

The Environmental Justice in Ecological Immigration A Case Study of Sanjiangyuan Area

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Abstract Recently, there is an increasing criticism both inside and outside China toward the eco-migration projects. The author focuses on the eco-migration of Sanjiangyuan National Nature Reserve as a case study as it is one of the main eco-migration projects. At the end of 2010, government invested 4.47 billion CNY in eco-migration and relocated the immigration 55773 people in 10733 units. Benefits of eco-migration is obvious, however, it needs to be recognized that in the aspect of environment justice, it is unfair to sacrifice a group of people in the process of environmental protection because costs and benefits result from the environmental protection have to share among the people without discrimination. Local herdsmen received extra disadvantages in their level of material possessions, social and cultural values and the social inclusion after eco-migration project. As a part of the eco-social system established within several centuries, the local herdsmen are not only threateners to local ecology system, but also the guardians to the natural environment through religion and habits last for generations. The social and cultural values, traditional religion and Nomadic living habits, as important as the environment, are need to be cherished and protected.

Keywords: Environmental Justice, Eco-Migration, Herdsmen

1. THEORETICAL BACKGROUND:

The movement of equity and environmental justice has evolved the Americans' attention on disproportionate distribution of the environmental risks and impact according to the socioeconomic status of the people (Portney, 1993). Environmental justice and environmental equity were more or less synonymous (McDermott and Charles, 1993).

Environmental equity is a broad term that is used to describe the disproportionate effects of environmental degradation on people and place (Cutter, 1995) and it has been well discussed in ethics, sociology and economics fields. Cutter (1995) argued that the environmental equity originates from three major sources of dissimilarity: social equity, generational equity and procedural equity. Social equity means the fairness of environmental degradation and resource consumption is not disturbed by social and economic factors. Generational equity refers to the needs of the future generation and their right to have the same resources and

environmental quality as the old generations. Procedural equity is the extent to the nondiscriminatory polities, regulation and rules enactment.

The term of environmental justice widely spread from both the top down level (national organization conveying the term to local groups), and in the bottom up level practices (Bullard, 1994) for decades, however, several decades later, the environmental degradation, and hazards caused by environmental problems are still not distributed in an equity way. As mentioned by McDermott and Charles (1993) 'our society has not done enough to ensure environmental equity'. The black residents were more vulnerable to housing damage and delay to back to the city after Hurricane Katrina striking New Orleans in 2005 (Fussell et al, 2010). The children and youth comes from the communities dominated by Latinos, African Americans, and Asian-Pacific Islanders have significantly lower levels of accessibility to parks than the areas dominated by Whites and they are more vulnerable to environmental pollutions and risks (Strife and Liam 2009).

'Environmental equity' refers that although the environmental burdens do not reduce themselves, everyone in the social should share of risk burdens equally (Lavelle, 1994). Similarly, turning to environmental protection, the costs and benefits result from the environmental protection have to share among the people without discrimination. However, 'the environmentalists have paid insufficient attention to the equity and distribution impacts of resource conservation and environmental protections' (Tarlock, 1992). Governmental framework and polities which still dominate by the elites may ignore the environmental justify and even constrain the inequity. In the international level, the pursuing of

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economic efficiency along with the conservation of resource and environmental protection of the developed countries results in the transformation of the high pollution industries to developing countries. In the regional and national scale, the inequity is also intensified by the gap of economic development and politics.

The following article firstly reviews the development of eco-migration in China and Sanjiangyuan Areas and Sanjiangyuan eco-migration policy. Then introduce living condition of ecological immigrants and the mechanism of environmental equity. In the end, the author argue that the contribution of ecological emigration to the ecological protection should not be overlooked.

2. THE DEVELOPMENT OF ECO-MIGRATION IN CHINA

The conception of eco-migration or, environmental immigration, can be defined in many ways. Gegengao et al (2003) argued it as an economic behavior that because of ecological environment deterioration, local people move to new living areas in order to increase their 'living benefits.' Eco-immigration, separated with other kinds of immigration, is caused by environmental degradation.

In March 2000, Chinese government initiated 'the Grand Development in West China', i.e. the transformation of main economic and social development centers from Eastern to Western China. The issues of ecological protection and rehabilitation have obtained an increasing attention. In the year 2003, government enacted the Restoring Farmland to Forest Regulations and it was the time when the term of eco-migration established in the legislation form. According to this regulation, 'the governments encourage the eco-migration during the process of restoring farmland to forest, and provide the suitable subsidies for product and living facilities. Following by a lot of eco-migration and environmental projects, such as Diaozhuang in Ningxia province (Li, 2012), Erdos Dongsheng in Neimenggu, until the year 2009, more than nine million people are compelled or voluntary moved out their old hometown and lived in the new-built areas (Zhou, 2009)

3. SANJIANGYUAN AREAS AND SANJIANGYUAN ECO-MIGRATION POLICY

Sanjiangyuan Area, located at 31°39N' -39°12' N and 89°24' E-103°04' E, is the main hinterland of Qinghai-Tibet Plateau. The average high elevation is 3335-6564 meters. The average annual temperature is -5.6°C -3.8°C, with short warm season and long cold season. There are around 16,500 lakes in Sanjiangyuan Area, including 188 large lakes larger than 0.5km² and 1812km² glacier area with 1billion m³ ablation amount every year (Ga, 2013). The amount of surface water resource is 42.5 billion m³. It provides water resource that is equal to 49% total inflow runoff of Yellow River, 29% runoff Yangtze River and 15% water resource of all Lancang River. The Yellow River, Yangtze River and Lancang River are the most dispensable rivers in China providing water resources for the daily life to the lower region. Sanjiangyuan Area, as the headstream of the three rivers, is considered as 'Chinese water tower'. The area also has the richest and highest concentrations of the biodiversity among the world high attitude areas (Liu and Dong, 2004). According to the Sanjiangyuan National Nature Reserve wild

animal survey, it has 103 beast species, 292 bird species 16 reptilian species, including 16 species which only belongs to Qinghai-Tibet Plateau (Liu and Dong, 2004). In the aspect of population structure, 90% of the local residents are Tibetan and all of the herdsman are Tibetan.

The plan of Sangjiangyuan eco-migration starts in 2001. In 2005, the State Council approved the Qinghai Sanjiangyuan Natural Reserve Ecological Protection Planning (2005-2010) and made the first phase eco-immigration plan. According to the first phase planning, 10140 family units including 55773 people will move out of the Sanjiangyuan Natural Reserve. At the end of 2010, government invested 4.47 billion in eco-migration and relocated the immigration 55773 people in 10733 units (Li, 2012) and more than 3 million livestock are moved out. In the December of 2013, The State Council published the Qinghai Sanjiangyuan Natural Reserve Ecological Protection Second Phase Planning, expanded the size of reserve from 15.2km² to 39.5km²(Bao, 2006), and expanded the core zone to 11.19km², which occupied 30.83% of the whole Sangjiangyuan Area. In order to control the population size to 133,700, excluding the eco-migration relocated during first phase, there are 370,000 people need to move out of the areas which around six times larger than the population size of the first eco-immigration (Zhang, 2010).

It is fair to say that the ecological environment has improved obviously. Since the year 1966, the glacier areas in the headwaters of the Yellow River maximum shrinking rate arrived to 77%. Most of the 756 glaciers have step back and two of them disappeared forever. The largest one called Sediri Peak glaciers shrunk 21.9% within last three decades (Zhou, 2008). As the first town located along the Yellow River, the Maduo town had more than 4070 lakes larger than six hectare, and the number shrunk to around 2000 until the year 2000. The reducing of water resource leads to the cut-off of the main stream of the Yellow River from headwaters.

From 2006 to 2009, the runoff volume of the Yellow River, Yangtze River and Lancang River increased from 41.2 billion to 77.63 billion. In addition, the lake areas Sanjiangyuan increased for 245km², the area of desert ecosystem decreased 95.63km² (Ma, 2011). Just in Maduo Town, which is considered as the first town along the Yellow River, the number of Tibetan antelope is more than 40,000, which increased 15,000 than one decade ago. The number of Asinus kiang increased by 2000. The number of Bharal also increased from around 2,000 to more than 7,000.

A group of journalists did a news report for Chinese Weather Report. At the beginning of the report, they described the ecological scenery they saw when they travelled to the Sanjiangyuan Nature Reserve on the May of 2013: the cold season just passed away. Vast mountains and grassland are radiant with green. The land is dotted with colorful flowers. Lakes, wetlands, reflected the image of blue sky and white Clouds. A colorful wild bird is flying through the street and running to the mountain and marmot is walking along the street (Lu, et al, 2013).

Objectively speaking, all residents, companies, industries located in downstream areas of Yellow River, Yangzi River, Lancang River get benefits from the improvement of ecological environment. The main areas of China, the rapid economy development in China, especially in the East-Southern areas, will be constrained or influenced by degrading environment.

However, research has already been done to evidence that living conditions of the ecological immigrants decrease a lot. The influence can be discussed in three respects, level of material possessions, social and cultural values and the social inclusion.

4. ENVIRONMENTAL EQUITY: ECOLOGICAL SCENERY AND LIVING CONDITION OF IMMIGRANTS

(1) Living Condition of Ecological Immigrants

A large number of families reflect that their level of material possessions is become lower after moving to the new built areas (Ga, 2013). The following table shows four eco-migration models and how much compensation and subsidies the local residents can get. Without the ecological compensation policy framework, the all compensation and subsidies were invested by the central government. The annual average income of the farmer and herdsmen is 3,146.2 CNY, around half of the national average.

Eco-migration Model	Suitable herdsmen	What they can get
Type one	Families give up meadow they owned/ Move to new built areas/Lost the right to go back to grazing, renting or resell the meadow area (integral moving)	80,000CNY construction finance /8,000 per year feed subsidies/ Urban minimum living guarantee.
Type two	Residents move out of the meadow/Go to the residential areas they wanted to live/ Stop using the meadow for 10 years(Scattered moving)	30,000-40,000 CNY construction finances according to the families with or without meadow using certification/ 3,000-6,000 per year feed subsidies
Type three	For herdsmen who have already moved out of the areas and rented the meadow to others/ Using of meadow areas is constrained by prohibition grazing period	20,000-40,000 CNY construction finances according to the location/3,000 or 6,000 per year feed subsidies
Type four	For all herdsmen the number of livestock they can graze are calculated according to the capacity of the meadow	Compensation they can get depends on the size of the meadow and the output of the pasture precisely

Compared with the low annual household income, the government compensation and subsidies sound enough for the local residents to live a better life or at least maintain the existing living standard even if moving out of their the meadow area. But whether it is true that they get enough finance support and remain their existing living standard? Luo Guihua (2009) did a research of the food expenditure of households in Sanjiangyuan Area after migrating reflecting that the households' expenditure on food is 3,590 CNY, much higher than 1,860 CNY before moving. Electricity fee, water fee, and heating fee are the new expenditure for most of residents after moving (Ga, 2013). The increasing of CPI also intensifies the burden and pressure of people's lives. Take the Heluo New village as the example,

in the year of 2011, the annual average per capita income was 2,890 CNY, while the per capita expenditure was 3,072 CNY, overspending 182 per capita. The most common foods in meadow such as yoghurt become unaffordable food for some herdsmen. Some of them even ask their relations who still lived in the Sanjiangyuan Areas for the heating materials (Zhai et al, 2005). Because of the relative-low education level, the lack of specific work skill, and language barrier, it is very hard for the new comers to find a job (Zhou, 2008). Most of herdsmen support their lives only through their limited bank saving and government subsidies.

We prefer the milk and meat which we eat almost every day before moving, but recently, we can only eat noodle. And it is also not enough. I feel very shy to talk with my friends and family member who haven't moved yet (the interview of one herdsman did by Zhai, et al, 2005)

Michael M.Cernea (1996) wrote that immigration that make the people leave their old community and face new social problems. Turning to social and cultural values of eco-migration, the relationship between herdsmen Tibetan and the environment has been break up because of the eco-migration. They lost their means of production and changed from herdsmen to citizens or farmer and are compelled to change from autarkic economic pattern to market economy. According to traditional value in nomadism, most of them did not know how to do business with others or sale labor forces to companies or factories.

In addition, before they are forced into market economy and competition with well-educated labor resource and native Chinese speaker, they lived in an almost autarkical way of living and have the strong connection with God and natural. Every year, they have holy religion activities and walk along the holy mountain or river and bring the water from the river to their relations and friends. Even if almost 60% of them are illiteracy, around 40% of them just graduated from primary school (Chen, 2008) and most of them have limited income, and speaking only Tibetan language, they can support their life with production from livestock and feel very rich in spirit. The nomadic way of life, the respect of natural resource and the close connection between religions are important components of cultures (Ma, 2008), are also weakened or disappeared along with the eco-migration implement.

In addition, the immigrations also face social exclusion. Immigrants are forced to live in a various cultural society. Comparing with the mono-cultural society and Tibetan culture they believing, modern culture shock makes a certain amount of people feel scare and afraid to talking with others (Wei, 2013). The weak competitiveness in labor market and resulted lower socioeconomic status, also lead to the lack of confidence and self-enclosed of some residents. Although moving out of their old community, the herdsmen did not have a close relation with original inhabitants. A survey done by Sang (2011) asked the immigrants that whether they will ask the original inhabitants for help if they face serious issues, negative response is higher to 90% for the people moved to city, 80% for the ones moved to town and around 70% for village immigrants. Wei (2013) also argued that the rate of intermarriage is very low between immigrants and original inhabitants.

(2) The Mechanism of Environmental Equity

One of the most important reasons for the decline of living condition among the ecological immigrant is that lack the enough consideration and efficient implement mechanism of environment equity in SanjiangYuan Project.

In order to achieve environmental justice in solving environmental issues, the public participation is considered as an efficiently way. There are theoretical and practical reasons for this emphasis on public participation (Laurian, 2004), for example, public participation can improve the planning outcomes, important way to implement democratic process and improve knowledge (see the work of Reynolds, 1969; 2001; Innes, 2000). It will increase the opportunities for people, especially the marginalized people and the ones have directly connection with the environmental policies, to share the information, and participate in policy decision-making process (Bullard, 1994).

Chinese government announced that no one in the eco-migration project is compulsively to move out of the area. However, it need to be highlighted here is that, most of local residents engage in the projects are people with low-education level and they lack the knowledge about business, cultural value, social exclusion and social-economic status (Ga, 2013). Laurian (2004) did a research about the public participation rate and education level and show that the people with low education level are less likely to engage in decision making, because of the trust of government or suspect the outcome. The herdsmen in Sanjiangyuan Area are easy to be persuaded by government because of the unadorned trust and obey to the power. In addition, compared with annual household income, the subsidies sound enough for living a daily life. The well-designed town with good schools and convenient health facilities are one of the main reasons that they agreed to move. However, the governments did not provide enough information about potential increasing household expenditure and issues when engaging in labor markets.

(3) Discussion

The contribution of ecological emigration to the ecological protection should not be overlooked. Some researchers also thought the importance of eco-migration were over emphasized. Zhou (2008) argued that the ecological incomes of the eco-migration are very limited comparing with the high social costs. Few radicals hold the view the eco-immigration and 'returning grazing land to grassland' policies are governing tools which toward the Tibetan nationality in order to eliminate the nomadic culture. And they even wondered whether the pasture degradation is a 'trust' or not. Moreover, it is recognized that the ecological improvement of Sanjiangyuan areas is not all contributed by immigration project. The ecological protection activities, including forest-fire prevention, meadow rodent controls, artificial precipitation, ecological supervisor and technology innovations (Ma, 2011) all bring advantage and improve the environmental quality.

It needs to be recognized that it is unfair to sacrifice a group of people in the process of environmental protection. 'No community should be all allowed to become a sacrifice zone' (Bullard, 1994). The herdsmen in Sanjiangyuan Area sacrificing their means of production, traditional family and social relationships, convention of society for eco-migration policy

should be compensated. Until now, the main subsidies are coming from the central government. The factories, companies, provinces, and cities especially the ones that in the lower region who directly get benefits from environment and largely withdraw the water resource from those three rivers, need pay eco-compensation for the herdsmen in Sanjiangyuan areas in order to increase their social-economic status and living quality and make them easier to be social included.

Until now, although most of the research and government reports and news reports relative to eco-migration pay attention to the ecological issues of Sanjiangyuan Areas, rarely of them connect the development of the economy and improvement of living standard of the local residents in Sanjiangyuan Areas with the development of the economy and improvement of living standard of the people in the downstream areas. It is a common argument that 'We have to deal with the ecological issues in Sanjiangyuan areas, the life-line of our country, in order to make sure the development of lower region' (Li, 2012). The cognition that for the sake of saving the leading economic development of the middle and lower reaches, making sure the essential status of these areas, we need to do everything without consideration about the cost to solve the reducing of water resource becomes the starting point and standing point during the decision making (Li, 2012). Since 2006, the Qinghai government decided that the GDP index of Sanjiangyuan Areas is no longer a part of government assessment standard, that is to say they want to show that the government has changed their work key points from the economic development to environmental protection. However, GDP index does not only mean the economic development, it also reflects the business and construction activities of the place and may refract the living standard improvement of the local people.

The herdsmen are encouraged to move out off the Sanjiangyuan areas because they are considered as the destroyer of the environment. However, the environment degrading does not merely result from over population and over grazing of the herdsmen. The carbon emission and global warming, as another reason for the glacier melting and decrease glaciers size and affect the water sources provide to lower areas, has already been discussed by other authors (Raper et al, 2006; Barnett et al, 2005). The exploring of minerals, illegal hunting wild animal also destroy of ecology system. Water pollution and water and soil erosion happened on lower areas also affect the water recycle system.

In addition, influenced by Tibetan Buddhism the Tibetans in Sanjiangyuan Area still insist the traditional value to respect the natural environment around them. Tibetan Buddhism does not allow the people to throw rubbish to the river, eat aquatic product (shrimp and fish) and kill the lives. The herdsmen have to pay for penalty if they hunt the wild animals (Ga, 2013). Their traditional living habits, unadorned values toward the natural environment keep the balance between resource usage and ecological protection. Also, as the residents firstly reflect to the environment changes with their experience and knowledge, as mentioned by Nick Abel et al (2006), self-organize emerged like nomadism as a critical source of resilience of the ecological system. The livestock excrement also plays an important role in increasing soil nutrient and ensures the growth of grass. It is to say that the local residents and herdsmen should not be considered as opposite to the environmental protection. Unfortunately, the view that herdsmen and the livestock are the main parts of the ecological system has often been ignored (Zhou, 2013)

5. CONCLUSION:

The herdsmen are persuaded to move out to their hometown, and suffer from the disturbed social structure and charged relationship with natural environment. As a part of the eco-social system established within several centuries, the local herdsmen are not only threaten to local ecology system, but also the guardian to the natural environment through religion and habits last for generations. The social and cultural values, traditional religion and Nomadic living habits, as important as the environment, are need to be cherished and protected. It is not strange to ask that whether the eco-immigration policy is enacted for the sake of the sustainable planning or sustainable economic development (Li, 2012). And Chinese government may have a long way to go to re-value the nomadic culture (Biersack, 1999).

The governments always say that they want to solve ecological degradation as well as poverty through the usage of the eco-migration policies (Li, 2012). However, the overlook of social and cultural values of Tibetan herdsmen, and ignoring the social and procedural equity in environmental policymaking process are the main faults of eco-migration policy.

In the public participation, herdsmen with lower education level in Sanjiangyuan Area are easy to be persuaded by government and are unconscious about potential increasing household expenditure and issues when engaging in labor markets. This is the main advantage in the mechanism of environmental equity. The herdsmen should be encouraged to engage in the decision-making program and their knowledge toward the ecology should be shared and their advice should be considered and no one should move out compulsively, which is an essential way to achieve environmental justice.

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