

# Participatory Social Impact Assessment in Watershed Management

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## 1. Introduction

China has entered into a development stage of great discrepancy in social structure. Different groups have different interests. Sometimes these interests are in conflict among each other. In the old development theory, development is equal to economic growth measured by GDP, and is calculated by the total costs divided by total benefits. The living standard enhancement measured by GDP per capita and the concept of economic growth benefits all people have proved a fallacy. It reveals the truth that development was achieved through the sacrifice of the environment and disadvantaged people. The lessons of the old theory and practices have shown it will damage the long-term development potential and cause the emergence of “refugees of development”. As a result, it will have a negative impact on the government accountability. Based on several lessons and experiences, the ‘New Development’ Concept that the Chinese government is currently promoting focuses on rights-based development and calls for integrated, participatory, harmonious and sustainable development.

However, in order to realize the New Development Concept, an improved method needs to be incorporated into the development process. This paper introduces the case of the Manwan hydropower dam site in the Lancang (Mekong) River Basin and the use of participatory social impact assessment (PSIA) as the method in facilitating the decision-making process to benefit all stakeholders for the sustainable development and the ‘Harmonious Society’ in China.

### 1.1 Background of Dam Development in China

Over 86,000 dams were built in China during 1949 to 1990. According to criteria of the World Commission on Dams, China has 22,000 large dams, accounting for 45% of the world total. Since the late 1970’s, when China stepped into its economic development period, energy construction was regarded as one of its pillar industry. Starting from 1993, power generation increased at annual average rate of 6.2% to meet the needs of national economic growth. . According to the Chinese power specialists, China’s dam industry will be greatly developed in the coming one or two decades. The hydropower industry in China provided power for industrialization needs of the country as well as the growing needs of urban and rural residents to consume cheap electricity while simultaneously improving their living standards.

In contrast to this, since mid to late 1970’s, dam construction in other counties decreased by about 60%. What are the reasons for the decline of international dam construction? An investigation conducted by the World Commission on Dam during 1998~2000 found two major reasons: first, the benefits of dams were not sound; second, many dams caused serious adverse impact on society and environment. Of course, the impact of dams may be different in different regimes or country. In any case, to maintain the sustainable development of China’s hydropower industry, it is worth looking at lessons and experiences learned at home and abroad in order to gradually develop a scientific and systematic hydropower development and management model suitable for the Chinese condition, mitigate environmental and social impacts, and let affected communities be fairly compensated and participate in decision making process.

## 1.2 Significance of Social Impact Assessment for Manwan Hydropower Dam

There are approximately 10 million resettled populations who were affected by dam construction. Some of the dams in China were constructed during the late 1950's ("Great Leap Forward") or later 1960 till mid 1970's ("Cultural Revolution") period, the resettled populations at that time took the resettlement as their duty and received very little compensation and assistance. After the 1980's, great attention has been paid by the Central Government to dam-affected populations. The Central Government Leading Group for Poverty Alleviation pointed out that, of the 10.20 million resettled populations affected by dam construction, 7.0 million are living in poverty-stricken conditions and are waiting for assistance to get enough for basic needs. To deal with this issue, the Ministry of Water Resources resolutely allocated 1.9 billion RMB ( US\$278,000) to 46 resettlement projects to help about 5.0 million poor resettled populations alleviate their poverty. Meanwhile, the Ministry also put forward "developmental resettlement", a new approach that increased the input in community infrastructure within dam regions.

In the past, there have been very few social impact assessments. When developing environmental impact assessments, social impacts were insufficiently assessed. The needs of resettled populations were often ignored. When the dam construction did cause impact, local governments are often unable mitigate the effects. Local Governments found no effective solutions, nor sufficient funding to help because initially the impact was underestimated and the funds allocated on resettlement fell short of the needs. In addition, the long-term development needs of the resettled populations were often overlooked. Conflicts between local government, the owner of the dam project and the people took place constantly and affected local stability. One case that highlights the role of all stakeholders in the PSIA process is the Manwan Hydropower Dam.

As an important energy enterprise in China, Manwan Hydropower Dam is nominated as the best enterprise of Chinese power Industry for 5 years. In 2001, it created profits of hundreds of millions of RMB for both the government and the company. The staff of the company all benefited more or less from the development of the enterprise. Meanwhile despite the significant economic achievements, the lives of people living around the reservoir have broken down. Poverty, debt, diseases, and other social security problems are growing more and more serious. There is an urgent need for a Social Impact Assessment for Manwan dam as China continues to intensively implement dam-construction-dominated energy development strategies. Future dam plans will involve new resettlement issues. It has become more apparent and imperative to study hydropower development related resettlement issues. Yunnan, as one of the key provinces for China's west-east power transmission and is developing the cascade hydropower dams along the Lancang River. Apart from the Manwan hydropower dam, another 4 hydropower dams along the main course of Lancang River are under construction.

## 1.3 Methodology

### Definition, Objectives SIA and Its Tendency

1.3.1 The term "**Social Impact**" means all social and cultural consequences, including changes of people's lifestyles, production, social relations, organization pattern as well as cultural impacts, including changes of people's behavior, the view of values and religion brought about by any private or public development activities.

The term "**Social Impact Assessment (SIA)**" is an assessment and estimation process. In general, the social consequences are assessed and predicted before the impacts are to be brought about by implementing the policy or development of the project. This assessment will provide the basis for project decision-making, project programming and mitigation measures to be incorporated in the project design and execution. It is used to estimate the potentiality of the social changes that will occur due to development activities. It may also be a post assessment, for example, for a series of cascade hydropower dams along the same river, the assessment of one frontal dam could be used to predict the impacts of rear dams.

The objective of SIA is to predict the possible social impacts that may be brought about by a development policy and/or project, to understand, manage and control changes, to formulate and implement mitigation measures to minimize adverse social impacts or prevent extension. The assessment of the social impact brought about by past development activities or government policies could provide reference to future activities or policies. In the assessment, the most important key is to carry out social intervention to settle, mitigate and eliminate the adverse impacts and manage the social impacts rationally.

In practice, social impact assessment focuses on certain human society, e.g. affected communities or people and the impact on the social, economic, cultural, psychological and short term, long term, large or small, reversible or irreversible changes.

The deficiency of the past is essentially that the social impact assessment or SIA was only an accessory of environmental impact assessment or EIA. When doing social impact assessments, some pressures often made the consultants experience difficult in presenting their independent viewpoints and research findings. When selecting consultants for SIA project, it was quite often that those consultants who follow human rights based principles were excluded. Moreover, the process of the assessment was not transparent and the assessment report was not publicized. Essentially, there is a lack of democratic supervision and public participation.

The present trend shows that social impact assessment has become a social participation process and a public influencing decision-making method, instead of a consultants' viewpoint and research finding. Participatory social impact assessment acknowledges the authority and legitimacy of the affected people to assess their experiences. Their participation could enhance the reliability and persuasion of the assessment. Participatory assessment could also balance the external consultants' limited understanding of local conditions and their psychological pressure. The assessment report will be publicized at least to the assessed communities. It is important that implementation of mitigation measures and programs proposed after the assessment rely on the involvement of the affected people. The participatory assessment conducted can also act as an effective social mobilization tool in the communities.

### **1.3.1 Processes and Methods used in this Research**

The Manwan dam Social Impact Assessment processes are as follows: First, the objectives of the participatory social impact assessment were defined to provide a basis for Governments and project owners to solve resettlement problems created by past hydro dam development; provide a channel for the affected people or communities to participate in, express their rights and interests in decision-making process; and to promote the establishment of a legal framework for SIA in decision-making process.

Second, the types of resettled populations in the dam region were screened. There are hundreds of villages inundated by the reservoir, which could be classified into the following 5 categories.

- ◇ populations resettled in remote alien land
- ◇ populations resettled locally within the reservoir
- ◇ rural populations transformed into a non-agricultural communities,
- ◇ populations remaining in their original land area with reallocated land resources
- ◇ populations remaining in their original land area without reallocated land resources.

Five typical villages representing the 5 types were identified to be involved in the participatory field survey. These 5 villages are:

1. Hongyan Village of Mengdi Village Committee in Xinfu Township, Yun county, which represent the populations resettled in remote alien land;
2. Jiangbian Natural Village in Jingdong County, which represent the populations resettled locally (move back) within the reservoir;
3. Tianba Village in Manwan Town, Yunnan County, which represent rural populations transformed to a non-agricultural community;
4. Malutian Natural Village of Wuli Village Committee in Manwan Town, Jingdong County,

which represent populations remaining in their original land area with reallocated land resources after dramatic reduction of available land resources;

5. Pingzhang Natural Village in Manwan Town, Yun County, which represent populations remaining within their original land area without reallocation of land resource after a dramatic reduction of available land resources.

Third, the framework and indicators system for assessment were established. The impacts of dam were assessed in terms of natural resources, production, social life, culture, ecological change, gender relations, participation, etc.

Fourth, a six-day pre-study in the dam region is conducted to validate the framework and indicator system of participatory assessment.

Fifth, The participatory assessment activities were conducted in each village for 4-5 days. 20 villager representatives, including those of different economic status and gender were selected in each village to participate in the assessment. Other villagers were free to join in the discussions and provide their comments. Individual interviews were conducted with various disadvantage peoples.

Sixth, The tools of assessment used include: history of ecological change, record of great events, records of source change, resource map, the root analysis of the impact, SWOT analysis, gender analysis, individual household case study and institutional analysis.

Seventh, table of assessment prepared to assess quantitatively the social impact: the seriousness of the impacts, the scope of the impacts, the chain-reacting effect of the impacts, the long-standing of the impacts scored.

Eighth, the problems that villagers hope to solve were prioritized, countermeasures were proposed.

Ninth, the dam's social impact on the community was summarized, and recommendations on ways to eliminate the social impacts were proposed.

Tenth, initiated by policies, the influence of the assessment was enlarged. The result of the assessment was given as feed back to local government, affected communities, the owners of the dam project and other organizations. A hearing conference participated by stakeholders was organized to seek more feedback and optimize the potential solutions to the social problems left over by the dam project.

Eleventh, in the participatory assessment, villagers were informed of the assessment procedures and took the initiative to participate in the discussion to minimize the role of assessors, who then became the recorders, catalyst, assistants or facilitators to ensure that everyone has a chance to contribute input. During the documentation process, the assessors focused their attention towards sorting out and summarizing the information collected during the participatory assessment process. When composing the case analysis, the assessors ensured that the participatory assessment approach and results found by the affected communities were prioritized. The process and the results of participatory social impact assessment aims to highlight the affected communities who understand and have experienced the social impact of the dam directly and therefore hold the right to express and analyze the problem that they have been faced with. It is also desired that latecomers clearly understand the context of the participatory social impact assessment or PSIA and easily learn to use the approach. The PSIA aims to allow external experts to monitor step by step and understand the rational relationship between the assessment results and the participatory assessment process through monitoring, evaluation and follow-up.

## **2 Findings of the Assessment**

### **2.1 The Assessment Results**

There are hundreds of villages directly affected by the construction of Manwan hydropower dam. Resettlement policy towards these villages are classified into the afore mentioned five categories. Though each type has its own unique problems, the 5 types faced some common problems. The assessment results for each type are briefly summarized as follows:

### **2.1.1 Hongyan Village, Xinfu Township, Yun County — Representing the Populations Resettled in Remote Alien Land**

There are 50 households with a total population of 257 from 5 natural villages consisting of 4 administrative zones, have resettled in Hongyan Village, which is located more than 100 km away from the reservoir. The village is composed of several ethnic groups, including Han, Bai, Naxi, and Hui. Compared with the old residential place, the newly resettled residential place has advantages of better conditions in terms of transportation, market, education, and medical care. However, the new place also has the disadvantage: water shortage for irrigation, domestic use and livestock, shortage of fuel wood and food shortage for self reliance. Although farming crops were restructured and more sugar cane were planted to increase income, sugar cane production requires intensive labor input and faces greater market risk. The new residential houses were stricken by white ants and became unsafe and uninhabitable. Due to these disadvantages, the resettled populations suffered from debt burden. The high cost for education and medical care/treatment affected the health of the resettled populations and the improvement of their cultural competence. The new, severe living condition posed pressure on both males and females, which force females to accept a declined position within the community. However, the most difficult problem is psychological adaptability to the society and culture in the new remote environment. The resettled populations' original social capital and social relations gradually weakened, stagnated, and in some cases even lost entirely. The traditional ethnic festival became lost and overwhelmed by the struggle of daily survival. The homesickness was exasperated and caused the resettled populations to experience a decline their overall capacity to restore and develop their livelihoods. .

### **2.1.2 Jiangbian Village, Manwan Town, Jingdong County—Representing Populations Resettled Locally within Reservoir**

The construction of the dam inundated the entire paddy rice field, arid land, rotation land, the sites of houses, public facilities and most of the mountain forest and meadows of Jianbian Village. With coordination by the government, all the villagers resettled locally upper land within the reservoir. The original Jianbian Village, an affluent village with abundant land, mountain forest, meadow and water resources, diversified ways of livelihood, turned into a poverty village. It is very difficult for the village to access drinking water and make living from very little piece of land. Economic difficulties have led many to rely on usury, more kids are unable to go to school and more villagers could not afford hospital and health care costs. Due to the taking of some land from the neighboring village, the traditional neighbor interdependent relation between villages became strained. The gap between the richer and poor grew larger and women's position in the poor family became lower. The land reclamation and new settlement development resulted in soil erosion and ecological deterioration. Though there is no homesickness because it is in keeping with their traditional means of agricultural production the quality and quantity of natural resources has significantly declined. In addition, the social culture adaptability problem does not exist because the traditional social resources, social relations (e.g. ethnic group, villages, neighbor, relatives relations) were unchanged. However, the most difficult issue is the rigid restriction of natural resources (water, land, forest, meadow etc.). ultimately resulting in resettled populations requiring a longer time before they are able, if at all to restore their original living standard.

### **2.1.3 Tianba Village, Manwan Town, Yun County —Representing Rural Populations Turned to be Non-Agricultural Ones**

Before the dam construction, Tianba village was the wealthiest natural village because the village had high quality arable and fertile land, wider pasture, more mountain forest and accessibility to the national highway No 214. When the dam was constructed, the village was not included in the resettlement program because it was located below the dam wall and was deemed to be outside the reservoir region. There was no clear resettlement policy towards this village. During the dam construction, the land was acquired and resettlement issues were raised. It was not until 1988 that the entire paddy rice field, partially arid land and the sites of village were acquired by the Power Plant. The villagers lost both their natural resources and residential area. It can be confirmed that the policy

transformed rural populations to non-agricultural populations. At that time, China was in the transitional period from planned economy to market economy. The main elements of the policy include: all the villagers rebuilding houses locally and lower price of grain to transformed into non-agricultural populations. The payment for land acquisition to the village collective could be used to establish a company or enterprise. The resettled populations can gain income from developing secondary and tertiary industries. However, with the further market economic reform, the grain prices were gradually opened to the market. The policy of government subsidy of grain naturally vanished. The resettled populations who had long been used to engaging in traditional farming activities and were not seasoned with running secondary and tertiary industries. With the lack of transitional management training programs to handle the new income generating system, significant mismanagement occurred and village enterprises went bankrupted. The desire to gain economic income from the market was not realized. As the result, the Tianba villagers were deeply embarrassed for losing their resources and becoming poor and unemployed. To survive, some Tianba villagers were reduced to the status of rubbish collector and went to reclaim land from the forest. A few of them, who are had more social relations, borrowed money to purchase vehicles and ran transportation businesses to generate income. However, the majority of them were stricken to poverty status. Being poor and unable to adapt to the great changes brought about by hydropower dam construction, some of the resettled villagers suffered from psychosis. The traditional community organizations, cohesion within the community and traditional morality became weakened. Such social problems as theft, violence, drug addiction and prostitution occurred frequently. Tianba villagers appealed to higher authorities for help many times, but little to no result. In general, Tianba Village was a victim of a neglectful resettlement policy during China's planned economy transit to market economy.

#### **2.1.4 Malutian Village, Manwan Town, Jindong County —representing populations stayed at original places with reallocated land resources after dramatic reduction of available land resource**

Before the dam construction, Malutian Village had 84 mu of paddy rice field (per capita 0.47 mu), 138 mu of arid land (per capita 0.78 mu), 300 mu of meadow, 310 mu of woodland, and water springs with pool of 7 mu in area. The Village was rich in water resources. After the dam construction, the entire meadow and various fresh waters sources, as well as larger part of paddy rice field, arid land and woodland were inundated. Government failed in realizing the commitment of payment for land acquisition. The Village collective combined the remaining paddy rice field and arid land and re-allocated them to each villager. Per capita paddy rice field and arid land reduced to 0.18 mu and 0.45 mu respectively, which were too small to maintain production of the needed amounts of rice. In spite of the resource shortage, the gap between the poor and the rich did not increase significantly but all the villagers suffered from poverty and famine.

After the collective suffered the consequences of losing resources, most of the villagers lost self-employment and reliance in local employment opportunities. The high cost of education and medical care/treatment made the affected people run into debt. Another critical impact came from the new road which lowered the villagers' accessibility to middle school education, medical care/treatment and market. Some villagers lost affordability and access to electricity. The collective had no income because the collective tile kiln, gristmill, were also inundated.

To survive, all the strong male manpower had to migrate to work for food, this occurred up to three generations in a family. No funds and no sites to support public activities, social organizations became weakened without a strong community leadership. The creation and increase of child labor could be found. As the result, the community became more closed, more backward and weaker than before. The disadvantaged people in the village, including the poor, women, the aged, patients and disables, became more frail and marginalized.

The hydropower dam construction also brought about such serious environmental impacts such as landslides, water pollution, and fishery degradation, human and livestock diseases. Some local folk-custom for water environment protection, the legend and the village rule vanished with various fresh water sources inundated.

The Government attempted a few efforts, such as the maintenance of primary school, improving teaching conditions, building up of an earth road between village and Manwan Town, assisting part of the households to install bio-gas tanks and introducing turmeric species to help increase farmers' income. However, these efforts are insufficient. The inundated land has not yet been compensated resulting in the misunderstanding and a significant damage and decrease to relations between Government Resettlement Office and the affected populations.

#### **2.1.5 Pingzhang Village, Manwan Town, Yun County — representing population stayed at original places without reallocation of land resource after a dramatic reduction of available land resources**

Before the hydropower dam construction, Pingzhang, a village dominated by Yi people, was a well-known vast granary and well-to-do village because it has plenty of paddy rice fields, water resources, forest and meadow. After the hydropower dam construction, its meadow, the large parts of its paddy rice field, part of arid land and forest were inundated. The Government implemented the resettlement policy of remaining in the original land area and committed to compensate for the inundated land. The Government Resettlement Office assigned the contractor to reclaim land to pay to the households. According to the principle of “keep unchanged generally with minor adjustment”, the land in Pingzhang Village was not re-distributed after land acquisition by the government. Moreover, the quality of land reclaimed was too poor and the affected households refused to accept this compensation. Therefore, only a few of those households whose land was not inundated could keep normal development, a large number of households became poor.

Most of the villagers lost their livelihood and are unable to achieve self-reliance. In the words of the villagers, they are unable to “till, herd, plant trees and to fish”. To survive, young villagers have to go out to work to earn living, but are often exploited by the heads of contractors and became wanderers and in some cases made victims of and became involved in drug trafficking. In addition, such infrastructures as roads, markets, schools and small hydropower were inundated and the villagers quality of life declined to that before the Liberation (50 years ago). The community became more closed down and dropped behind. The outgoing villagers brought some bad habits (including gambling, intemperance and violence) back to the village. Some women and children were abducted and sold. Stricken by poverty, members of Communist Party and cadres were full of complaint and village organization and management became weakened. The entire village ran into unsustainable and vicious downward cycle. The gap between the poor and rich villagers became enlarged. Most of the villagers are poorer than before. The construction of the hydropower dam also brought about such serious problems as forest reduction, water pollution, increased human and livestock diseases, and the entire village was also endangered by landslides.

## **2.2 Summary of Assessment**

According to the study frame work that was designed initially and revised after the pre-study and based on the in-depth investigation and study of above 5 types of typical villages that represented the implementation of 5 categories of resettlement policies and the data collected by interviewing County Governments of Jingdong, Yun and Nanjian, resettlement management departments and Manwan hydropower company, we came to the following general social impact assessment.

**2.2.1 In terms of local economy.** The construction of Manwan hydropower dam unveiled the development of hydropower dams along Lancang River, which contributed energetically to the construction of Yunnan Province as the national key hydropower base. However, the economic losses brought about by the hydropower construction to the resettled populations should not be neglected.

First the compensation in the prophase has fallen short of meeting the needs. The People's Government of Yunnan Province made great efforts to get early approval of Manwan hydropower dam project by National authorities. The Government decided to 1) input huge amount of investment funds, and construct the project jointly with the Ministry of Power Industry; 2) to be responsible for the entire resettlement assignment including its additional cost, after having recognized that the

budget for resettlement and the property loss of resettled population calculated by the preliminary design were underestimated (estimated resettlement population was 3052, actual number was 7260; estimated property loss amounted to 17.60 million RMB, but actual expenditure hit 55.0 million RMB). However, the commitment to be responsible for compensation to affected populations was not fulfilled. Although the actual expenditure for resettlement overran several times of the estimated budget, per capita resettlement fund was less than 8000 RMB(USD 1000), which is far short of the need, and compensation to the property losses of the resettled population could not be reasonably compensated.

Second, after the resettlement, the affected communities faced with the restriction of limited resources in comparison with their old places, land, forest, meadow, fishery and water resources were largely less than before. The means of livelihoods became narrow and risky, resulting in deterioration of production condition and a significant decrease living standard.

Third, the distribution of profit was unreasonable. Manwan hydropower company contributed to the national and provincial financial revenues by about 100 million RMB. Manwan Hydropower company and Yunnan Provincial Power Company gained more than 120 million RMB. While the four counties of Yun, Jingdong, Nanjian and Fengqing, all together, gained 50 million RMB. In contrary to the huge contribution of the Power Plant to the Nation, the support of the Power Plant to the resettled populations seems to be very small. In order to assist the resettled populations to redevelop production, National Government promulgated two follow-up support policies. 1) Deducting 0.001 yuan/kwh from the electricity tariff as reservoir maintenance fund, from which 30%, 70% of the of them could be shared by the Power Plant (for forestation) and affected communities; 2) Deducting no more than 0.005 yuan/kwh or 400 yuan/ per resettled people from the electricity tariff revenue as follow-up development assistant fund. Manwan Hydropower generates more than 5 billion kwh electricity each year. The implementation of the first support policy could deduct 5 million RBM as reservoir maintenance fund, from which, affected communities got 3.5 million RMB. To implement the second support policy, affected people get 400 yuan/ per person. There were 7260 officially recognized resettled population in Manwan dam project, which could receive 2.90 million RMB each year as assistant fund. The two policies enabled the affected community receive only 6.40 million RMB. There is a great contrast between the tremendous contribution to the Nation and allocated assistance to the resettled populations.

**2.2.2 In terms of Gender relations.** Women played leading role in agricultural production because most men in the dam region migrated out to find work and make a living. The women in Tianba Village increased their participation in social issues. However, the dam impact increased the working burden to women significantly. It was the women who had to shoulder the major production and living pressures of their families. Women within poor households are experiencing a shortage of food. After giving birth, they experienced more undernourishment with lower health level and higher gynecologic diseases. Women were unable to get into act of investing or buying boats, fishing and shipping, which were traditionally the business of men however, when the family was unable to repay the loan, all members of the family fell into debt. Most of the women in Tianba village became involved in rubbish collection, or to bargain in the market. The increase of women's position in the family was at the cost of losing their dignity. It was the male villagers that were more involved in the occurrence of some social problems, such as intemperance, violence, trafficking of drug, pilfering, which had broken the village rules and strongly and negatively affected the overall well-being of women. Some women and children in the dam region were abducted and sold. The hard lives of those populations resettled in the remote villages strongly challenged the position of male villagers. Male villagers are endowed with playing the role of borrowing money, making money, and building up a family fortune. The key decision-making in the family had depended on the man, 'while woman's ten sentences were not as good as one man's sentence'. In general, for those populations resettled in the remote villages, the males' position became strong while females' position became weak. Under tough conditions, women voluntarily accepted the advantage position of men. For those populations who remained in the dam region, there were some changes of women's position because most of male villagers went out to seek work for living. These changes, however, were reflected by harder work and life at the cost of losing their faces and mental health. Women's

development was severely restricted and the differences of capacity and knowledge between male and female became larger because men went out to seek development opportunities and women stayed at home to do all the farming and house care activities. It was the women who endured the development restriction and adverse impact brought about by the dam.

**2.2.3 In terms of social participation.** The government took the traditional top down approaches to mobilize and organize villagers in resettlement project. Although villagers could reflect their different opinions to the government, it was difficult to change the decision. For Manwan hydropower dam project, all the decisions were made from top to the bottom. The resettled populations have no rights to participate in making decisions on the resettlement policies, way of resettlement, places for resettlement, the decision of follow-up, evaluation and the implementation of the projects.

**2.2.4 In terms of social and cultural aspects.** Most of the transportation, medical care, education and market conditions of the resettled villages were improved because of the needs of hydropower dam construction and development of the resettled populations. Every resettled village had access to electricity. The inflow from a large dam and hydropower dam erectors introduced a new concept to the resettled populations who had long been living in a closed environment. This was the positive impact of the project to social culture of the resettled populations. However its adverse impact could not be neglected. First, the discrepancy of the resettled populations ability to access to the transportation and market facilities enlarged and in some cases created an unjust gap among the resettled populations and further marginalized the disadvantage groups. Second, conflicts between the resettled villages and neighboring villages for resources increased, community organization and management, and social cohesion weakened. Third, the traditional social capital and social relations of those populations resettled in remote villages became weak and estranged. Traditional ethnic culture and indigenous knowledge became weak or even disappeared. Forth, psychologically, the overwhelming homesickness made the resettled populations difficult to adapt in the new environment. All the resettled populations felt difficulty in trying to acclimatize themselves to the great changes brought about by uncontrollable external forces of the hydropower dam construction. No choice for the present life and facing risk for the future life increased psychological pressure to them, resulting in the increase of psychopaths and other mental disorders.

**2.2.5 In terms of ecology.** The impact of hydropower dam construction on ecology are most adverse. The construction of accessible roads, clearing of vegetation under water, and construction of new resettlement village and reclamation upper land for agriculture have destroyed a significant amount of forest. Rebuilding one village required destroying at least thousands mu of forest. Consequently, soil erosion, land collapse, mudslide and landslide exacerbated reservoir water pollution, fish ecology deteriorated and human and livestock diseases increased. The sedimentation rapidly accumulated, life span of the dam reduced 15 years only during first three years operation.

### **2.2.6 Mitigation measures taken by government**

Facing these adverse impacts, governments at various levels and the Hydropower company took series measures to mitigate the impacts. The funds for the dam region maintenance and support for resettlement follow-up and relevant policies were established and promulgated. Local government used these funds to provide a lot of practical assistance to the resettled villages, such as: improving education facilities, extension technology, rehabilitating unsafe housing, building water canals and roads, greening the reservoir and subsidy to the poor villagers, etc. Some special policies towards the resettled populations were adopted in some areas. For instance, priority was given to the resettled populations by Xinfu Sugar Mill in Yunxian to accept payment for sugar cane. The resettled villages in Jingdong County were given priority to install bio-gas tanks. The poorest households in Tianba Village in Manwan Town, began enjoying the minimum life safeguard scheme. The post resettlement support funds were too small to meet the practical needs of the resettled population, and the funds even often misused by local officers result in decreasing efficiency. For example, in order to enable Hongyan Village to access drinking and irrigation water, the government has invested 3 million RMB successively within several years but due to lack of participation from the villagers and government mishandling, the problem still exists. In Jiangbian Village, Jingdong County, in order to provide the

newly reclaimed land with irrigation water, the government subjectively invested 280,000 RMB regardless of objection from local villagers to construct a lifting irrigation facility. As the result, the irrigation facility became useless because the electricity was too expensive compared with the income generated from irrigated agriculture. Such kind of mistakes lowered the benefit provided by government assistance.

### **3. Discussion**

#### **3.1 China needs SIA in development**

From the Manwan dam case, we can learn what social impacts are produced by large infrastructure development, but also, we learn of the many social impacts that can be prevented or resolved, once identified through the SIA process. The projects such as the Manwan dam are thousands in China and the social impacts are countless. According to studies, in the last 50 years there were approximately 40 million in population were involuntary resettled by dam development projects in China. Among them, 12.2 million by dam building, 9.8 million by road construction and 23.5 million by urbanization. Some development programs sponsored by international development agencies also caused large resettlement of population. For example, there were over one million resettled population produced by World Bank projects, and about half million resettled population produced by ADB projects.

Since China is in the fast track of economic development and has strong finance to sponsor large scale development projects, indicating that the scale of resettlement programs for these large individual projects will also be significant. It is predicted that there will be the same amount of population needing resettlement in the last 50 years within in the next 20 years. The majority of the large dam and infrastructure projects are planned in south-western China where the majority of the populations consist of various ethnic minority groups.

As development is needed for Chinese people, it is not wise to avoid social impact by stopping development, however, it is also not wise to pursue a fast development speed and leave behind and externalize a vast amount of environmental and social impacts. But can we prevent and mitigate the social impacts when we pursue the development goals?

The Chinese government has already realized the social problems associated with development in a series of decisions and policy. The Chinese government mentioned that the big infrastructure project should be responsible in reducing negative impacts and contribute to the local economic and socio-cultural development. Nation wide the central government announced the 'New scientific development' concept. Which means human based holistic integrated and coordinated sustainable development. It also mentioned that the goal of development is to construct a harmonious society. It is obvious that the Chinese Government decided that sustainable development will be the guiding principle of future development. However, in order to achieve the future development goals we need operationable strategies. At present the Chinese government has created and enforced the law of Environmental Impact Assessment to prevent and mitigate environmental impacts.

In regards to the social impacts, the relevant policies and institutional laws urgently need to be established, not only for resolution of social impacts from previous projects but also for the future challenges associated with the numerous large infrastructure development projects ahead. Further more, in order to realize the development goals of a harmonious society, we must continue to explore and commit to the achievement of the highest level of development standards possible.

The social impact assessment is the strategy for reaching the goal of sustainable social development. Several of past experience has demonstrated that if SIA is carried out effectively, it can increase social stability and enhance the level of good governance of government and large development project democratic and scientific decision making process.

From the project level, the SIA is a positive management process and it provides a more rational and systematic and precautionary method of project management. It can help to smooth all the stages of planning and implementation and create a harmonious and stable social environment.

From the higher policy and planning level, the institutionalization of the SIA will assist in economic development, poverty reduction and overall well-being of the people. The SIA can also assist in social justice, social stability, promote a human- rights based approach to development and government accountability. Finally, it can assist in the mobilization of all Chinese people to participate in the current renaissance of the nation. In summary, the birth of the SIA is facing significant opportunities and challenges and is the historical mission given to the current generation. It is a necessary path for the realization of sustainable development.

### **3.2 How can SIA be established in China?**

SIA is recognized and applied as a decision making principle and method in many countries and shown great usefulness in development. However in China, recognition and applied SIA by the government and the society still need overcome barriers. This includes barriers of local government, entrepreneurs and the general public.

In terms of local government, GDP is still prioritized as a government goal and measure of government official achievement. Many government bodies still believe in the panacea of the market which can solve all problems. Attracting large investments and profitable business ventures have been prioritized by local government. At the same time, many government bodies still believe that political control can create and maintain social stability. They are used to top- down, covert decision making and use political pressure to suppress the voices of opposition. They often think that the social impact assessment will create instability and more problems for them.

From the public perspective, the awareness that their individual basic rights and interests can be protected by law is still quite low. When facing powerful forces, the public has a strong tendency to wait upon outside help and assistance rather than self empowerment to influence events. This is due to the long time and countless efforts of the public to voice their interest to no avail.

From the investor and entrepreneurs perspective, the philosophy of maximizing profits is still the golden rule. They are used to utilizing the method of externalizing social costs and not seriously acknowledge and mitigate social impact. Even when they have to do social impact assessment they will select “user- friendly” social impact assessor and try to manipulate the process to achieve the desired results.

However we can also be encouraged by many positive elements of the adoption of the SIA method. The government is promoting human right based development and harmonious society by giving more priority to social justice and marginalized groups in development. They are trying to raise the level of accountability by improving governance and development decision making. For example, in the reformation of the investment management system in China, the National Development and Reform Commission recognized the significance of the social impact assessment in investment decision- making. The Ministry of Environmental Protection is considering to include social indicator in environmental impact assessments or the EIA.

In the general public, more and more individuals fight to protect to their basic rights and interests. More people are paying attention to public affairs and are requiring more accountability from the government. In terms of investor and entrepreneur, social responsibility of companies are closely related to image, reputation and profitability. Pursuing a long term business profit and efficiency and social welfare are closely related. Therefore, sooner or later more and more companies will recognize the benefits of the SIA.

In the final analysis, both the challenges and opportunities indicate that the Social Impact Assessment is on the verge of birth. There are three key actors in the birth and maturation of the SIA institutionalization: Central Government departments and officials, International Development Agencies and Chinese and International NGOs.

Central Government- to realize the Chinese leader’s new concept of development of the ‘harmonious society’ and to regulate the future development projects, some government officials in the National

Development Reform Commission and their affiliate consultant companies ( China International Engineering Consulting Corporation ) have tried to promote the Social Impact Assessment method and include some variables of social indicators to government and private large investment project decision making.

International Development Agencies and Development Banks- many development agencies implement various poverty alleviation and environmental protection projects in rural China. Most of them promote participatory development and disseminate a sustainable and equitable development concept. The Participatory Rural Appraisal is widely used in the development project planning and implementation. Social, environmental, and gender responsible development is characteristic of this kind of development project. The development banks such as the World Bank and Asia Development Bank promote Social Impact Assessment in two ways: loan requirement and capacity building. Within the loan requirements, it is required to submit social analysis and resettlement plan of the project in the application. It is a strict requirement for the large development project and therefore the Chinese government must adhere to these conditions and implement the SIA. At the same time, the International Development Bank has also provided technical assistance to build capacity and to implement the SIA. For example, Asia Development Bank sponsored the establishment of the Resettlement Research Center in Hehai University and supported several research and training projects. The World Bank and ADB sponsored the Chinese Academy of Social Sciences and China International Engineering Consultant Corp. to study and publish the book '*China's Social Assessment Guidelines to Investment Projects.*'

The Asia Bank also sponsored the National Land and Resource Ministry to hold the Social Impact Assessment Training workshops for their staff.

Chinese and International NGOs- Chinese NGOs have already been involved in Social Impact Assessments. The two well-known cases are Manwan Dam Social Impact Assessment (implemented by Green Watershed and sponsored by Oxfam Hong Kong) and the Natural Gas Transmission project from Xinjiang to Shanghai (participated by Environment and Development Research Institute and other tens of other institutes sponsored by UNDP). Chinese NGOs have several advantages in promoting the SIA approach; one advantage is the recognition that the concept put forth by the Central Government of the 'New scientific development and harmonious society' is closely related to the ultimate goal and visions of many Chinese NGOs. Another advantage includes the neutral position and higher social justice principles held by Chinese NGOs in comparison to the market sector and government bodies. Chinese NGOs are in the strongest position to advocate the SIA method and recognizes that this is their historical responsibility. In the last five years, Green Watershed promoted the Social Impact Assessment concept and provided training in various domestic and international workshops. This included the UN symposium on Hydropower and Sustainable Development in Beijing. Green Watershed disseminated documents and papers on the SIA through various mediums and organized relevant conferences for other Chinese NGOs including the workshop on Social Safety Policy of Financial Institutions and Banks.

## **Conclusion**

From the Manwan SIA case study we can conclude that the social impacts of this large infrastructure development project are significant. The local economy, gender relations and socio-cultural, health, ecological and natural resources were impacted. Impacts of this magnitude are in direct conflict with current goals of sustainable development. We can also conclude that many social impacts can be prevented under two key conditions: the development principle and strategy incorporated. The Chinese government and Communist Party exists on the 'people's interests', therefore the prevention of social impacts should be central to any future development. In the last nearly thirty years of development, the Government and Party leaders have tried solve the problems associated with development with continued economic growth and has accumulated to almost crisis levels. Fortunately, the new leadership set up the new scientific development principles that focus on the creation of a new harmonious society. Currently there is no clear operational strategy to carry out such principles, however, the SIA can play a key role in the development of such a strategy.

The history of the SIA indicates that it was created out of the need to address the numerous development lessons of the past. The SIA is the baby of sociology, anthropology and development management. The government decision-making process for large infrastructure projects and resettlement policies plays a key role in the scope, depth and quality of the SIA. The SIA is subject to the principle of resource allocation in current policy by political powers. The resettlement policies of different regimes have carried out the SIA process according to their priorities at that time. The existing policy decides the scope, depths and quality of the SIA.

The SIA is not only a review of the social costs and mitigation but also a key to open the door to good governance. Participatory Social Impact assessment requires that all stakeholders participate in the assessment in order to make informed decisions. It promotes transparency, justice and sustainable development goals. Therefore, it is imperative that the SIA continue to be promoted. It is only until most people in society accepts and practices the SIA that it can continue to evolve and its potential be realized within society.

In the last few years, a few Chinese NGOs have practiced SIA and advocated for good social policies resulting in good benefits to the people, however, once we as a society recognize the necessity of the SIA in China, we will then discover the true scope of the challenges and opportunities that lie ahead. The task at hand, for NGOs is to break down the barriers to acceptance and to ultimately achieve the institutionalization of the SIA. The strength of the NGOs allow for numerous opportunities. It is inevitable that NGOs will undertake this historical task and it is expected that with the new scientific development strategy, that the NGO community will be empowered to take on an increasingly important role in the realization of the new harmonious society in China.