

**INTERNATIONAL COMMISSION ON LARGE DAMS**

**DAMS and RESETTLEMENT**

*Lessons learnt and recommendations*

**COMMITTEE ON THE ENVIRONMENT**

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## **Foreword**

The issues concerning to the resettlement caused by dam development projects have been arisen in after year of 1970. ICOLD Committee on the Environment is also discussing this important issues and intending to prepare the report as Bulletin.

This report was originally prepared by former Committee members and actual Committee succeeded to prepare the final draft. Chairman K. Baba asked to Taskforce for the reviewing of original draft and preparation of the final draft 2004.

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**Kyohei BABA**

Chairman

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# CHAPTER 1

## INTRODUCTION

Resettlement caused by development projects is a topic of increasing international interest. Over the years, involuntary resettlement has sometimes been dealt with in an authoritative manner as a low priority component of major infrastructure works. The situation resulted in massive criticism of large development projects by environmentalists. Subsequently, substantial improvements have been made to minimise the impact of resettlements. However, insufficient information pertaining to improved resettlement management is available in printed form. The majority of resettlement literature is diffused and not easily located. Resettlement lacks the clear definitional boundaries of major academic disciplines such as history, economics, sociology, etc. By virtue of its multi-disciplinary nature, the literature on involuntary resettlement ranges from social sciences to engineering. There is thus a need for dissemination of information on Resettlement in a brief form.

The report is intended to be an informational source for policy makers as well as implementers. It should highlight the latest policies, criteria and resettlement measures adopted, their implementation aspects and the performance or effectiveness of the mitigation measures taken to improve the living standards and quality of life of the relocation.

### 1.1 CONCEPT AND DEFINITION

Resettlement is frequently caused by large projects involving a major change in land and water use such as dams and reservoirs. The concept of resettlement has evolved over the years, with the increase in the number of development projects around the world, and the increase in resistance to development projects by the local populations.

As articulated by the World Bank, “Involuntary resettlement” consists of two distinct processes, namely physical displacement of people and their subsequent rehabilitation. Displacement covers land, assets and public infrastructure that are appropriated to allow a project to proceed for the overall social good. Rehabilitation concerns the future of the displaced people and provision of their livelihood. The resettlement can only be successful if the rehabilitation of the dislocated is sustainable and that depends on how resettlers are assisted to rebuild their livelihood.

Involuntary resettlement is quite different from voluntary population movements. In “voluntary settlement” programmes, the primary objective is to establish new settlements with vested interest in providing adequate incentive and opportunities so that settlers will be attracted to the new site. In contrast, involuntary resettlement does not include the choice to remain in place and resettlers often face more risks than opportunities.

### 1.2 OBJECTIVES OF RESETTLEMENT

The objective of a successful resettlement programme is to ensure that the project affectees should have their former living standards and income-earning capacity improved and should be provided adequate support during the transition period. The affectees include both the displaced persons as well as the hosts. Important to this end is the inclusion of an honest and continuous dialogue with the people to be relocated concerning the resettlement plan.

Involuntary resettlement is an integral part of Project design, and is to be dealt with from the earliest stages of Project preparation.

Involuntary resettlement should be avoided or minimised wherever feasible, exploring all viable alternative Project designs. Where unavoidable, resettlement plans should be conceived, developed and executed as development programmes, with resettlers provided sufficient investment resources and opportunities to share in Project benefits.

Community participation should be made essential/compulsory in the planning and implementation of resettlement.

Land, housing, infrastructure and other compensation should be provided to the adversely affected population.

The compensation process should be fully transparent.

Given the growing requirements and complexity of resettlement in development projects, concerned government agencies and departments should upgrade their institutional capacity to design and implement Resettlement Action Plans.

The main risk arising from forced displacement is the impoverishment of the affected people. Poorly managed resettlement can cause increased poverty. Well-managed resettlement, on the other hand, can be an essential part of a nation's poverty reduction strategy.

Not infrequently, involuntary resettlement of people has been treated in the past as a salvage and welfare operation, rather than as one pursuing development objectives. Resettlement can be bureaucratically dealt with by some planners or administrators as a mere and hasty physical removal of people from a project site. But it may also be approached as a multisided opportunity for the reconstruction of system of production and human settlements that would represent a development and enhancement in the standard of life of those affected, as well as in the regional economy of which they are a part.

It must be noted that resettlement offers an opportunity not only for improved quality of life but also for environmental improvement through diminished air and water pollution.

### 1.3 PAST TRENDS

Dismantling the socio-economic system of large groups of people and then rapidly reconstructing dismantled communities and rebuilding the livelihood of uprooted people is not an easy task. Where earlier resettlement experiences have been unsatisfactory, it is because officials planning large development projects underestimated the complexity of resettlement.

Therefore, during the 1960's and early 1970's, projects sometimes contained relocations that were flawed by the lack of social planning. They failed to restore, let alone improve, the social and economic well being of the displaced population.

Past experience has also shown that the failure to carry out social surveys of those to be dislocated as well as of the host-area populations, made it impossible to conduct an adequate appraisal of resettlement plans, costs and organisational arrangement. Bad project preparation combined with weak formulation of viable re-development alternatives resulted in resettlement components that were underdesigned, underfunded and understaffed.

This record calls for changes through improved policy approaches, greater resource allocation, and enhanced implementation standards.

### 1.4 NEED FOR IMPROVEMENT IN RESETTLEMENT

There is a compelling economic and planning argument to improve the quality of resettlement and rehabilitation. Improved resettlement will minimise the risk of social unrest and will reduce opposition to existing and future projects, and mitigate the disruption and delays inherent to such tensions.

Improving resettlement is difficult for developing country governments, particularly in low-income countries with land scarcity, resource limitations, and constraints on institutional capacity. Yet, progress has been substantial over recent years, and in certain countries, it has been remarkable. However, major problems and difficulties associated with involuntary resettlement operations continue to be faced and often implementation performance is lower than expected. Thus, it is an urgent priority to improve the performance of resettlement programmes.

There are dire ecological reasons for planning and implementing an appropriate resettlement operation. The large majority of relocatees prefer to remain close to their previous homes, which means they often prefer to be relocated near the reservoir. Hence, population densities go up, putting more pressure on land and water resources. If production systems, are not designed and implemented properly, impoverished farmers and their livestock may not only degrade their land base but also deforest and overgraze watersheds with increased soil erosion and sedimentation throughout the reservoir basin.

Should they resettle as underemployed and unemployed labourers in towns and cities, such relocatees place additional strains on urban facilities and contribute to urban environmental problems. According to the World Bank, inappropriately resettled people are likely to resort to squatter settlements and undermine the project's objectives.

Even without the reasons previously outlined, a strong humanitarian argument can be made that those who give up their homes and familiar surroundings to large scale development projects, should share in the benefits that accrue from these projects. In other words, those who are required to make way for development projects must also benefit from, and, if willing, participate in the development process that is expected to follow. As also stated earlier since relocation is a sacrifice for the majority (especially among relatively immobile and isolated rural populations with strong ties to their natal environment), if relocation only allows them to regain former living standards, from a sociological point of view they are worse off than before.

## CHAPTER 2

### RESETTLEMENT ISSUES

The act of relocating population is highly disruptive. Multidimensional stress (psychosocial impact) caused by displacement and relocation, and how people respond to it are important issues. Scudder (1975) identifies three main categories of multidimensional stress: (i) psychological; (ii) physiological; and (iii) socio-cultural. Psychological stress is caused by heightened uncertainty before the move and during the initial years as resettlers adapt to a new environment and realise that they must leave their old homes behind forever. Physiological stress is usually caused by increased population densities, inadequate food or water supplies, and environmental traumas in their new sites. Socio-cultural stress refers primarily to a crisis of cultural identity triggered by a loss of faith in the adequacy of traditional institutions and culture. People no longer confide in the efficacy of traditional coping mechanisms such as rituals or political intermediation, thus increasing the levels of psychological stress that they experience. Over time, this will shift as people grow more confident in their new environment.

#### 2.1 PITFALLS IN RESETTLEMENT PLANNING

The resettlement of those dislocated by a project is a particularly complex undertaking. It has been felt that when adequate resettlement is not planned and provided, development projects that should have been welcomed by populations as beneficial instead become a focus of harsh criticism. Nine grave pitfalls in resettlement planning have been identified. Wherever resettlement has been unsatisfactory, it is because officials:

- a) Underestimate the number of persons requiring relocation ;
- b) Underestimate the financial requirements for removal, reestablishment and development ;
- c) Underestimate the institutional requirements ;
- d) Underestimate the complexity of phasing resettlement and reestablishment activities so that new agricultural systems and new industrial or other job opportunities are ready to absorb the relocatees at the time of their removal.
- e) Underestimate the time required to successfully complete resettlement programmes ;
- f) Underestimating the land requirements for resettling agricultural and other Project Affected People (PAPs), in addition land required for infrastructural provisions in resettlement colonies
- g) Underestimate the stress associated with involuntary community resettlement ;
- h) Underestimate the tensions between relocatees and the host population following the completion of relocation ; and
- i) Underestimate the need for a clear national legislation for resettlement. If legislation is unclear or non-existent, (as it often is), that can easily be a primary problem in implementing a successful resettlement programme.

An improved approach to resettlement should counteract the aforementioned underestimation.

#### 2.2 IMPLEMENTATION PROBLEMS IN RESETTLEMENT

When people are forcibly moved, people lives are affected in very painful ways. Production systems may be dismantled, long-established residential settlements are disorganised, kinship groups are scattered, and communities are divided. Many jobs and assets are lost. Health care tends to deteriorate. Symbolic markers, such as ancestral shrines and graves, are abandoned, breaking links with the past and with people's cultural identity. The cumulative effect is that the social fabric and economy are torn apart.

Moving people involuntarily also raises legal issues. Compulsory relocation without just compensation violates people's individual and group rights. The fact that projects frequently are delayed by courts,

and that compensation levels are often raised significantly on appeal, reflects the recognition in legal systems that people cannot be arbitrarily displaced without just compensation. When resettlement processes are carried out in a lawful manner that fully respects people's rights, opposition to projects by adversely affected people is reduced (although not eliminated) and overall project implementation is likely to proceed more orderly.

Some of the common problems encountered during implementation of resettlement programmes are outlined hereinafter :

- i) Delay in finalising project details resulting in excessive/piece meal requisition by project authorities.
- ii) Administrative delays in completing process
- iii) Inherent delays due to objections or disputes on quantum and entitlement of compensation
- iv) Delay in paying compensation
- v) Enhancement of compensation by Courts
- vi) Inadequate or untimely budget provision
- vii) Difficulty in acquiring land, for land-for-land compensation
- viii) Inferior quality of alternative land
- ix) Acquiring land for compensating project displaces may create a new group of non-project displaces
- x) Illegal occupants who are ineligible for benefits
- xi) Integrating displace with local people
- xii) Infrastructure provision in new colonies
- xiii) Difficulty in re-creating original social and cultural environment in the new settlement
- xiv) Lack of co-ordination between different wings of Government as well as with the project authorities
- xv) Absence of local leadership encouraging middlemen

Resettlement is always more difficult, more expensive and more time-consuming than generally realised. The largest resettlement operations move tens of thousands of people-often very poor people-long distances in a very short time, and re-establishing their standard of living is a hard task. All resettlement plans should, therefore, incorporate provisions to tackle implementation problems described in this section.

## CHAPTER 3

### CASE HISTORIES AND LESSONS LEARNT

This chapter describes effective resettlement management experiences on some major dam projects in various countries.

#### 3.1 DANJIANGKOU DAM & RESERVOIR, CHINA

Located several hundred kilometres up the Han River from its confluence with the Yangtze at Wuhan (China), the first stage of the Danjiangkou Dam was built in the 1960's and 1970's as a multipurpose facility. Resettlement began at Danjiangkou in the mid-1960 and lasted until mid-1970. Survey and monitoring data indicated that initially, many of the relocatees were worse off than they were before the relocation, with living standards not beginning to rise until after approximately seven years of their relocation.

Some 383,000 people were resettled between 1966 and 1977. Approximately 230,000 people were moved to Hubei and the remaining 153,000 to Henan. Most of the relocatees were farmers.

The years immediately following relocation (1968-1978) were considered the most difficult by both relocatees as well as the resettlement officials. There was a lack of funds for all resettlement activities especially deficient were funds for helping the relocatees establish new production systems in the new environment. The responsible officials realised that the resettlement programme was in trouble. New state policies on resettlement were then introduced in 1978. A new source of development capital was made available for the sole benefit of the relocatees. This was a share of revenue @ 0.001 yuan/kWh (0.5%) from the sale of Danjiangkou electricity. This capital was used to establish sawmills, furniture, brick, tile, fertiliser factories and other industrial enterprises. Additional roads and irrigation water facilities were constructed or improved which triggered off a new era of development. Living standards began to rise. In addition to this, a special ten-year development fund, namely the "Resettlement Remaining Problems Fund" was created to assist the relocatees. A diversified programme of horticulture, fishing, forestry, animal husbandry and agroprocessing was launched.

#### **Revenue Sharing**

A successful initiative of this example was revenue sharing with the affectees. While revenue sharing of hydropower generation was a major innovation, the first such revenue did not become available until seven or more years after the initial resettlement was launched. The creation of the "Resettlement Remaining Problems Fund" became necessary for the intervening period till adequate revenues starting flowing from the sale of electricity. Chinese resettlement planners are now developing proposals to institutionalise a reliable mechanism to ensure both sufficiency and continuity of funding during the initial years of resettlement.

#### 3.2 THE THREE GORGES CASE STUDY, CHINA

The need to relocate some 1,000,000 persons constitutes the largest socio-economic impact of the Three Gorges Project on the Yangtze River in China. The resettlement requirements of the Three Gorges Project are thus unprecedented. The local government was charged with the responsibility of preparing a draft plan for their community. This was reviewed by specialists and improvements identified for further consideration.

The planning approach followed to ensure the resettlement of the population displaced by this project is based on the latest standards of international agencies, in particular the complete social and economic reestablishment of those to be resettled, including the opportunity to improve standards of living as well as productivity. In addition, resettlement would not have an adverse effect on the host population.

The five most important resettlement-planning issues were identified as agricultural resettlement, non-agricultural resettlement, host populations, and resettlement costs and resettlement organisation.

A model was developed to test job creation for each project alternative and for each project county. The model seeks to develop an appropriate mix of livelihoods for all rural relocatees, subject to job potential, land availability and other constraints. Resettlement costs are defined, as the costs required carrying out a successful resettlement programme. Since such a programme would be the direct consequence of the proposed Three Gorges dam, resettlement costs are a direct project cost and are included in the economic evaluation of the project. They account for one-third of total project costs. A single resettlement planning and management organisation, separate from dam construction-related organisations, that would ensure a uniform approach and guidance as well as an effective vehicle for planning, organising and budgeting resettlement, has been recommended. Much of the actual resettlement work in terms of new construction, agricultural and industrial development would be delegated to county and township authorities.

### 3.3 TEMENGOR HYDROELECTRIC PROJECT, MALAYSIA

One of the earliest resettlement programs ever experienced in Malaysia was during the construction of the Temengor Hydroelectric Project in 1974.

Some 136 families comprising of 1,500 people were displaced by the reservoir development. In spite of the absence of any detailed study of community needs and expectations of the villages to be relocated, the basic principles relating to government responsibility, resettler rights and participation was exercised. The community was represented in the decision-making committee in dealing with issues such as compensation, infrastructure needs, etc.

A new township was constructed to relocate these families. The Resettlement Township is about 50 km downstream of the dam with an area of about 1,000 ha. Each resettled family was provided with a 3-bedroom house on a 0.2 ha lot with public facilities such as school, clinic, mosque, community hall and police station. Infrastructure facilities included paved access and service roads, electricity and treated water.

Each settler family was further provided with 5 ha rubber trees together with a monthly subsidy until the planted trees reached maturity.

An socio-economic study of the resettled population was conducted in 1989 ten years after they had been resettled. The study was to assess the socio-economic conditions of the population with some focus on psychological adjustment and the effectiveness of the resettlement programme.

On the basis of both income and non-income indicators the results of the study showed that the resettled population have experienced a marked improvement in their general living standards.

The key factors in the success of the resettlement plan for the Project were thus “local community participation” and “post-project monitoring”.

### 3.4 TARBELA DAM, PAKISTAN

Tarbela Dam on River Indus in Pakistan, the world's largest earth/rockfill dam, was completed in the year 1977. It is 148 m (485 ft.) high and 2,744 m (9,000 ft.) long structure with a live storage capacity of 12 billion cubic meters (9.74 MAF) and installed capacity of 3,500 MW of hydropower generation. Approximately 80,000 people (16,000 families) from nearly 100 villages were displaced.

Keeping in view the magnitude of the huge and complex problems of land price assessment, legal awards, compulsory acquisition, compensatory payments, evacuation and proper resettlement, a separate organisation known as “TARBELA RESETTLEMENT ORGANIZATION” was created in 1967 in advance of commencement of construction. Nearly 50,000 acres (20,234.3 ha) of state-owned land was allocated to eligible families. All of the land was canal irrigated.

The affected population was divided into two main categories as follows:

i) Eligible Families

Owners of agricultural land possessing a minimum of half an acre (0.2 ha) of irrigated land or two acres (0.8 ha) of rain-dependent land (non-irrigated) in the project were offered alternate land area. The minimum area offered per family was not less than 12 acres (4.8 ha). Other incentives included setting up of small industries and vocational training for providing job opportunities to the affectees and extension of credit facilities from Agriculture Development Bank of Pakistan.

Eligible families, who accepted to take alternate land, were moved at Government cost to the places of their resettlement that unfortunately had to be several hundred miles away. A meticulous system had to be designed in shifting large populations to far-flung areas.

ii) Ineligible Families

Families not eligible for allotment of alternate lands under the aforementioned criteria were shifted to newly constructed hamlets/townships along the periphery of the reservoir quite close to their original place of residence. Ineligible families desirous of settlement in the hamlets, were allotted terraced plots of sizes ranging from 25 ft. x 50 ft. (7.62 m x 15.24 m) up to 60 ft. x 90 ft. (18.3 m x 27.4 m) for the construction of their own houses. The price of plots was highly subsidized and was recovered in annual instalments.

The following amenities and facilities were provided in each hamlet:

- i) Access Roads
- ii) Electric Power
- iii) Water Supply
- iv) School, Dispensary, Union Council Building etc.

**Market Value Compensation**

Tarbela Dam example is noteworthy for the market-value compensation. Compensation of original lands and buildings was made to affectees directly at market value plus 15 % compulsory acquisition charge. With the exception of a few litigation cases for compensation, the resettlement plan at Tarbela was successful.

With the prices of real estate gone sky high over the last 20 years or so, and the launching of another hydropower project recently in the vicinity (7 km d/s) of Tarbela, namely Ghazi Barotha Hydropower Project, changes the perspective. Now few families, who had originally declined the then available state-owned alternate land, are pressing the authorities to allot lands to them at the 20-year-old subsidised rates. Notwithstanding the fact that these families have no legal validity in their claims, the Government has made an auxiliary plan to either arrange land for these families or to provide them with cash compensation.

3.5 GHAZI BAROTHA HYDROPOWER PROJECT, PAKISTAN

Ghazi – Barotha Hydropower Project on Indus River with an installed generating capacity of 1,450MW and currently under implementation is a latest example of a Project designed under policy guidelines and procedures developed for involuntary resettlement jointly by the Government of Pakistan and the World Bank. Major planning activities included inter alia early and frequent interactions with the local people. This has kept the planning team attuned to public concerns and desires, and facilitated the participation of the local population in the planning process.

The project is spread over 50 villages affecting a total of 26,378 owners. The total landholding of these owners is 42,129 ha. The costs of resettlement related actions envisaged in the Project have been assessed at US\$ 55 million.

The affectees will resettle near their homes on new spoil banks land provided by the Project along the power channel. This is an innovative approach that avoids the option of resettling people in host communities with all its attendant difficulties.

### **Entitlement Packages**

The Project is committed to providing entitlement to persons who lose their land or other property as well as to those whose livelihood is directly affected by the acquisition of land. In determining entitlement, the purpose has been to identify category of loss rather than category of person affected, as some Entitled Persons (EP's) will suffer more than one loss.

The work opportunities provided under the Project will consist of priority in Project employment through the issuance of work permits. Two categories of work permits (green and blue) will be issued. Green permits will be issued to the most vulnerable Project Affected People (PAP's). Holders of green work permits will be given priority over those holding blue work permits, and will be paid Rs. 500 per month for a period of up to one year or until they find work, whichever is earlier. Holders of blue work permits will have priority in obtaining work on the Project over non-permit holders having equivalent qualifications. Women and minors entitled to a work permit will be permitted to nominate an alternate person to receive the work permit. Except for these categories, permit-holders will not be able to transfer or sell their permits. With respect to access to such services as training and credit, priority will be given to landless affectees.

**Loss of Privately Owned Agricultural Land.** All EP's losing irrigated and rain-fed (barani) land will be entitled to both cash and land compensation. Cash compensation will be based on the market value of land plus an additional 15% as compensation for compulsory acquisition of the land. The compensation land will be on the spoil banks, which will be provided with tubewells for irrigation.

**Loss of Privately Owned Uncultivable Land.** All EP's losing uncultivable land will be entitled to cash compensation. They will also be entitled to blue work permits and Project credit and training opportunities.

If spare land is available on the spoil banks, losers of uncultivable land will be entitled to purchase irrigated land on the spoil banks equal to one-fourth the amount of land they lost to the project.

**Loss of Crops, Orchards and Other Trees.** All EP's losing crops, orchards and other trees will be entitled to cash compensation.

**Loss of Agricultural Infrastructure.** All EP's losing agricultural infrastructure (tubewells, wells, farm buildings, etc.) will be compensated at full replacement value.

**Loss of Residential Houses.** The owner of the plot on which the house is constructed will be provided a plot equal to his plot (or a minimum of 500m<sup>2</sup>).

The owner of the house structure will be provided cash compensation equal to the replacement cost of his house to enable him to build a replacement house on the allotted plot.

**Loss of Employment.** Those who lose employment (resident agricultural labourers and family labourers) will be given green work permits and priority access to project training and credit schemes. Seasonal labourers determined to be significantly impacted by the land acquisition will be eligible for blue work permits and given access to Project training and credit schemes.

### **Organisational Framework**

A Project Resettlement Organisation (PRO) has been set up under the Chief Engineer and Project Director (GBHP). This includes a Social Sciences Branch (SSB), staffed by experts under a Senior Social Scientist. The PRO will be responsible for implementing the Resettlement Action Plan.

**Provincial/District Land Authorities.** The Provincial Governments (Punjab and Northwest Frontier Province (NWFP)) will appoint Land Acquisition Collectors (LAC's) from among its senior Revenue officials to value and acquire land for the Project. Revenue staff will assist the LAC's in updating the land record during the acquisition process and in preparing titles and deeds for the new owners of irrigated spoil banks land.

**Project Non-Governmental Organisation (PNGO).** Government will provide funding for the formation of an autonomous Project NGO. The PNGO has been provided with a trust fund of Rs. 100

million, the profits of which will be used to underwrite its administrative overheads and fund operations. Additional funds will be provided for the Project compensatory activities. The PNGO will operate in four major areas:

**Village Organisation.** It will use the techniques of grass-roots village organising to enable those directly affected by the Project to represent their own interests, and participate in resettlement and compensatory activities and Project benefits.

**Project Field Teams.** Together with SSB staff, the PNGO will form teams to undertake resettlement activities, including the completion of Certificates of Compensation and work permits for each individual losing property or livelihood as a result of the Project, the confirmation of compensation for land, the transfer of resettlers to new housing, and the organisation of resettler farmers to take over land on the spoil banks.

**Compensatory Activities.** It will organise key activities for women, for village landless groups and other direct affectees of the Project, notably training, credit and self-employment generation schemes.

**Regional Development.** It will administer an Integrated Regional Development Plan (IRDP) to develop the Project area and focus on long-term job growth.

**Project Contact Committees.** The PNGO will assist in the formation of Project Contact Committees (PCC) in each affected village. These committees are composed of affectees, will voice affectee interests, and will promote affectee involvement in all relevant Project activities and benefits.

The Government will also set up a Public Information Centre (PIC) to handle various inquiries as well as disseminate project information to the public.

#### **Transparency of Compensation Process**

A number of measures are being adopted to ensure transparency of the compensation process. These include involvement of the PNGO in all aspects related to valuation and compensation; representation of affectees on the land valuation committees; issuance of Certificates of Compensation to each affectee and the public availability of these certificates; and payment of compensation directly into bank accounts of the affectees. These measures will greatly help in minimising the possibility of affectees not receiving full compensation.

#### **Development of Spoil Banks**

Proper procedures are to use for dumping spreading and grading the spoil. A schedule has been developed to dress the spoil banks with topsoil efficiently and with minimum soil degradation.

The Project will provide irrigation water for the land on the spoil banks. About 150 tubewells of a capacity of 7 L/s (0.25 cu. ft./s) will be provided at appropriate locations along with spoil banks.

The Government will implement a pilot programme for developments of spoil banks for agriculture. Pilot farms will be established for this purpose on the 25 m wide strip retained by Government on the spoil banks adjacent to the power channel. The results from this programme will be provided to the farmers resettled on the spoil banks. In addition, agricultural extension services will be provided to the farmers. The productivity's achieved on the spoil banks will be periodically evaluated.

### **Resettlement on Spoil Banks**

All landowners losing cultivable land in the Project will be entitled to purchase irrigated land on the spoil banks on highly favourable terms. Landowners who opt to purchase irrigated land on the spoil banks will retain about one-half of their cash compensation, which they can use to support their families during the period when no land is available to them for farming and to develop their plots on the spoil banks. The amount required for the purchase of land on the spoil banks will be held in a profit-bearing joint account for this purpose. The profit will belong to the landowner.

The allocation of the spoil banks land will be entrusted to a committee composed of the farmers resettling around a tubewell, assisted by the Project field teams (PNGO and SSB). The allotment plan will be approved and adopted by a committee comprised of the Chief Engineer & Project Director (GBHP) or his nominee, representatives of the PNGO, WAPDA's Environmental Cell, the Land Acquisition Collector and a representative of the District Collector (preferably a Tehsildar).

Once farmers have been settled around a tubewell site, the PNGO and PRO/SSB staff will work with the farmers in organising them into Tubewell User's Associations. This process will go on as the tubewells are installed enabling the farmers to participate in tubewell-related decisions from the earliest stages.

### **Resettlement Housing**

Three resettlement villages will be established, one adjacent to the Lawrencepur-Tarbela road about 1 km from Ghazi, another near Banda Feroze, and the third adjacent to existing houses of Barotha village on the left side of the tailrace alignment. The concerned PAP's has identified these locations.

Planning for the sites of the resettlement villages includes residential plots, as well as space for a park, mosque, school, medical centre and roadways. The village will be grouped around a park in the centre, with the main community buildings around the park. In each village, a road network, a water supply and sewage system and electricity will be provided under the Project. WAPDA will also construct a primary school, a mosque and a Basic Health Unit.

Plots will be allotted to the Entitled Persons in these villages and they will construct their houses on these plots. A minimum period of nine months will be provided for construction. All replacement houses will be constructed by the house owners themselves.

After the replacement housing is ready, the concerned family will be provided transport to move into the new housing and the evacuated house will be demolished. The PNGO will assist the resettlers in organising the move and in forming community organisations in the resettlement village.

### **Employment, Training and Credit Schemes**

The Project will undertake various efforts through employment, training and credit schemes to restore production systems, support family livelihoods otherwise lost, and provide general social and economic uplift to the Project region.

The Project will provide guidelines to construction contractors for hiring local people in all skill categories where local people have equal skills to outsiders. Local people with work permits will be hired first. This means that all the unskilled, much of the semi-skilled, and part of the skilled positions in construction work forces will go to local hirers.

The Project will provide funds for vocational training, grass-roots credit programmes, and self-generation employment schemes. The direct affectees of the Project will have first access to these schemes. The Project NGO will be responsible for their preparation.

Village landless groups losing their household livelihoods due to land acquisition will receive special consideration both in work opportunities, as holders of high priority green work permits, and in the programmes of vocational training, credit and self-employment generation.

### **Integrated Regional Development Plan**

WAPDA is incorporating an Integrated Regional Development Plan (IRDP) in the Project. For this reason, WAPDA has arranged to hire an internationally respected NGO (the National Rural Support Programme) in October 1994 to provide a plan for the regional integration and social uplift of the Project area. This includes social uplift (education, health); agricultural development (credit, extension services); and business/industrial development (small and medium scale). The plan covers electrification of village and construction of village link roads. The plan includes specific programmes for women and other vulnerable groups of the PAP's. The plan also lays stress on long-term job development in the region.

### **Project Grievance Procedures**

Grievances that arise as a result of Project activities will be addressed first by consultations between the affectee, the PNGO staff and/or the SSB staff. If the matter is still unresolved, it will be referred to the Land Valuation Committee for resolution. As a last resort, affectees will redress grievances through the courts.

### **Monitoring and Evaluation**

A formal mid-term evaluation of the Project was carried out to assess the implementation of the resettlement activities and to ascertain if the PAP's have been able to successfully restore standards of living.

## **3.6 UPPER KRISHNA II PROJECT, INDIA**

The Almatti and Narayanpur dams being built in the Indian State of Karnataka displaced about 400,000 people.

A resettlement action plan was prepared with the assistance of a large non-governmental organisation (MYRADA) as part of project preparation and appraisal, and a pilot programme tested the feasibility of the project's resettlement proposals. During the first years of the project, 1989 and 1990, Karnataka's performance with regards to resettlement was not satisfactory. Following a mid-term review and follow-up supervision, the World Bank suspended disbursements.

The Government responded to the suspension by appointing a high-level committee to ensure that the benchmarks would be met. Resettlers were informed of their rights, the project's resettlement wing became operational, and money was allocated to the resettlement works. The resettlement and engineering timetables were again synchronised. Insistence on full compliance with the Bank's benchmarks, led to major improvements in the Indian government's approach and the entire resettlement programme was implemented successfully to the satisfaction of the relocatees.

## **3.7 ASEISHIGAWA DAM, JAPAN**

Aseishigawa dam, Japan commissioned in 1989 was a multipurpose project for water supplies, flood mitigation and hydroelectric power generation with a reservoir area of 2.2 km<sup>2</sup>. The project has a good example of resettlement.

Of 201 households submerged under water, 104 are non-exclusive farming households. The total acreage of submerged paddy fields and cultivated fields were 31.1 ha and 30.9 ha respectively.

In the district under the jurisdiction of Hiraka-machi, 51 houses intended for villa use were submerged. 62% of the villa owners were engaged in primary industry. None of them suffered the loss of agricultural land in their possession. The owners of the agricultural land resided then at Oguni-mura.

It was in this district that many difficulties were encountered in the supply of substitute lands. To settle the problem, "the Tsubakura Housing Complex" was built through the acquisition of substitute lands and the development of the acquired lands mainly by the concerted effort of Aomori Prefecture and Hiraka-machi.

Public compensation was made for an elementary school (abolished) and a post office (relocated).

Compensation for the loss due to abolishment was made for additional 17 cases. Meanwhile special compensation was made for the abolishment of three powerplants, the relocation of a powerplant; an electric power industry related facility, as well for a mining right, fisheries right and hot-spring right.

Since around 1971, various activities had been developed to promote understanding of the dam construction project among local inhabitants and remove their apprehensions for rehabilitation. Explanation meetings were held successively and an observation tour was made to various dam construction sites. In 1973, with the approval for entering the project site, an investigation was started. In October 1975, the criteria of compensation were made public. In December the same year, after a series of negotiations, an agreement was reached with regards to the criteria of compensation. Compensation measures started prior to the agreement, including a government grant for payment a fixed rate of interest on a loan for rehabilitation and the selection and development of substitute lands, were completed without hindrance.

Seven associations of landowners and lease holders, of which five consisted of the owners of affected lands and two, local inhabitants affected by road relocation, were formed during the years between 1972 and 1973. The resettlement was done to the complete satisfaction of the Association.

### 3.8 MIYAGASE DAM, JAPAN

Miyagase Dam, which is one of Japan's largest multi-purpose dams that regulates flood, maintains the normal functions of the flow of the river, water supply, and generates electric power, is located in the drainage basin of the Sagami River that flows through Kanagawa Prefecture which is situated at the west of Tokyo. The Dam construction work was completed in April 2001.

The upstream region encompasses two towns and a village, and it is a suburban dam located only about 50 kilometers from Tokyo.

#### **Compensation Negotiations with Residents of the Area to be submerged**

problems plaguing dam construction date back to 1969 when the Ministry of Construction (MOC) requested a preliminary survey in preparation for the construction of a dam with a total reservoir capacity of approximately 200 million m<sup>3</sup> on the Nakatsu River. The local residents were not opposed to the construction of the dam, but there was a widespread view that basic problems such as compensation, livelihood reconstruction, reservoir area measures, and so on should be clarified, and written questions regarding the measures were submitted. MOC responded sincerely to the questions with the cooperation of Kanagawa Prefecture, local municipalities, and other concerned groups, and despite difficult problems, proceeded with negotiations regarding the project. The process that began with the announcement of the project and concluded with the implementation survey, or in other words, obtaining the approval of the dam project by the residents of the region, took seven long hard years.

MOC conducted negotiations regarding the compensation survey through two local Measures Liaison and Consultative Committees, and when MOC requested a land use survey in 1974, it faced a request for a proposal for an integrated policy for the reconstruction of the livelihoods of everyone displaced from the land to be submerged and a demand for a sincere response regarding comprehensive measures. With the active cooperation of the prefecture, MOC responded with a response concerning 20 measures, a declaration that it would do all it possibly could to stimulate regional development in particular based on the Special Measures Act concerning Upstream Area Development (hereafter called 'The Special law'); that it was enacted that year, and it requested the cooperation of the region.

The prefectural governor responded that the prefecture would actively assist with the comprehensive measures, consult fully with local municipal governments regarding livelihood reconstruction and the improvement and expansion of the regional residential infrastructure, and that all the resources of the prefectural government would be devoted to the project. As a result, an agreement regarding the land and building survey was established and the land use survey commenced in 1976.

The most serious problem facing the Miyagase Dam construction project was finding relocation land to permit the reconstruction of the livelihoods of the families whose land would be submerged (approx. 280 households composed of 1,200 people). Many of the households to be displaced requested sites outside the municipal boundaries or around the shores of the reservoir.

It was extremely difficult to obtain land for a group of displaced households (220 households) to establish a new community outside the boundaries of their original municipality. Kanagawa Prefecture, City of Atsugi, local municipalities, and the Japan Housing Corporation assisted in a study of the relocation land policy from many perspectives including public compensation, compensatory works, improvement projects under the Special Law, other related improvement projects, and so on. The City of Atsugi downstream from the dam and the shores of the new reservoir were finally selected as the relocation sites and the agreement of all concerned was obtained the following year.

In response to the results of the land use survey, the Miyagase Dam Loss Compensation Standards were proposed and a request presented for negotiations regarding the actual value of compensation. With “Sincerity and Trust” as its motto, compensation standard negotiations were undertaken, sometimes late into the night.

Several tens of negotiation sessions were actually held, but they were concentrated in a short time span. A major reason for this approach was the desire by many residents to take part in the compensation discussions with a positive attitude because having been plagued by the dam question for a long time, they were eager to quickly resolve the problem. The General Agreement on Compensation was finally signed between representatives of resident organizations concerned and MOC, 12 years after the announcement of the dam project. These events are largely a result of the fact that the residents of Kiyokawa-mura that is the only mura (village) in Kanagawa Prefecture, and those in the surrounding region understood the need for the dam and tried to respond positively to deal with and resolve the land use problem while still uneasy and deeply concerned with the dam problem that had suddenly appeared.

The residents of the district located directly below the dam site declared that they could not approve its construction until its safety was confirmed, and refused on-site inspections of the dam site. MOC tried repeatedly to convince the residents that the dam was both necessary and would be safe, responded to their numerous demands including on-site inspections and confirmation of its technical safety, signed an inspection agreement and an agreement on the land and building survey to finally gain the understanding of the downstream region residents and organizations: a problem that took a long time to resolve. And following the fishing industry compensation agreement, work on the dam finally began in 1987.

### **Relocation Land Policies**

In 1975, MOC proposed an integrated dam policy, decided to aggressively undertake concentrated relocation land preparation, and conducted a questionnaire survey regarding relocation land among the residents, 220 households responded that they wished to relocate to the City of Atsugi downstream from the dam site and about 60 stated that they wanted to relocate to the shores of the new reservoir that would be formed. Three districts were selected as group relocation sites and this policy presented to the residents. However, worried that actually providing relocation land where they could live comfortably and permanently might be impossible, the residents attached new requests and asked for the quick preparation of a master plan.

MOC, Kanagawa Prefecture and the municipality responded by studying the “Basic Group Relocation Land Preparation Plan” in order to prepare and obtain the local organizations’ basic approval of a concrete plan including plans for housing land, public facility land, road land, etc. And accounting for the handling of land acquisition, construction work methods, public compensation, improvement projects under the Special Law, and other improvement related projects.

In 1979, the relocation land downstream from the dam was acquired and its preparation commenced and preparation of the relocation land beside the reservoir also began.

In 1982, the group relocation was completed approximately 6 years after the candidate relocation sites were proposed.

## **Reservoir Area Development Project and Landscaping of the reservoir areas**

The Miyagase Dam Reservoir Area Development Project, which included an improvement project under the Special Law (57 projects) and improvement related projects (29 projects) based on agreements between the prefecture and the municipalities, cost approximately 68.3 billion-yen (620 million-\$). The final project plans were established through a series of negotiations on project guidelines held by three municipalities (2 machi (town), 1 Mura (village, hamlet)), the downstream city of Atsugi, Kanagawa Prefecture, and MOC. The residents requested many amenities: parks, collective facilities, sports and recreational facilities, and nursery schools, requiring the various municipal bodies to all work extremely hard to establish the organization to oversee the project and deal with the problem of how to apportion the costs.

The areas around Miyagase Dam are near to the chief cities in the southern part of the metropolitan area and important areas that meet the nature-oriented trends of the people in urban cities. They are also important areas with abundant natural surroundings like the ones that Tanzawa Ooyama Mountain represents. In the area around the reservoir, the Mizunosato substitute land was landscaped for the purpose of attracting tourists and the relocation started in 1986. As expectations ran high among the local citizens for the rapid construction of the reservoir areas and landscaping of recreational areas where the people could have a pleasant time, they had requested to have the areas landscaped since the early stage of the project.

Conservation of the natural environment and landscaping projects that can contribute to the development of the reservoir areas has been important issues. Therefore, the MOC, in cooperation with Kanagawa Prefecture and local municipalities, landscaped the dam-site areas with the philosophy of "Development of a resort located near to urban areas that has parks of abundant natural surroundings, aiming at interchanging and co-existence of the people with nature, cities and the region." Conserving natural surroundings of the dam lake was a key issue. Among the areas that were landscaped as the places to enjoy nature, three designated foothold areas were distinguished clearly from the areas that were off limits to people, in order to conserve the natural environment. In 1996, as a concrete measure to conserve natural environment around the dam, the prefectural park was upgraded from general areas to special areas so that the MOC could institute certain regulations on development of the areas.

Kanagawa Prefecture, City, towns, a village and private sectors established "The Foundation for Promotion of Miyagase Dam and the Neighboring Areas" through joint capital investment, as a group that promoted landscaping and engaged in overall management. In 1995, a plan of landscaping the three footholds around the reservoir was laid down and the landscaping project was put into operation along with the constructing of the dam. At the same time, many events to support lives of the local citizens were organized and they played a key role in invigorating the area.

## **Present Evaluation of Measures**

The comprehensive survey including the occupations of the residents after relocation, amount of the compensation money and impression of relocation land, was conducted from 1993 to 1995 by means of questionnaires. More than 80% people answered that the situation became "better" and "not bad" than before. So it is indicating that most part of the households displaced by the reservoir have resumed their normal lives.

The regional development has also been successful. Specifically, thanks to improvements to community streets, their daily lives are safer and more convenient, and the provision of improved elementary schools, junior high schools, and other community facilities have along with the construction of outdoor sports areas, encouraged activities that bring residents of the region together.

Progress has been achieved in the integrated provision of recreational resources such as parks walking routes, campsites, etc., and the region is being transformed into a reservoir area development zone that encourages joint activities with urban dwellers by taking advantage of the district's abundant natural life.

### 3.9 OSBORN DAM, ZIMBABWE

The Osborne Dam (Zimbabwe) was completed in 1994, construction having commenced in 1991. The dam is 65 m high and the high-flood-level area of the basin is 3,000 ha. 700 families were relocated in the eastern districts of this country.

On a number of occasions communities had to be split due to the new farms being small and widespread. This was unfortunate but did not generally lead to complications as the majority saw the relocation as beneficial to themselves in that they were moving from an average of the 4 ha of land per family to approximately 35 ha per family.

A Task Force comprising relevant Ministries was set up and monthly meetings were held to assess progress. The local government for evacuation of the affectees organised free transport. Free seed and fertiliser was also given for the initial crop.

### 3.10 LESOTHO HIGHLANDS WATER PROJECT

#### **Overview**

The purposes of the Lesotho Highlands water Project as implemented by the Lesotho Highlands Authority are to :

- Create revenue for Lesotho through harvesting and delivery of surplus water to the Republic of South Africa (RSA) ;
- Generate hydropower in Lesotho to replace the need to import electricity from RSA ; and general development of the mountain regions of Lesotho.

The complete proposed layout of the project includes construction of four storage dams, a hydropower plant and 230 kilometres of tunnel yielding 66.2 cubic meters per second (m<sup>3</sup>/s). Already commissioned is a reservoir (Katse dam) with 1.95 km<sup>3</sup> storage capacity, 45 kilometres transfer tunnel, a dam and hydropower complex and a 37 kilometres delivery tunnel.

Concrete Faces Rockfill Dam (CFRD), namely Mohale dam, to deliver an annual average of 300 million m<sup>3</sup> and a weir to divert an annual average of 60 million m<sup>3</sup> of water into the Katse reservoir, were completed in 2002. The construction and operation of this dam required for about 1825 people to be relocated. The physical relocation of these people was in three phases (namely civil works, inundation and post-inundation).

#### **Compensation Programs**

The main objective of compensation within the Lesotho Highlands Water Project (LHWP) is to replace the economic value of affected properties, mostly in-kind and occasionally in cash where the physical value cannot be adequately replaced. Compensation, therefore, is meant to mitigate the immediate negative impacts such that income and wealth for affected persons is restored and people are not worse off<sup>1</sup> than they were prior to direct impact.

The Lesotho Highlands Water Project runs phased-out rehabilitation programmes that link the short-term mitigation measures (direct compensation) to the long-term measures (indirect compensation through development) in order to ensure sustainability long after project completion. It is our experience that direct compensation alone leads to destitution if no long-term measures are in place to advance from the restoration phase into income generation and enhanced developments in order to promote sustainability. This is because cash compensation often converts a perpetual asset into liquid

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<sup>1</sup> Although the Treaty makes reference to people «not being worse off», as the LHDA, in implementing the LHWP we have found that one has to aim at people being «better off» so that there can be an improvement in the standard of living post-project implementation.

asset that is consumable in a very short time leaving people with no leverage due to poor management.

Even though our compensation programme has so far been a success since 1988, we have also realised that the passive nature of compensation creates a «Dependency Syndrome» among the affected persons. In other words direct compensation should also translate into a vehicle that promotes sustainable means of livelihood for the affected individuals, households and communities. The necessary conditions for sustainable livelihood include community-empowerment through social mobilisation and capacity to explore new economic opportunities and not a perpetual benefit that promotes dependency. Compensation should only be a source of safety net to those who are not able to seize emerging opportunities. Direct compensation must be a catalyst for expanding the available development opportunities for their economic and social advancement. The compensation plan is now designed to facilitate the implementation of the Development plan such that individuals, households and communities affected by LHWP restore income and wealth leading to an overall improvement in the quality of life. The direct compensation on arable land and communal resources is valued in perpetuity over a period of 50 years and payments are phased out over time. The first tier provides for food security beginning immediately after impact while the second and parallel tier provides for sustainable development.

Every individual household and community that is directly affected by the LHWP is eligible for compensation for the loss of :

- Individually-owned fixed assets, including buildings, trees and graves ;
- Production from arable land ;
- Rights and access to communal assets, including grazing land, brushwood, fuel, useful grasses and medicinal plants ; and access due to project works, as flooding of existing feeder roads and access roads.

### **Resettlement Development Program**

The issues of homelessness, landlessness, joblessness, marginalization, food insecurity, social disarticulation, loss of access to common property and erosion of health status are some of the negative salient issues associated with large dams. Of all these forms of social impoverishment, we successfully addressed the issues of homelessness and food-insecurity, by providing replacement shelter and security through annual disbursements of compensation receivables. There is often pressure to pay direct compensation yet it cannot by itself redress the long-term negative impacts of large dams particularly relating to social and economic issues. It is our experience that direct cash compensation alone promotes vulnerability in that physical assets that may otherwise be enjoyed in perpetuity get liquidated into a short-term cash benefit. People will ultimately if anything be worse off and not better off as a result of this type of intervention alone.

Effecting direct compensation alone, particularly in cash, disempowers individuals and communities and guarantees a social welfare if not implemented as a development project. From what follows, redressing the negative impacts by LHWP is now in two parallel tiers. The first phase seeks to address short-term negative impacts that are usually tangible, such as loss of shelter, arable land, communal assets and other public goods. These can also be characterised by relative ease in estimating either their economic value, replacement value, user value or even a proxy value where the former are not easy to estimate. There is no value that can easily be attached to social disarticulation, disorders or social impoverishment and these surface long after the impact with the lag time varying with relevant parameters in each case. The first tier can only be used to raise affected households from the immediate post-impact «dip» to a level at par with the rest of the community (restoration). This represents the «theoretical threshold» for mitigation that should be immediately followed by development if affected households are to be better off in a long-term. Therefore emphasis on direct compensation is now being shifted towards sustainable development to avoid dependency and community disempowerment. Secondly, development must be an integral part of the overall compensation strategy such that affected people are immediately ready for engagement in development to start the process of improving their own standard of living and quality of life.

The second but parallel compensation tier involves the process of building social and economic networks, life support mechanisms, and basic economic pillars for development and economic growth. These can only be achieved through integrated active participation and community-driven development strategies. When people are directly and negatively affected by large development projects, their vital social fabric is unravelled and their capacity to self-manage and to deal with uncertainty is considerably reduced. This tier involves social reconstruction and remobilization, community re-empowerment, community infrastructure, and exploitation of new economic opportunities.

### 3.11 URRA I MULTIPURPOSE DAM, COLOMBIA

The construction of the 340 MW URRA 1 multipurpose project and its reservoir (7,400 ha.) in Colombia on the Sinú River required the acquisition of 18,000 ha. of land inhabited by some 7,300 people. The physical displacement of this population was completed in three phases (civil works, river diversion and reservoir impoundment) from 1994 to 1999. The land required for the project could be characterised as a backward area (one of the poorest in the country) with almost no government presence, subsistence-level agriculture, extreme poverty and high levels of ethnic, social and political conflicts. The project had been delayed on several occasions in the past creating feelings of distrust.

The developer presently fulfil its obligations with a pro-active resettlement policy based on offering direct money compensation to absentee owners and a comprehensive resettlement package to all other heads of households considered "vulnerable". The resettlement package included the allocation to each family of a 4 hectare (10 acre) lot on nearby land downstream, assistance and training to individuals and families in rebuilding new production systems and social organizations, and construction of houses and infrastructure. Almost all the families (99%) accepted the offer. The overall cost per family amounted to some US\$30,000.

#### **Monitoring Studies**

Monitoring studies demonstrate a significant improvement of all indicators of the standard of living of the resettled population and a positive adaptation to the new conditions, especially for women and younger people. The number of beneficiaries from the resettlement plan turns out to be much larger than the population displaced: many relatives and friends of the relocatees, living in regions currently subject to political unrest, have been attracted by the relative security of the resettlement area and by the quality of land and the services provided. The main reasons for the positive outcome of the resettlement plan are the following:

- In the absence of government organisation in the area, the developer put in place a strong and well-staffed resettlement unit, with adequate budget, which addressed all aspects of land acquisition and population resettlement.
- Public participation was maintained as a priority and this unit was able to build trust relations with the displaced population.
- The population was willing to move because of political unrest in the reservoir area and the attractive resettlement package.
- Housing and public services, revenues, education and health services way of live and social organisation were all improve in the area.
- Resettlement was spread over three phases, which reduced the size of the resettlement tasks. Experience gained from each phase was used during subsequent phases.

The main reasons for this largely positive resettlement out come are: a developed comprehensive resettlement strategy, an adequate financing of the infrastructure and economic and social program, a well staffed team and a high level of information and consultation.

The main issues, which still have to be addressed, are the situation of dependency of the relocatees on the developer and the way the local government institutions will take over their responsibilities particularly health and education.

### 3.12 NOVA PONTE HYDROELECTRIC PROJECT, BRAZIL

In the period 1987-1994, Companhia Enegetica de Minas Gerais (CEMIG) built the Nova Ponte

Hydroelectric Project on the Araguari River. The installed capacity is 510 MW, the reservoir has 443 km<sup>2</sup> and the dam is a 142 m high embankment, holding a volume of 12.8 x 10<sup>9</sup> m<sup>3</sup> of water.

To fill this reservoir it was necessary to relocate the town of Nova Ponte (about 5,000 inhabitants) and to buy 1,450 tracts of lands (farms or parts of farms).

Negotiations for the relocation started in 1981. The population was granted the right to choose the location of the new town. Three options were studied and discussed with delegates of the community. The decision was consolidated in a local Law in December 1981. The new town is located 3 km away from the old one. The location of the new town is very favourable since it is situated on a high plateau overlooking the new lake.

The community was represented, during the negotiations, by the Municipality, the local House of Representatives and by a non-governmental organisation created specifically to deal with the relocation. This organisation was commissioned by the community to take care of the distribution of lots and preservation of the neighbourhood. The new town was organised in areas of similar zones as in the old town and having about the same dwellers as before.

An Agreement was signed in 1990, the main point were the criteria for compensation of private buildings and lots. The options were: payment in cash, replacement by a lot or a building built by CEMIG, or replacement, with partial payment in cash.

The new town was designed for an expansion of up to 9,000 inhabitants, and include facilities not available (or partially available) in the old town, such as water treatment, garbage collection and disposal, wastewater and rainstorm sewage and wastewater treatment, asphalt pavement, social clubs, landscape treatments and much better public buildings. Several buildings that were considered historical by the community were rebuilt in the new town (two churches and two houses (one became a museum and the other one a cultural centre)).

A program of economic development was undertaken to guide the local entrepreneurs and the farmers and to foster new opportunities of development. Today there is tourist activity related to the use of the lake for recreation.

### **Public Participation and Social Trust**

Analysing the procedures adopted to relocate the town, one can conclude that they were satisfactory, given the degree of approval by the citizens and by the official licensing environmental entity. Also there were no lawsuits related to the relocation.

It should be emphasise that the success of the relocation, was made easier by the following:

- All the criteria and procedures were discussed and approved by the community. It became clear that the intention was to maintain or even improve the standard of living of the population;
- It was clearly defined with the community who were the representatives of CEMIG in the process, and these representatives were permanently available on site;
- The participation of the non-governmental organisation, that settled differences among the citizens before negotiating with CEMIG;
- The relocation of the infrastructure and the socio-economic actions were taken with the aim of maintaining a sustained development of the town.

The total cost of relocation was 4.5% of the cost of the whole project.

From the experience gained at Nova Ponte, one can conclude that the main aspects for a successful relocation are establishing a sense of confidence between the public and the promoter of the project and fostering the participation of the majority of the community in the decision process.

### **3.13 IRON GATES 1, ROMANIA**

Iron Gates 1 is an hydroelectric and navigation system on the Danube River, constructed during 1966-1971, by co-operation of the Romanian and Yugoslav owners. It consist of one common gravity

gated dam, two power stations, two locks, two non-overflowing side dams and several secondary works.

The main purposes of this system are :

- hydropower generation (installed capacity 2 x 10.50 MW; average electric power output 2 x 5,250 GWh/year);
- navigation on the Danube River;
- the Danube course improved;
- industrial water supply;
- fish hatchery;
- recreation.

The gated dam is 60.6 m maximum height and maximum flow discharge capacity is of 22,300 m<sup>3</sup>/s. The reservoir has 2,100 hm<sup>3</sup> capacity, 104 km<sup>2</sup> surface area and 150 km length. By modifying the landscape and breaking the existing equilibrium, the creation of the reservoir has raised zonal economic, social and demographical problems, which have been solved in quite a short time.

Due to the reservoir creation an area of 3,587 ha was flooded on the Romanian side. Nineteen localities (including Orsova town) were affected due to the increase of the Danube water level up to the reservoir maximum retention level.

A number of 16,000 inhabitants were resettled from the partly or completely flooded localities. About 5,500 dwellings were relocated to new or existing localities.

For the planning of the area the followings have been envisaged:

- avoidance of the area depopulation by creating the necessary conditions to resettle the population within the area;
- reorganisation of the network of localities, keeping in view the economic efficiency, profitability and turning into account of the environment;
- valuation of the natural landscape in the area for tourist purposes;
- creation of the whole connection system by existing access ways for the development of the ground and underground riches, the supply of the network of localities, connection of the area to other sites;
- complete technical and economic equipping of the area.

The population resettlement has been one of the most intricate problems, which was solved within the planning study, which also included resettlement of the industrial units and creation of the immediate economic base. A study was carried out for determining the most favourable new sites in the area where the relief is rather steep.

The proposed and realised network of localities took into consideration the local peculiarities with regard to the active involvement of the natural element—the Danube River.

The population of Orsova town and three neighbouring villages were relocated into one new urban locality with multipurpose functions, at the confluence of Cema River with the Danube. From the very beginning its most picturesque environment advertises the faunal character of this town.

The total population of Orsova town was then of 9,500 inhabitants, respectively 3,295 families, out of which 69.5% coming from the urban sector and 30.5% from the country.

There were 64% lodgers and 36% owners out of the urban population; as for the owners, 48% come from the urban sector and 52% from the country.

The lodgers were housed in 1,840 flats, considering they are included together with the real and conventional lodgers. The owners have received 1,465 lots to build private houses as provided by the building regulations in the area.

After 30 years, Orsova town has increased to 12,000 inhabitants because of the housing and working

facilities; no disturbances being caused by the resettlement.

### 3.14 THREE GENERAL COMMENTS

Large dams, which were once the pride of civil engineers and a symbol of their achievements, have been subjected to severe criticism. It cannot be denied that mistakes were made in the past with regards to certain aspects related with dam construction including unsuccessful large-scale resettlement operations. However, the foregoing examples given in this chapter show that engineers have learnt from the past and the global opinion is rapidly changing today.

In the words of G. LeMoigne from the World Bank:

*“Many of the people displaced by dams, reservoirs and canals are all too often left poorer after the project than they were before.”*

It is satisfying to note that considerable progress has, however, been made in the last several years in better organising the resettlement programmes.

In the words of W. Pircher, former President of ICOLD:

*“It is important to strive for objectivity and to compare, say, the 383,000 people resettled to make way for the reservoir of the Danjiangkou Dam on the Han River in China with the 80,000 victims killed by one single flood in 1935, and also with the 5,000,000 people now living downstream who have not suffered any flooding since the construction of the dam. Similarly, the (...) people who would be displaced by the Three Gorges Project on the Yangtze should be compared not so much with the 76,000 GWh of annual energy production but to the 30,000,000 people affected by flooding in 1931 with the loss of 140,000 lives, and to the 120,000 km<sup>2</sup> of land downstream for which flood control cannot otherwise be provided. In the light of such proportions, even large scale resettlement can be justified, on the condition that there is proper planning and implementation of the project, and thorough and realistic costing.”*

Although Mr. Pircher calls for balance and objectivity in judging the merits of a project which has wider benefits in community, it is important to ensure that all sections of the community benefit from the scheme and that those displaced or affected by the resettlement programme are not disadvantaged by the adverse impacts of the project.

The World Bank's Operations Evaluation Department has carried out an independent review of 50 completed large dams assisted by the Bank (OED Precis Number 125; September, 1996) and found that resettlement has been adequately carried out in over half of the projects. In most of the cases reviewed, benefits have far outweighed costs, including the cost of adequate resettlement programmes, environmental safeguards, and other mitigation measures. The report suggests that the Bank (which had earlier been a staunch critic of large dams) should continue supporting the development of large dams. The tentative findings that 74 percent of the dams (37 out of 50) are acceptable under the Bank's current guidelines clearly means that large dams can be designed, built, and operated so as to make a positive contribution to development while protecting the environment and restoring the livelihood of people who must be resettled. (See also: Recent Experience with Involuntary Resettlement, World Bank, Report No. 17538).

## CHAPTER 4

### RECOMMENDED STRATEGIES

Implementation sometimes reveals major planning deficiencies that make resettlement components technically or socially unacceptable. The policy for involuntary resettlement operations, needs to be based upon a number of fundamental principles related to government responsibility, resettles rights and participation, protection of the interests of host populations, and clear explanation of the objectives of resettlement. These considerations and objectives must be embodied in resettlement action plans. Some major recommended strategies are briefly described hereinafter.

#### 4.1 REDUCING DISPLACEMENT

During the last decade, the developing countries have significantly improved their performance in implementing the first principle of the resettlement policy: to avoid resettlement or reduce its magnitude whenever feasible. Important lessons about creative, innovative ways of reducing displacement have been learned. Various examples can be cited: Redesign of the Saguling Dam (Indonesia) engineering proposal lowered the dam height by five meters, reducing displacement from 90,000 to 55,000 people, with only a small loss of generating capacity. Re-sitting the Pak Mum Dam (Thailand) to a less populated location and lowering its height has reduced displacement from about 20,000 people to about 5,000.

#### 4.2 RESETTLEMENT PLANNING

Where large-scale population displacement is unavoidable, a detailed resettlement plan, timetable and budget are required. The resettlement plan should include the activities necessary for relocation in a specific new area and for integration with existing communities, in a manner that gives settlers the opportunity to become physically established and economically self-sustaining in the shortest possible period.

Planning for resettlement should begin as early as possible. The backbone of the resettlement plan is the “development package”, that is, the set of provisions aimed at reconstructing the production base of those relocated. The development package must offer sufficient opportunities and resources for their economic and social re-establishment as self-sustaining producers or wage earners. The basic strategies may be pursued for economically and socially re-establishing those dislocated from rural settings.

In urban and peri-urban settings, those displaced usually depend on non-land based sources of livelihood (e.g. the service sector, industrial employment, self-employment, etc.) but sometimes they may possess also some farming lands. The approach to their situation should take into account, in addition to their need for new housing plots, their access to employment opportunities and, when warranted, to some land for farming or gardening.

Adequate compensation for lost property is important. The reasons why cash compensation is seldom the proper answer is that such compensation is usually not adequate, (e.g. in a project the compensation offered per acre represented only some 20 percent of the actual cost of replacement land) nor is it commonly invested productively. If not given land-for-land, the displaced population is likely to end up in diversified settlements that undermine the project's objective. Housing at the new sites, sanitary facilities, drinking water supply systems, schools, health care facilities, etc., are another major component of resettlement planning. Resettlers generally tend to put high priority, and rightly so, on access to housing, productive land or employment; planners should allocate resources accordingly, rather than to determine their own priorities for the people.

Experience indicates that reservoir relocation operations frequently tend to move the displaced people into the upper catchment belt immediately surrounding the new reservoir, which may be already inhabited to capacity. The downstream command areas may hold better promise for relocation sites with less environmental risks, due to the transition from rainfed to irrigated agriculture and the resulting increased agricultural potential. At the same time, constructive measures for environmental

management may provide new economic opportunities and benefits to resettlers and host populations alike. For instance, project financed compensatory reforestation not only replaces forests that are submerged by the reservoirs, but also offers gainful employment for many people; the new reservoir-lake, if managed correctly, provide significant new benefits through fishing and tourism. A development-oriented approach to resettlement should also strive to enhance the prior housing standards and the physical infrastructure in the new settlement, rather than allow the same standards.

To sum up, a well balanced resettlement plan should incorporate production-based development package, adequate compensation provision for habitat and new settlement infrastructure, health and environmental protection measures as well as the strengthening of social organisation and local institutions.

There are also excellent ecological reasons for planning and implementing an appropriate resettlement programme. The large majority of relocatees prefer to remain close to their previous homes, which means they often prefer to relocate near the reservoir.

Should they resettle as underemployed and unemployed labourers in towns and cities, such relocatees place additional strains on urban facilities and contribute to urban pollution. According to the World Bank, inappropriately resettled people are likely to resort to squatter settlements and undermine the project's objectives, for example, by farming on canal banks, encroaching, deforesting, overgrazing, etc. Even without the reasons previously outlined, a strong humanitarian argument can be made that those who give up their homes and familiar surroundings to large scale development projects should share in the benefits that accrue from those projects.

#### 4.3 PARTICIPATORY RESETTLEMENT

The involvement of involuntary resettlers and hosts in planning prior to the move is critical. To obtain co-operation, participation and feedback, the affected hosts and resettlers need to be systematically informed and consulted about their options and rights. It should be done directly or through their formal and informal leaders, representatives, or non-governmental organisations, with respect to the social and economic aspects of the various alternatives being considered for resettlement. This will improve the understanding of their needs, resources and preferences, prevent costly mistakes, help reduce the understandable reluctance to move and the stress associated with the dislocation, and accelerate the subsequent transition to and integration within the new settlements.

Initial resistance or hostility to the idea of involuntary resettlement, is normal and should be expected. The responses of settlers and hosts will greatly depend on establishing good communications and holding consultations with the concerned groups and their organisations (local associations, NGO's, etc.), and on encouraging their participation in finding solutions to the complicated problems encountered in the planning and execution of resettlement.

Besides the government agencies and the resettlers themselves, the other major actor in resettlement processes is the host population living in the receiving areas. Although hosts may at first react favourably to the arrival of the displaced, yet serious conflict may arise as increased demands are placed on land, water, services, etc. The resettlement agency should anticipate that feelings of jealousy would likely to be aroused among the hosts if superior services and housing are provided to the settlers. If possible, education, water, health, and other services should be made available for both groups, and a suitable social climate generated for their integration. Equitable treatment should be accorded as far as possible to both hosts and settlers.

Obviously, carrying out these recommendations may increase the cost of a project, but in the long run the extra investment will prevent the possible abandonment of settlements and help secure the desired results of the initial investment.

#### 4.4 INCENTIVES

Resettlers should receive strong incentives to move. They should receive larger living space and agricultural land than their current holding which is a powerful motivator in a context where normal input for better housing or land can take tens of years or more to fulfil.

#### 4.5 ENVIRONMENTAL IMPROVEMENTS

Some added advantages of the resettlement are environmental improvements through improved sanitation and sewage management, improved agricultural and industrial practices to decrease water and air pollution, and improved agricultural practices for increasing productivity, increased sustainability and decreasing soil loss.

#### 4.6 RESOURCE ALLOCATION FOR RESETTLEMENT

Adequate resource allocation for resettlement must be provided in the project. A review of experience on past project reveals that resettlement was sometimes underfinanced. Costs for compensation and resettlement can be substantial components of a project's total cost. A sample of 20 closed projects involving resettlement shows that resettlement averaged nine percent of appraisal costs, thus illustrating that for many projects resettlement has been known to be a significant cost for some time. Resettlement costs can climb as high as 35% where very high compensation payments are involved. Also a good reference on this issue is the World Bank's report "Involuntary Resettlement in Hydropower Project" (November 1993), reviewing hydroelectric projects from 1978 to 1992. Their estimate is that the aggregate resettlement cost averaged about 11% of total project costs, but with very large dispersion from 1% to 22% from project to project.

The various costs involved are:

**Compensation Costs.** Mainly the costs of land, houses and other assets acquired and compensation payments for lost incomes; also includes the cost of censuses, surveys, and valuation studies in the project area.

**Resettlement Costs.** These include cost of land acquisition in the resettlement area, new housing and local infrastructure, necessary studies, transportation of people and their belonging, transitional income payments, investments to compensate the host population affected by the resettlement, and efforts to protect the environment in the resettlement area.

**Rehabilitation Costs.** Costs of activities to support income restoration and improved living conditions of the affected population beyond compensation and resettlement components: may include additional local development projects, new services, agricultural extension, training, employment creation, and loans.

**Administrative Cost.** Costs of staff, offices, technical assistance, community participation activities, communication, and similar items, if it is possible to separate them from general project overheads.

**Costs of Lost Regional or National Public Assets.** Replacement costs are over and above the infrastructure built for the local resettlement component. This would include national roads, bridges, electricity and communication lines, and any other national or regional infrastructure that has to be rebuilt because of the project.

#### 4.7 INSTITUTIONAL ARRANGEMENTS & POWERS

The responsibility for relocating the affected groups rests with the government and the dam promoters. Resettlement operations require a gradual transfer of responsibility from settlement agencies to the settlers themselves. Action should be taken from the outset to prepare the transfer of the responsibilities of management to the resettled.

The organisation responsible for resettlement should be strengthened when entities executing infrastructure lack the experience and outlook needed to design and implement resettlement. One alternative is to create a special resettlement unit within the project entity. Another alternative is to entrust resettlement to the regional or town administration that knows the population and area, can mobilise local expertise, speaks the resettlers' language, and will ultimately be responsible for the integration of resettlers into the host population and area. There also may be considerable scope for involving non-governmental organisations (NGO's) in planning, implementing, and monitoring resettlement.

#### 4.8 LEGISLATION

It has been observed that in some countries the national legal framework for resettlement operations is incomplete. Legal resettlement issues are often treated as a subset of property and expropriation law. It is, therefore, recommended that new legislation must be introduced or existing laws must be modified in order to plan and carry out resettlements properly. Brazil, China, Philippines, Japan, Turkey and India are some of the countries that have developed and improved legal provisions in this regard. Japan's legislation "Act on Special Measures for Reservoir Area Development" enacted in 1974, provides a comprehensive framework and defines responsibilities of the State, the Prefectural Governments, the Municipalities and the dam promoters towards alleviating the affects of dam construction in designated areas where basic conditions are recognised to undergo substantial changes. When any area is officially declared as "reservoir area" under Article 3 of the Reservoir Act, it becomes binding upon the Prefectural Governor to immediately prepare proposals for reservoir area development and submit them to the Prime Minister via the head of the administrative agency who has jurisdiction over the matter.

#### 4.9 MONITORING RESETTLEMENT OPERATION

Regular monitoring of resettlement operations is essential for assessing resettlement progress and ascertaining problem areas so that timely remedial actions or corrective measures could be implemented immediately. A specialised group or unit reporting to the management of the resettlement operations could do monitoring. In-house monitoring by the implementing agency may need to be supplemented sometimes by independent monitors to ensure complete and objective information.

Monitoring should also cover physical progress in the preparation of the receiving areas, including: reclamation of lands for agriculture, construction of schools, housing, access roads, potable water systems, grazing areas, fuelwood lots, electricity, dispensary/hospital and so forth before the displaced people arrive.

When physical transfer to the people starts, the monitoring system should cover the transport of people and their belongings to the receiving areas, as well as the allocation of replacement assets. Once evacuation has begun, monthly situation reports may be desirable.

After the resettlers' evacuation and arrival at the new sites, monitoring should focus on the delivery of project services and imputes, land acquisition/allotment, issuance of titles, reconstruction of dwellings, preparation of fields, assessing of people's economic adjustment, relationships between resettlers and hosts.

The development of an advance warning system of the settlers' well being is essential. By tracking a few sensitive indicators, settlers' well being can be quickly measured. Sample survey techniques can be used in the new settlements to trace (i) productive assets owned and (ii) health status of children. For instance, serious difficulties may be indicated if settlers are selling livestock, tools and equipment, transport vehicles, and so forth to satisfy consumption's needs; progress may be indicated when productive assets are purchased.

Monitoring and ongoing evaluation should continue several years after actual relocation, but perhaps at less frequent intervals reaching past the transition stage into the development process expected to follow once the resettlers have achieved initial levels of livelihood. Annual and mid-term reviews are desirable for large-scale resettlements.

#### 4.10 STRATEGIC PRIORITIES

Based on key lessons described in the report, the strategies to be incorporated in a typical resettlement plan are summarised as follows:

- i) The national legislation for resettlement and rehabilitation operations should be supported or complied with.
- ii) A resettlement management unit that clearly defines the roles and responsibilities of the project promoters, the government agencies and the local organisations should be set up.
- iii) Establish clear financial responsibilities regarding resettlement between the project promoters and the public institutions.
- iv) Cost estimation for resettlement activities should be done taking into account significant cost overruns during the implementation of resettlement programs. Adequate resource allocation for resettlement should be ensured.
- v) Absolute number of relocatees should be minimised by adopting if possible such measures as site change or reduction in dam height that may significantly reduce settlement needs.
- vi) Physical distance of resettlement location should be curtailed to minimum.
- vii) Resettling affected families in-groups should reduce social disruption.
- viii) Continuity in the cultural environment of the relocatees should be maintained.
- ix) Adequate measures should be included for environmental improvement through resettlement.
- x) Community participation of affectees (both resettlers and host population) in resettlement planning and implementing is fundamental.
- xi) Institutions responsible for resettlement should have adequate resources and funding. There should also be considerable scope for involving NGO's in resettlement planning, implementing and monitoring.
- xii) Fair compensation for land, housing, infrastructure and other compensations for lost assets should be provided to the relocatees, preferably at the prevailing market rates.
- xiii) Planning for shelter, infrastructure, and services for the relocatees should take into account their future population growth.
- xiv) Sound public health programs should be implemented in order to prevent diseases and psychosocial problems.
- xv) Resettlers should be gradually integrated socially and economically into host communities so that adverse impacts on host population are minimised.
- xvi) Easy access to training, employment and credit should be made available to the affected.
- xvii) Strong incentives in various forms should be given to the affectees (e.g. share in the benefits of the proposed project, employment preference, etc).
- xviii) Viable and environmentally sustainable subsistence strategies should be planned and implemented for the relocatees in order to increase production and raise their incomes as well as their living standards.
- xix) Resettlers should not be forced adopt radically new farming or subsistence strategies or to experience highly stressful occupational recycling.
- xx) "Land-for-land" strategies should be promoted rather than cash compensations when local populations are very poor or are not familiar with sound financial planning.
- xxi) Timely transfer of responsibility from settlement agencies to the settlers themselves should be ensured.
- xxii) Monitoring and follow-up of the resettlement should be carried out periodically in order to assess its impact on the standards of living of the resettlers and the host population. Remedial measures should be implemented if needed as a result of the monitoring.

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