

Guidelines by World Commission on Dams as seen from Japanese Dam Projects in the Past

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ABSTRACT: The World Commission on Dams (WCD) in November 2000 published "Dams and Development" as its only and final report. The report proposed "internationally acceptable criteria and standards". Despite the fact that the WCD itself did not regard the report as a blue print, many NGO's strongly support the report and the guidelines, and demand that they be adopted in their current form by funding organizations. The WCD recommendations and guidelines were found to have several "generic" problems, and the proposed guidelines appear unable to be applied as they stand. The authors assume that only several of these guidelines are operational and many of these are either too experimental or theoretical to be put into use. Furthermore, some seemingly "ready for operation" guidelines still need to be enhanced to be really operational in the real world. About 2,000 large dams were constructed in Japan after the Second World War. Various principles and mechanisms were then developed to better address the issues related to involuntary resettlement. The knowledge accumulated through large dam construction projects in Japan may be applied to other countries. The aim of this paper is to identify the lessons, out of the experiences gained in Japan through large dam construction projects in the past, which could be applicable for future large dam construction projects in other nations. The socio-economic settings as well as legal frameworks in Japan may differ other nations. Nevertheless, the following aspects of the experiences gained in Japan are found to be both applicable and useful for future large dam construction projects abroad: (a) Integrity of community in the negotiation process, (b) Provision of alternative occupations, (c) Funding mechanism in the post-project period, (d) Measures needed during planning process, and (e) Making resettlers "shareholders". These lessons may prove useful to enhance the WCD guidelines.

1 INTRODUCTION

In various parts of the world, concerns over the deterioration of natural environment are among major driving forces of many arguments about large dam construction, while the impact of large dams on humans and/or the social environment (particularly in the case of resettlers) is often the main reason for opposition toward large dam construction projects.

Efforts have been made try to find a possible solution to this argument. As a major milestone of the efforts of this sort, the World Commission on Dams (WCD) published its only and final report "Dams and Development" (hereafter referred as "the report") in November 2000, after two and half years' of preparation processes (WCD, 2000). The WCD is an international and independent body consisting of twelve dam experts. It prepared the report through communications with a "sounding board" consisting of 68 institutions in 36 countries.

The report contains a set of 26 guidelines. About the nature of the guidelines developed, the WCD itself mentioned that the guidelines are not intended as a blue print, and that they should instead be used as a starting point for discussion (WCD, 2000).

Some organizations such as the International Commission on Large Dams (ICOLD) and the International Hydropower Association (IHA) have expressed their negative observations (IHA, 2001). ICOLD, for example, mentioned that the WCD recommendations are not universally applicable and should not be considered as such by

anyone, including funding institutions (ICOLD, 2000). International agencies such as World Bank and Asian Development Bank and some donor countries have been working on how the recommendations should be dealt with.

Despite the clarification by the WCD about the nature of the guidelines, some non-governmental organizations argue that these guidelines must be immediately adopted for all the future large dam projects. For example, "An NGO Call to Public Financial Institutions" dated 16 November 2000, endorsed by 109 NGOs from 39 countries, required all public financial institutions to immediately and comprehensively adopt the recommendations and to integrate them into their relevant policies. It also demands that the all-public financial institutions place a moratorium on funding the planning or construction of new large dams until they can demonstrate that they have complied with the guidelines.

There seems to be little agreement about the nature of the guidelines among those involved or interested in large dams. Most arguments centered on whether or not the set of the 26 guidelines as a whole should be put into operation. The contents of the guidelines have not yet been carefully analyzed from the viewpoint of their applicability. The authors assume that, after examining all the guidelines in detail, only several of these guidelines are operational and many of these are either too experimental or theoretical to be put into use (Fujikura and Nakayama, 2001). Furthermore, some seemingly "ready for operation" guidelines still need to be enhanced to be really operational in the real world.

About 2,000 large dams were constructed in Japan after the Second World War, particularly during the period between 1960 and 1980, when Japan experienced rapid economic growth. Experiences have been accumulated, in terms of dealing with both natural and human environmental issues, through large dam construction projects. Various principles and mechanisms were then developed to deal with the resettlement issue. The authors are intrigued to examine if and how the knowledge accumulated through large dam construction projects in Japan may be applied to other countries, in particular those in the developing world.

The aim of this paper is to identify the lessons, learned from past experiences in Japan during large dam construction projects, which could be applicable for future large dam construction projects in other nations. The authors believe that an effort in searching and analyzing the best practices could give "real guidelines" for implementation.

2 RESETTLEMENT ISSUES IN POST-WAR JAPAN

Water resources for residents in large cities had a high priority in Japan from 1950's to early 1970's due to then blooming economic activities in the post-war era. Legislation on water use was successively enacted in this period. The need to construct many large dams, to secure water resources for industrial and urban uses, was felt particularly in this period.

A number of large dams planned and constructed from the 1950's. Resettlers then began to organize an association for negotiations with the implementing agency of large dam construction projects. This implies that resettlers had more bargaining power after the Second World War, and that the Japanese Government was then obliged to develop a better mechanism for the smooth implementation of large dam construction projects, with due respect to the rights of resettlers.

The "Specific Multipurpose Dam Act" was established in 1957, in which (a) the right of water users to utilize water resources, which are developed by large dams, was acknowledged, and (b) the "river administrator", namely Ministry of Construction, was given both the right and the obligation to build and manage large dams (Okada and Ishii, 1998). The aim of the Act was to promote the smooth implementation of large dam construction projects.

The River Law experienced a major revision in 1964. Since its establishment in the 19th Century, the law had been for flood prevention. This revision entitled the Ministry of Construction, which was in charge of managing major rivers in Japan, to develop large dams according to the needs they identify.

The "Special Measures Act for Areas with Water Resources" was instituted in 1973, which laid the legal foundation for provision of lands and houses for those displaced by large dam construction projects (Okada and Ishii, 1998). The Act reflected the need for a solid infrastructure base to provide both industries and city residents with water resources. Rapid increase was observed in the number of large dams in Japan, particularly from the 1950's onwards. Nearly 2,000 of large dams were constructed in this period.

Various compensation schemes for resettlers were developed using experiences gained from previous large dam construction projects to enable the flawless implementation of those projects. These schemes have been instrumental in the smooth implementation of large dam construction projects, because such schemes were mostly based on the requests and requirements of resettlers. For example, although cash compensation is the rule in Japan, in many cases an implementing agency provided resettlers with land (either for housing or farming) at affordable prices (Maruyama, 1986). Therefore, not only legal instruments, but also operational practices developed in the past should be examined to identify any lessons that may be useful and appropriate for other nations.

3 JAPANESE EXPERIENCES

The authors assume that the experiences gained in Japan are applicable and useful for future large dam construction projects in abroad in the following aspects: (a) Integrity of community in negotiation process, (b) Provision of alternative occupations, (c) Funding mechanism in the post-project period, (d) Measures needed during the planning process, and (e) Making resettlers "shareholders".

3.1 Integrity of community in the negotiation process

The WCD Guideline 2 "Negotiated Decision Making Processes" suggests: "The integrity of community processes should be guaranteed through assurances that they will not be divided or coerced. The process and the stakeholders should be as free as possible from external manipulation."

Few would dare to object to this guideline. The very question to be asked is if integrity of a community could be endangered by "external manipulation" as hypothesized by the guideline. In many cases in Japan, the integrity of a community has been diminished by internal conflicts rather than by external manipulation

In many cases, a community was divided into two or three groups once a large dam is planned. For example, in case of the Yata dam project in Oita prefecture, which has been in planning stage since 1969, the village to be submerged was literally divided into two groups - "absolutely object" and "conditionally accept" - in the ratio of 60% versus 40% by mid 1970's. The division was by no means created by external manipulation and took place even within single families (Nishinohon-shimbun, 1997).

In case of the Tokuyama dam project, a village was split into two groups, in the ratio of 57% (absolutely object) versus 43% (conditionally accept) according to the voting pattern of the village mayoral election that was carried out in the fourth year of the planning period. In this case too, the split was not by external manipulation but due to the differences towards the proposed large dam construction project (Miura, 1976).

Maruyama (1986) suggested that in many cases a community is typically divided into three groups according to ownership of the land to be submerged: (i) those all the land they possess will be submerged, (ii) those part of their land will be submerged, and (iii) those who have no land to be submerged. These groups apparently have different interests. Dealing these groups as a single unit would merely lead to further delay in the negotiation process.

Collapse of a community has been reported also in some cases in the developing world (e.g. Nakayama, 1998). Division of a community into a few groups does not seem avoidable in all the future large dam projects, even in the developing world. It thus seems realistic to develop a guideline relating to the way in which the issues in a community should be addressed for situations of lack of community integrity, rather than sticking to the unrealistic idea of guaranteeing integrity in a community.

3.2 Provision of alternative occupations

Guideline 19 - "Implementation of the Mitigation, Resettlement and Development Action Plan" - is the major part of the report about the way resettlers should be dealt with in the relocation processes. While no specific form of compensation is recommended in this guideline, it seems safe to assume that the prevailing land-for-land policy should be the guiding principle in the future large dam construction project, as opposed to cash compensation. Land-for-land policy, namely providing resettlers with farmland to compensate for land lost due to large dam construction, is the widely practiced guiding principle for compensation in cases of involuntary resettlement. For example, the

operational directive of the World Bank clearly mentions the land-for-land policy as the guiding principle (World Bank, 1990)

Few would object to this concept, as long as the scheme fits the needs of resettlers. The very questions to be asked are (i) if resettlers really want their lost land to be substituted with equivalents, and (ii) if providing resettlers with land is feasible. The authors believe that answers to these questions are not always affirmative and that the experiences gained in Japan might also be instrumental in these regards.

The land-for-land principle was the guiding principle in Japan back in the 1950's. When the idea of the Numata-dam, the largest dam ever planned in Japan (with 800 million cubic meters of storage), was launched in the late 1950's, the largest issue was to secure land for resettlers. Of the 2,000 families to be relocated, two thirds were farmers. A large-scale development of new irrigated rice fields and a massive conversion from dry farmland was planned to meet the requirements (Sangyo-keikaku-kaigi, 1959). The guiding principle behind this planned scheme was that farmers should remain farmers after relocation.

The land-for-land principle later became more flexible (in the 1960's and 1970's), when Japan experienced a rapid transformation of the demography and economic structure towards urbanization and industrialization. It was signified by the fact that between 1950 and 1980, the share of rural population decreased from 62 % to 24 % of the total population, and the share of labor force in primary sector decreased from 46 % to 10 % of the total labor force. In cases where resettlers wanted to change their jobs from agriculture into other occupations, they were provided land for residence, not for agriculture, in places close to cities (Maruyama, 1986). This was because many resettlers wanted to change occupations to secure better livelihoods, and enough working places in the cities existed during that period. In some cases in Asia, changing occupation was necessary for some resettlers in order to maintain or improve their livelihood (Manatunge et. al., 2001).

In Japan, few resettlers needed vocational training in order to change jobs, thanks to the well-established education system in Japan, even in 1960's or 1970's. In the developing countries, on the other hand, many resettlers require vocational training to secure a new occupation, particularly for the subsistence farmers. While more efforts and resources are needed in the developing world, as compared with Japan, the idea of providing resettlers with new occupations should be regarded as a viable option to let them rehabilitate their livelihood after relocation. The Japanese experiences in this aspect, namely provision of non-farmland for resettlers to let them change occupations painlessly, should serve as a good reference. Of course, attention should be paid to whether or not enough jobs exist in the vicinity of relocated families, since many cities in developing countries are currently facing high unemployment rates.

3.3 Funding mechanism in post-project period

Guideline 24 suggests the establishment of trust funds "to secure the financing of ongoing obligations in relation to monitoring and auditing - activities that must continue for the life of the project . The Japanese experience shows that trust funds should be useful for other important aspects than monitoring and auditing. The idea of trust funds relates to the concept introduced in Guideline 20 "Project Benefit-Sharing Mechanisms", which suggests that the adversely affected people are entitled to share in project benefits.

Establishment of "funds", financed by downstream administrations for the sake of upstream regions, has been practiced in several major river basins in Japan since early 1970's. It stemmed from the recognition prevailing in upstream areas during 1950's through 1960's that only those in downstream regions enjoyed the benefits created with large dams and that those in upstream regions were victimized (Maruyama, 1986). Laws and regulations for establishing funds were enacted early 1970 to deal with the conflict of interest between the up and down stream areas.

Funds may be regarded as a mechanism to share benefits created by a large dam, which is enjoyed by those in downstream areas, between people both in upstream and downstream regions. The aims of such funds so far established in Japan are: (i) meeting the operation and maintenance costs of the infrastructure (e.g. roads, public utility buildings, etc.) built in accordance with large dam construction projects, as well as promoting rural development of the large dam site region, and (ii) paying interest on the money rented by (loaned to) the resettlers who purchased the land before receiving indemnity. The latter is unique in Japanese cases, where it generally takes years to have a compensation scheme established. It may not be appropriate abroad. However, the former seems quite relevant for other nations, because (i) enhancement of the infrastructure of the areas receiving migrating

resettlers is necessary to promote the secondary development of the area for the purpose of creating new jobs for resettlers, and (ii) the funds may be used to meet unexpected expenditures incurred after the completion of a large dam (such as taking additional and corrective measures for resettlers who failed to re-establish their livelihood in their new location), which are generally not covered by large dam construction project.

The idea behind establishing funds is to establish a sort of safety net for resettlers. It is unrealistic to assume that all resettlers will manage to re-establish their livelihood successfully. Some resettlers may fail to re-establish their livelihood to their previous standard (i.e. before relocation.) The chances of failure may be increased when a resettler is obliged to change his/her job due to the prevailing situation of the project site. The idea of safe-net for resettlers, particularly after the end of large dam construction activities, is generally not found in the usual mode of operation for large dam construction projects in the developing world. The proposed establishment of funds should be instrumental in minimizing the number of resettlers who are disadvantaged by large dam construction projects. In addition, funds could be utilized to give construction firms monetary incentives to employ resettlers who are not skilled enough to be employed by construction works without such a mechanism.

It is not realistic to assume that the provision of education and training will automatically enable all resettlers obtain new jobs in the real world. Some failures will undoubtedly take place in the transition, so employers should be given incentives to employ resettlers, particularly extending beyond large dam construction work. The proposed fund will also be instrumental in forming a "safety net" for resettlers, even in this after-care context.

3.4 Measures needed during the planning process

The Guideline 2 "Negotiated Decision-Making Processes" suggests that adequate time be allowed for stakeholders to assess, consult and participate, so sufficient time should be allowed for planning. This concept seems solid and few would dare to object to it.

An important lesson from Japanese experiences is that resettlers should not be adversely affected in the planning period in the following contexts: (a) public investments for the project area should not be halted, and (b) resettlers should not be victimized as a consequence of adopting the "no dam" stance.

The former has proved a serious problem in many Japanese cases, where the "planning period" lasted a decade or more. Once an area is designated as the project site for a large dam construction project, investment by public sector for infrastructure were generally halted. It was because putting money for roads or schools would be nothing but waste of money, for these would eventually be submerged. The idea sounds rational, while it has created serious problems in many cases. Planning of a large dam is a very long process, at least in Japan's experience. Construction of a large dam started after decades of "planning period" in many cases. The public services of the projects sites deteriorated due to lack of new public investment. The worsening living condition discouraged people to stay in the project sites. Although it was not done so on purpose, i.e. to decrease the number of resettlers to be compensated, the residents were faced with increasing difficulties for a long time. Some residents may have decided to accept the project, rather than refuse it, because of observing the deteriorating living conditions in the village. Designating an area as project site does not necessarily imply that the same area will eventually be submerged. As witnessed recently in Japan, many large dam construction projects were either abandoned or put back into planning stage (which in practice means halting project preparation). Public sector should keep investment in project sites as much as possible until the large dam projects have finally moved into implementation phase.

The latter has become a serious problem for several former projects sites in Japan. The latest major revision to the River Law in 1997 showed a clear departure from what the law used to be in the following context. Such new concepts as concerns over environmental impacts and public participation regarding large dam construction projects. It signified the fact that the Government no longer plans and implements any large dam construction project without due regard to its environmental impacts and the attitudes of the residents in the project site.

The Government of Japan in 1997 subsequently decided to abandon 18 large dam construction projects, after reviewing 378 existing projects. This "no project option" implies that these large dam construction projects, which experienced difficulties in putting them into implementation phase, were simply withdrawn by the Government. It was done so mainly due to an over-estimation of water demand projection and the ever-accumulating fiscal deficit. The major question is whether the residents can return to the "no project" era without any major problems. This is simply not possible. Many projects sites experienced severe conflicts between residents, such as "absolute objection"

versus "conditional acceptance". In many cases conflicts undermined the relationship between village members or even among family members. It is hard to imagine that once broken, relationships among these people could revert to what they used to be. There is no measure currently planned by the Government to compensate damages of this nature. Since the Government caused the situation (by planning the dam), the consequences (i.e. broken relationships between residents and subsequent losses) should also be taken care of by the Government. This bitter lesson experienced in Japan should serve as a reference for the developing nations.

3.5 Making resettlers "shareholders"

The major part of the report about methods of compensation for resettlers, namely Guideline 19 "Implementation of the Mitigation, Resettlement and Development Action Plan," was not specific about the means of rehabilitating the livelihood. The authors believe that a method of compensation, although it is still experimental and was practiced only in a couple of Japanese cases, deserves to be mentioned. This is because this methodology may be a breakthrough for resettlers, enabling them to have a source of income automatically guaranteed by the large dam construction project itself.

In a large dam construction project, a resettler is supposed to either sell his/her land for cash compensation, or to exchange the land with another piece of land in a different locality as substitute for the lost asset. In this manner, the source of income after relocation may not be secured for the resettler. He/She may fail to reestablish his/her livelihood in the new land, or he/she may spend all the money provided before rehabilitating the livelihood.

A unique way suggested and put into operation in a couple of Japanese cases. The very idea is to let a resettler to "lend" his land to the implementing body of the large dam construction project, rather than selling it. The resettler may in this manner secure a source of income almost indefinitely.

Some operational difficulties exist in putting this scheme into practice, for which solutions should be devised. For example, the "rent" to be given to a resettler should be more than the return he/she may enjoy from usual investment using the monetary compensation against the lost land. Otherwise, no incentive may be given to resettlers to engage in this scheme. The key questions are (i) to what extent the "additional return" should be guaranteed by this scheme, (ii) how the "costly mechanism" should be justified in budgetary consideration of a large dam construction project, (iii) how the capital cost for relocation such as purchasing land and residence should be met, and (iv) whether such scheme is solid and robust under the absence of alternative "market" for the submerged land.

The authors believe that, despite the theoretical and technical difficulties mentioned above, the feasibility of making resettlers "shareholders" should be further examined. It is because the proposed scheme has the main advantage of guaranteeing a solid income for resettlers. The experiences accumulated in the Japanese cases should serve as good references.

4 CONCLUSIONS

The WCD guidelines should not be regarded as the blueprint for large dam construction projects in the future. The authors in this context are vexed to observe the dialogues conducted between "anti dam" and "pro dam" camps over the WCD guideline, for both camps regards the guidelines as the blueprint. The disputes centered on if the set of guidelines should be given the position of an operational guidance or not, which does not seem (to the authors) to be a rational way of dealing with the guidelines. It is almost unknown what kind of efforts have been made to make the guidelines operational for large dam construction projects in the real world.

The authors have tried to apply the experiences accumulated in Japan, particularly those related to large dam construction projects, to the large dam projects in the developing world (Nakayama, et. al, 1999). The socio-economic settings, as well as legal framework, in Japan differ much from the same in the developing world. Nevertheless, some lessons obtained through Japanese cases proved instrumental in the developing world. These lessons also proved useful for enhancing the WCD guidelines.

New issues have emerged in Japan recently. We still do not have a robust methodology to address these issues, e.g. compensating broken relationships between family members triggered by a large dam construction project. Knowing the potential risk of this nature, in planning stage of any large dam construction project, should be instrumental in planning phase of a project.

Further efforts are apparently needed to operationalize the WCD guideline. More post-project reviews on dam construction projects (planned or implemented in the past) should be carried out to delineate lessons out of the previous cases. Important lessons may be learned from the abandoned projects. Information regarding why and how a project was abandoned cannot be obtained by any post-project review, and may provide useful lessons not to risk the similar mistakes (it seems, however, much more difficult to review abandoned project than completed project because information of the former would be likely discarded or hidden). More case studies should be conducted to make the best use of the Japanese efforts for large dam construction projects in the developing world.

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REFERENCES

- ADB (2000). "Letter to the WCD Chair signed by the ADB President", 22 December 2000, Asian Development Bank, Manila
- Fujikura, R. and Nakayama, M. (2001). "Feasibility of the WCD guidelines as operational instrument", submitted to *Water Policy*
- ICOLD (2000). "Open letter to WCD Chair", 30 November 2000, International Commission on Large Dams.
- IHA (2001). "Response to the Final Report: IHA Comments on the Final Report of the WCD", February 2001, International Hydropower Association
- Manatunge, J., Contreras-Moreno, N., Nakayama, M., Yoshida, T. (2001). "Securing ownership by alternative technology in aquaculture development in Saguling reservoir, West Java". *International Journal of Water Resources Development*, Vol. 17, No. 3, pp. 611-631
- Maruyama, T. (1986). "Compensation in Dam Construction and Regional Planning for Project Sites", Japan Dams Association, Tokyo [in Japanese]
- Miura, M. (1976). "Sanson to Damu Mondai", *Kokudo Mondai*, Vol. 14, Tokyo [in Japanese]
- Nakayama, M. (1998). "Post-project Review of Environmental Impact Assessment for Saguling Dam for Involuntary Resettlement," *International Journal of Water Resources Development*, Vol. 14, No. 2, pp. 217-229
- Nakayama, M., Yoshida, T., Gunawan, B. 1999. "Compensation schemes for resettlers in Indonesian dam construction projects - Application of Japanese soft technology for Asian countries" -, *Water International*, Vol. 24, No. 4, pp. 348-355
- Nakayama, M., Fujikura, R. and Yoshida, T. (2002): "Japanese Experiences to Enhance the WCD Guidelines", *Hydrological Processes*, Vol. 16, pp. 2091-2098
- Japan Dams Association (1999). "Dam Nenkan 1999", Japan Dams Association, Tokyo [in Japanese]
- Nishinon-shimbun (1997). *Dam - drifting community part 1*, 30 September 1997 [in Japanese]
- Okada, H. and Ishii, Y. (1998). "Water Management Since Modern Times and Problems at the Threshold of the 21st Century", Round-Table Meeting at ASCE Boston Conference, 20 October 1998, Boston
- Sangyo-keikaku-kaigi (1959). "Tokyo mizu wa tone-gawa kara", Tokyo [in Japanese]
- WCD (2000). "Dams and Development", World Commission on Dams, Cape Town
- World Bank (1990). "Operational Directive 4.30 on Involuntary Resettlement", World Bank, Washington D.C.
- World Bank (2000). "World Bank Welcomes Commission on Dams Report", News Release No: 2001/119/S, World Bank, Washington D.C.