Spread of cultivation of trees for fodder and fuel 	Tarai, Mountains	Spread the notion of family- and community-managed forests. Also provide advice on raising the standard of living through the introduction of improved cooking ranges and effective guidance on agricultural technology, eliminating waste of trees for fuel and fodder.
	<ul style="list-style-type: none"> - Research into new agricultural methods that incorporate animal husbandry (Reduction of Natural Disasters) 	Tarai, Mountains, Capital	The amount livestock raised under traditional agricultural methods far exceeds appropriate levels, resulting in clearing of forested land for pastures. It will be necessary to research and develop new balanced and sustainable agricultural methods that incorporate animal husbandry.
	<ul style="list-style-type: none"> - Afforestation plan at riverheads 	Mountains	Carrying out afforestation plans at the upper reaches of rivers will help forestal landslides, improve the land's water retention powers, and reduce damages from landslides and flooding.
	<ul style="list-style-type: none"> - Assessment of the potentially damaging effects of landslides 	Mountains	Carry out geographical, topographical, botanical and social surveys in each region to determine the risk of landslides or avalanches, assess the potential scope of such damage and construct maps depicting relative risks.

Primary Development Challenge	Projects to be Considered for Cooperation	Targeted Areas	Considerations and other Comments
<p>2. Population Control and Provision of Health Care Facilities</p>	<ul style="list-style-type: none"> - Survey of the potential for breakup of glacial lakes in alpine - River management, sand erosion control - Public edification (Spread of Family Planning) - Spread of family planning concept through media - Promotion of family planning by making village rounds - Support for improved status of women (Improvement of Local Medical System) - Construction and expansion of health posts - Establishment of a referral system and improvement of local hospitals - Training of physicians, medical technicians (Public Health) - Development of simplified water works facilities - Advice on the set up of simplified latrines 	<p>Mountains</p> <p>Mountains</p> <p>Mountains</p> <p>Tarai, Mountains, Capital</p> <p>Tarai, Mountains, Capital</p> <p>Tarai, Mountains, Capital</p> <p>Tarai, Mountains,</p> <p>Tarai, Mountains</p> <p>Capital</p> <p>Tarai, Mountains</p> <p>Tarai, Mountains</p>	<p>Numerous glacial lakes exist in alpine at altitudes of 4,500 meters. The breakup of these glacial lakes could pose a threat of massive flooding or avalanches.</p> <p>Train administrators from the relative Ministries, such as water resources, forestry, road and transport, and agricultural, on river management and sand erosion control.</p> <p>Instruct residents living in areas with high risk of landslides on appropriate responses and premonitory signs.</p> <p>Promote family planning via radio, TV, newspapers and hoardings. Use expressions, charts and pictures, audio-visual materials, etc. which can be easily understood by the illiterate.</p> <p>Doctors and nurses will tour villages providing advice on ways of raising the quality of life, the concept of hygiene, health services for mothers and children, and family planning.</p> <p>Tour various regions to spread and promote the WID (women in development) concept.</p> <p>Review existing health posts and reassess the supply system for pharmaceutical items and medical goods, and fill the shortages in medical personnel.</p> <p>Set up a communication network encompassing telephones or wireless radios.</p> <p>Reassess the relationship between the internationally recognized medical certification system and Japan's present assistance system for the training of physicians and medical technicians.</p> <p>Most water intake and supply systems are small in scale and various as the villages they serve are located in areas with various topographies. Water works need to be customized to meet various circumstances. Resident participation at the planning and construction stages is vital.</p> <p>Encourage wider use of septic tank-type latrine. It will be necessary to do this while providing guidance on hygiene and ways of improving the living standard.</p>

Primary Development Challenge	Projects to be Considered for Cooperation	Targeted Areas	Considerations and other Comments
3. Improvement of Balance of Payments and Structural Adjustment Policies	<p>(Promotion of Tourism in the Himalayas)</p> <ul style="list-style-type: none"> - PR activities to lure tourists - Development of domestic airline networks - Improvement of air safety system - Strengthen the management of air carriers - Development of communications network - Development of local tourist bases - Environment preservation at national parks, tourist trekking routes - Training of mountaineering and trekking guides - Development of new tourist attractions <p>(Contribution of Manufacturing to the Balance of Payments)</p> <ul style="list-style-type: none"> - Development of import-substituting products - Promotion of export of handicrafts 	<p>—</p> <p>Tarai, Mountains</p> <p>Tarai, Mountains, Capital</p> <p>Capital</p> <p>Tarai, Mountains</p> <p>Mountains, Tarai, Capital</p> <p>Tarai, Mountains</p> <p>Capital</p> <p>Tarai, Mountains</p> <p>Tarai, Capital</p> <p>Tarai, Mountains, Capital</p>	<p>Produce and distribute posters to lure foreign tourists. Set up tourist information centres in Asia and Europe.</p> <p>Improve the safety of existing airports by upgrading regional airport runways, communications equipment, and airport offices, etc.</p> <p>Katmandu airport, set in a valley rung on all sides by the soaring Himalayas, is said to have one of the most difficult approaches to in the world. This project would set up an air safety system that takes into account the results of investigations into the recent fatal crashes that have occurred there.</p> <p>Improve the organizational and management facets of Royal Nepal Airlines. Improve efficiency of the reservation system through computerization.</p> <p>Improve telephone and wireless radio networks.</p> <p>Improve facilities at tourist centres such as Katmandu, Pokhara, Lukla and Namche by providing safe water, emergency medical facilities and communication facilities.</p> <p>Introduce the concept of eco-tourism. Environmental degradation has occurred where climbers and tourists assemble. Tourists should be required to carry out and dispose of cooking and heat fuel (butane gas and oil), climbing equipment, empty cans and other garbage. Check points and patrols should be fortified.</p> <p>Open a training school for guides. It would provide instruction on Nepal's topography and ecological features, climbing techniques, first aid, hygiene, the cuisines of various countries, and various languages. A guide association and a licensing system would be useful in improving the social position of trekking guides.</p> <p>Develop heretofore unknown tourist attractions like white water rafting or safaris in Tarai jungle. New trekking routes and other attractions should be developed and promoted to lure tourists.</p> <p>Encourage development of goods produced by light-manufacturing industry and processed foodstuffs which are currently imported primarily from India and China.</p> <p>Encourage the export of handicrafts such as jewelry, fine art and applied fine art.</p>

Primary Development Challenge	Projects to be Considered for Cooperation	Targeted Areas	Considerations and other Comments
<p>4. Human Resources Development</p>	<p>(Development of Cottage Industries and Small-scale Industries)</p> <ul style="list-style-type: none"> - Discovery of new souvenirs distribution and marketing feasibility surveys 	<p>Tarai, Mountains</p>	<p>Nepal's souvenirs (wooden handicrafts, woven goods, brass works, paper and ceramics etc.) reflect the distinctive features of each respective locality. A survey should be undertaken to uncover these handicrafts and to determine the feasibility of distribution and marketing them as gifts for tourist or as utilitarian articles.</p>
	<ul style="list-style-type: none"> - Technical, management-related guidance in regard to development of promising local handicrafts, advice on formation of artisans' associations 	<p>Tarai, Mountains</p>	<p>Technical advice on the design and processing of souvenirs that show commercial promise. Provide advise on setting up sales outlets and other channels for promoting sales and guidance on the formation of artisans' associations.</p>
	<ul style="list-style-type: none"> - Establishment of small-scale loan system 	<p>Tarai, Mountains</p>	<p>Help foster the growth of souvenir makers by providing a loan system for the purchase materials and expansion of production facilities.</p>
	<p>(Improvement of Education)</p> <ul style="list-style-type: none"> - Training of elementary and junior high school teachers 	<p>Tarai, Mountains, Capital</p>	<p>Set up training centres in various cities in order to encourage the settlement of teachers in outlying regions. Provide periodic training courses for instructors.</p>
	<ul style="list-style-type: none"> - Expansion of vocational training 	<p>Tarai, Mountains, Capital</p>	<p>Set up vocational training schools in major regional cities with the aim of fostering a core of competent technicians.</p>
	<ul style="list-style-type: none"> - Expansion of non-formal education 	<p>Tarai, Mountains</p>	<p>Help develop human resources who will take part in local development by teaching illiterate adults reading and writing skills and practical science.</p>
	<ul style="list-style-type: none"> - Research of textbooks and curriculum 	<p>Capital</p>	<p>Revise science and mathematics textbooks for elementary, junior and senior high school students and develop new instructional materials. Study the effective curriculum and instructional methods.</p>
	<ul style="list-style-type: none"> - Expansion of higher learning institutions 	<p>Tarai, Mountains, Capital</p>	<p>Research into Nepal itself is wanting as most literate Nepalese receive higher education in foreign countries. Higher learning facilities should be expanded to encourage the training of researchers and instructors, and also to prevent the brain drain. More instruction needs to be given on Nepal itself.</p>

Primary Development Challenge	Projects to be Considered for Cooperation	Targeted Areas	Considerations and other Comments
	<ul style="list-style-type: none"> iv. Training of electricians, mechanics and engineers v. Construction of peripheral and mainline facilities <p>(Construction and Improvement of Roadways)</p> <ul style="list-style-type: none"> - Improvement and expansion of the East-West Highway - Development of the north-south roadways - Strengthen the road maintenance and management systems 	<p>Tarai</p> <p>Tarai, Mountains</p> <p>Tarai, Mountains, Capital</p>	<p>Mid- and top-level technicians should be trained prior to the initiation of large-scale projects.</p> <p>Promptly complete the under constructed portion of the East-West Highway (which forms part of the Asia Highway) that traversing the Tarai. Strengthen the maintenance and management systems for the existing portion of the highway.</p> <p>Construct a roadway running north-south which will tie into the East-West Highway and local townships in the hills and mountains.</p> <p>Existing roadways have deteriorated severely due to insufficient maintenance.</p>

Primary Development Challenge	Projects to be Considered for Cooperation	Considerations and other Comments
<p>© Development of Local Townships</p>	<p>(Promotion of Agriculture)</p> <ul style="list-style-type: none"> - Commercialization of agricultural products - Introduction of Agro-forestry (Development of cottage industries and small-scale industries) - Surveys to unearth, develop and market souvenirs - Technical and management-related guidance on production and sales of promising souvenirs, and guidance on the formation of artisans' associations. - Establishment of a small-scale loan program (Discovery and development of new tourist attractions) - Development of new trekking courses which take local towns as base points - Technical and management-related guidance in lodge and hotel operation - Development of horticultural crops and livestock for consumption by tourists (Development of Social Infrastructure) - Making plans for efficient local electrification - Development of local water works facilities 	<p>Popularize the cultivation of horticultural crops and cash crops that are readily adapted to the various climates. Organize farmers' associations, improve distribution networks, establish markets.</p> <p>Environmental management aimed to protect soil, etc. Ensure compost for cultivation and fuel for households.</p> <p>Survey the feasibility for developing and marketing newly discovered souvenirs to help create employment opportunities through revitalized economic activities.</p> <p>ibid</p> <p>ibid</p> <p>Develop new natural and cultural attractions set in the mountains and villages. Layout trekking courses featuring these attractions and promote them to tourists. Discover and promote villages offering fabulous mountain vistas, lush patches of rhododendrons and blue-poppies or exciting performing arts.</p> <p>Provide technical advice to managers and employees at hotels and restaurants frequented by tourists and central government officials. Financial support will also be required.</p> <p>Popularize the cultivation of fruits, vegetables, and poultry that will meet needs of tourists and cities with large demand.</p> <p>Consider the relative economic merits of small-scale hydroelectric power generation versus transmission from large-scale power plants.</p> <p>Set up simplified filtering equipment for water drawn from rivers. As many local towns are set along mountain ridges, electric power is needed to operate water supply facilities.</p>

Primary Development Challenge	Projects to be Considered for Cooperation	Considerations and other Comments
	<ul style="list-style-type: none"> - Construction and improvement of local hospitals - Expansion and improvement of educational facilities - Improvement of community centres, market facilities - Popularization of oil and alternative energy <p>(Development of the Economic Infrastructure)</p> <ul style="list-style-type: none"> - Establishment of a road construction, maintenance and management system - Improvement of the communications network 	<p>A system should be set up to require doctors, nurses and medical technicians to work in local areas for certain number of years. Local medical services should be expanded through the improved referral system, linking tail end health posts with advanced local hospitals such as District hospital.</p> <p>Expand and improve specialized training schools for elementary and junior high school instructors and mid-level technicians, as well as high schools and colleges.</p> <p>Construct and improve community centres accompanies many facilities such as marketplaces, storehouses and assembly halls. These centres should be used to educate women in areas as reading and writing, hygiene, health services for mothers and children, and handicraft making etc.</p> <p>Because many urban residents are in the process of adjusting to urban life, they still depend largely on firewood for fuel needs. The growing urban population has pushed demand for firewood high and forced up prices. Electricity, oil and other alternative energy need to be promoted from the vantage point of forest conservation.</p> <p>Construct a road that will link up cities bordering India. It is also important to build mule tracks linking townships with surrounding villages. This should be undertaken with resident participation. The construction of roads in higher altitudes to the north is unfeasible in the near term due to threat landslide damage and the lack of an adequate maintenance and management systems.</p> <p>A communications networks linking regional cities is now being developed with the aid of Japanese grants, etc. This network needs to be enlarged to encompass other regional cities.</p>

**List of Members of the Country Study Group
for Development Assistance to the Kingdom of Nepal**

Chairperson:

Hiroichi YAMAGUCHI

Professor, Faculty of International Studies, Bunkyo University

Members:

Kyoko INOUE

Researcher, Current Affairs Department, Institute of Developing Economies

Akio UJIHARA

Professor, Faculty of Agriculture, Shinshu University

Katsuhiko KANO

Professor, Faculty of Literature, Kanazawa University

Shozo KITTA

Chief Representative in New Delhi, The Overseas Economic Cooperation Fund
(until August 1992)

Shigeru KIYAMA

Director, 2nd Division, Loan Department II, The Overseas Economic Cooperation Fund (from September 1992)

Kenji SAWAMURA

Visiting Professor, Hyogo Medical College

Members of Task Force

Yuji MARUO (Chief)
Development Specialist, JICA

Maya KAWAGOE
Researcher, Japan International Cooperation Center (JICE)

Seiichi KOIKE
Research and Development Division, Institute for International Cooperation,
JICA

Yuriko SATO
Deputy Director, Environment, WID and Other Global Issues Division, Plan-
ning Department, JICA

Toshiaki TANAKA
Planning and Survey Division, Emigration Department, JICA

Hiroaki NAKAGAWA
Director, Third Training Division, Training Affairs Department, JICA

Yukari NAKAMURA
Associate Researcher, Survey Department, International Development Center
of Japan

Kayako MORI
Associate Specialist, JICA

Yoichi YAMAGATA
Development Specialist, JICA

Hideo ONO (Advisor)
Managing Director, Hokuriku Branch, JICA

Shuichi KUMANO (Advisor)
Director, First Experts Assignment Division, Expert Assignment Department,
JICA

JICA