



Tropentag 2008
University of Hohenheim, October 7-9, 2008
Conference on International Research on Food Security, Natural
Resource Management and Rural Development

Social Impact Assessment of the Natural Forest Protection Program to the Local Forest-dependent Communities and Households in Western China

Yi Wang^a, Jürgen Pretzsch

a Technische Universität Dresden, Institute of International Forestry and Forest Products, Piener Str. 7, 01737 Tharandt, Germany. Email: wang.yi@forst.tu-dresden.de.

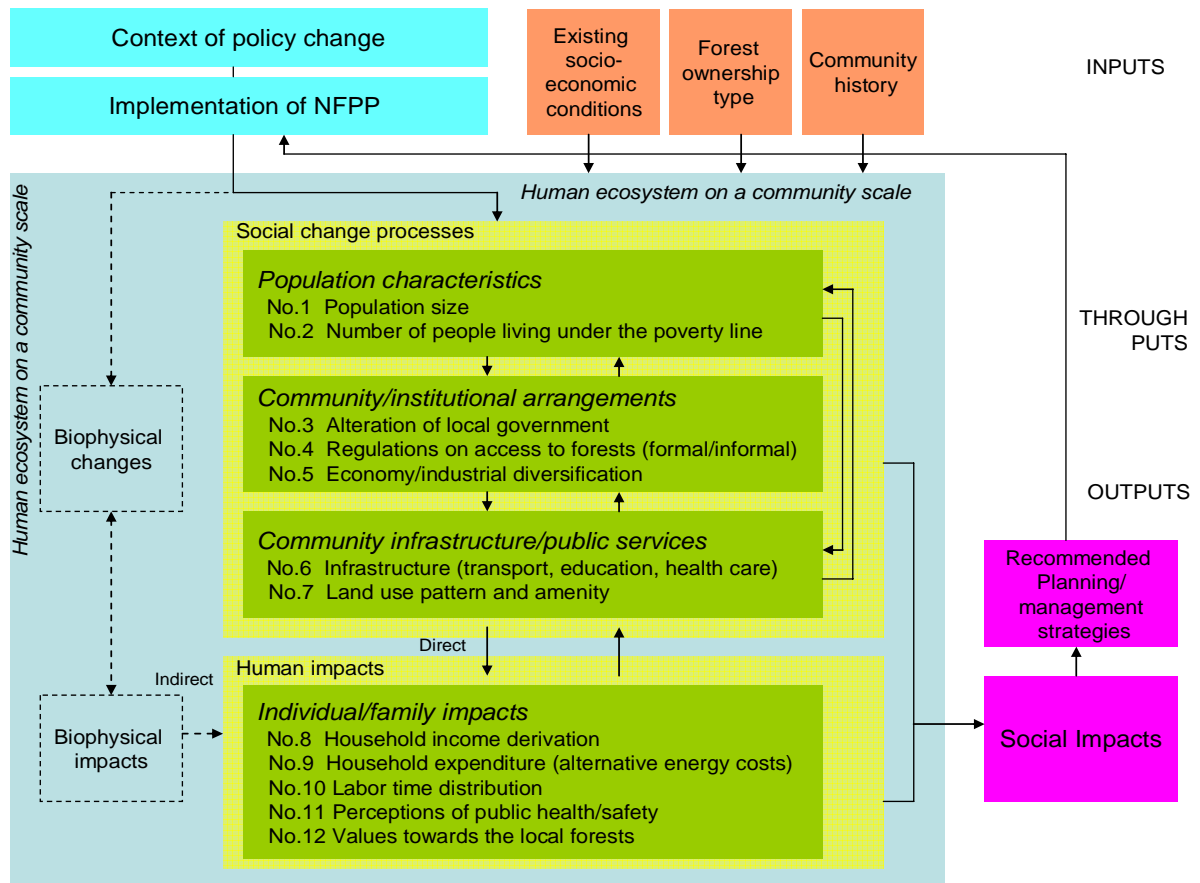
Introduction

Social Impact Assessment (SIA) includes the processes of analyzing, monitoring and managing the social consequences of planned interventions (policies, programs, projects) to the local people, and any social change processes invoked by those interventions effecting on individuals, groups and communities. Its primary purpose is to bring about a more sustainable and equitable biophysical and social environment (IAIA 2003). As a development tool SIA has been required and considered in FAO and World Bank aided projects for natural resource development since 1970s. Practitioners from various disciplines have applied SIA in the fields of mining, fishery, transportation, dams and forestry, etc. China has total forestland of 167 million ha, with 113 million ha of natural forests and 54 million ha of plantations (SFA 2004). The forest area per capita is only 0.11 ha, approximately one-sixth of the worldwide average level (World Bank 2002). Forest land is divided into two categories in terms of ownership structure: collective forest area (58%) and state-owned forests area (42%). Triggered by a devastating flood disaster in 1998, the Natural Forest Protection Program (NFPP) is being implemented in a “top-down” process by the central government since 1998 till 2010. Large parts of the Chinese forests, both state-owned and collective forests in main river basins in mountainous regions in Western China, are put under conservation with severe restrictions for their commercial use. Though many researches have shown that the NFPP has various impacts to the forestry sector, government revenue and biological environment, very few researches have done in explaining comprehensively the impacts of the NFPP to the livelihood of the local people, especially the poorest people. The social consequences of the NFPP, namely the effects to the local forest-dependent communities and households are still the matter of debate; a systematic conceptual approach for SIA of NFPP is called for. The objectives of the research are to understand how the NFPP implementation affects on the local community and households; what are the local current strategies to cope with these impacts and what will be the optimal strategies likely to be supported for a better harmonization between livelihood and NFPP implementation.

Conceptualization Framework and Methodologies

Conflicts between the shortage of natural forest resources and increasing economical demands from the society may lead to the identification of an actual or a perceived problem or opportunity, which triggers a forest policy change in order to address the issue (Groots 1992). This is the initiative of the NFPP implementation in China. With “top-down” process the NFPP is implementing through various levels of province, county and town, finally comes into the community (village) level and local households. In a small scale of human ecosystem such as a local forest-dependent community (Machlis 1997; Marten 2001), the implementation leads to

three categories of social change processes which refer to the changes in community population characteristics, community institutional arrangements and infrastructure/public services. Under three categories are seven measurable social indicators (see No.1 to No.7 in Fig.1). These social change processes are integrating and influencing each other, directly leading to the human impacts which experienced and felt by the local families and individuals. Under this category there are five social indicators (see No. 8 to No.12 in Fig.1). The full range of social change processes and human impacts compose together the social impacts which are able to be captured and measured in the field. With knowing the social impacts, recommended strategies for harmonization between community development, livelihood improvement and the NFPP implementation are possible (Fig.1).



*Note: the block lines mean the part of the biophysical change and impacts will not be the main focus for this research.

Fig.1: The conceptual framework for the research and measurable social indicators

Quantitative and qualitative social research methods were used for the data collection and analysis. Prior to the *primary data collection* and questionnaire survey, a *Field Reconnaissance Survey* was conducted for a better understanding of the local settings and pre-testing of the social indicators. A detailed *Documents and Literature Reviews* were well prepared serving for the theoretical building of SIA and the background of the NFPP. Four villages (communities) totally eighty households in Gansu (located in Northwest) and Chongqing (in Southwest of China) were selected for the *Questionnaire Surveys* and *Interviews*. Twelve *Semi-Structured Interviews* and *Key Informant Interviews* were conducted; Four times *Focus Group Discussions* were organized in the local communities. Careful *Field Observations* helped to adjust and correct the information which gathered from the questionnaires and interviews. Microsoft Excel and SPSS are used as the important softwares for *Data Analysis*.

Preliminary Results and Discussions

a) *Impacts to the community population characteristics:* The NFPP has incurred the local population decrease in both study areas as more and more people migrate to the cities and towns for jobs. From 1998 to 2007, the number of people per village has decreased from 980 to 630 in Gansu and from 2,500 to 2,060 in Chongqing (Fig.2). Moreover, the number of people under the poverty line has decreased averagely per village from 79 to 30 in Gansu, and from 85 to 23 in Chongqing (Fig.3). This is related to the household income increase in recent years as people have gradually found the alternative income generation activities such as migration work instead of forestry income activities.

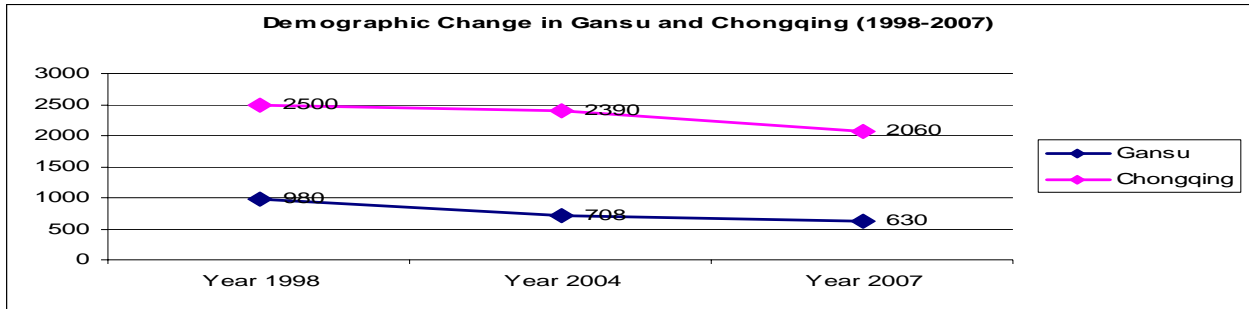


Fig.2: Change in the community population size from 1998 to 2007 in study areas

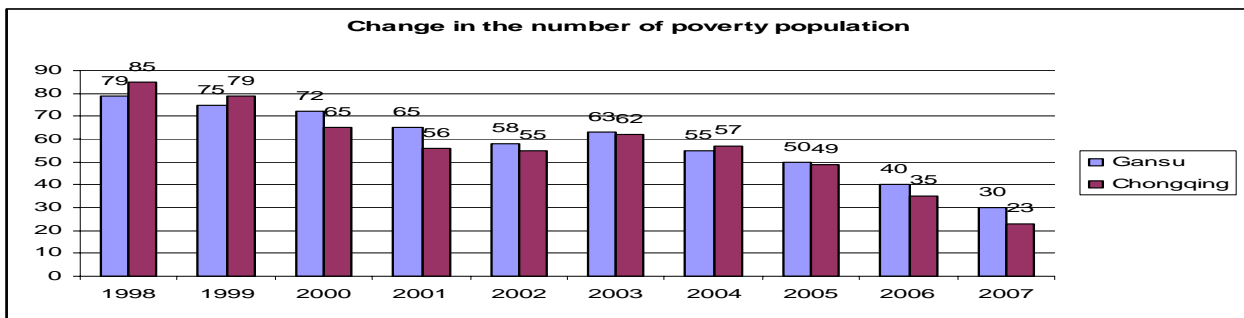


Fig.3: Dynamic changes in the number of people under poverty line in study areas

b) *Impacts to the community/institutional arrangements:* The number of local government staffs has slightly decreased from 34 to 32 in Gansu, the local government structure remained the same. However, the staff number has increased from 34 to 50 in Chongqing due to the new establishment of a local NFPP Committee in the community. Local communities have more strict rules and regulations on the accesses to the forests in both areas, such as less access to the timbers, NTFPs, fuel woods, bamboo shoots and grazing. Meanwhile, local communities have more responsibilities for forest fire protection and conflict resolution. Benefit sharing mechanism has been harmed. Local economy/industrial structures have appeared continuously diversified, however, the contribution of each economic activity to the total community income has been altered. The NFPP has changed the community economic structure which formerly tied to the joint loggings and wood transportation in Gansu and forestry cultivation activities in Chongqing. Chongqing has rather more options and has developed better local strategies for alternatives searching, for instance, the tourism and orcharding development for alternative income sources.

c) *Impacts to the community infrastructure and public services:* The local infrastructure and public services including the conditions of the roads, schools and hospitals have been worse in Gansu while been improved in Chongqing due to the different compensation measures and local alternative strategies. Though the total land area of the local community has remained unchanged, the proportion of each land use type has altered. Forestland area has dramatically increased and agricultural land decreased, with forest land increase from 47.9% to 62.5% in Gansu and 36.4% to 66.3% in Chongqing, respectively.

d) Impacts to the individuals and families: Total household income has increased significantly in both study areas, with increase from 3,052 to 9,293 Yuan¹ for each household in Gansu, and 4,745 to 17,218 Yuan in Chongqing. The proportion of forestry income to the total has been decreased from 64.8% to 27.5% in Gansu and from 59.7% to 16.2% in Chongqing. In contrast, the income from the migration work has significantly increased from only 7.3% to 46.2% in Gansu and from 15.6% to 52.4% in Chongqing. The household expenditure also has increased dramatically; each household has to spend 326 Yuan in Gansu and 839 Yuan in Chongqing for the coal, gas and electricity use as the alternative for fuel wood. Household labor time spending on the economic activities has been redistributed. Each household annually spend much more time on migration work (from 15 to 114 days in Gansu, and from 33 to 129 days in Chongqing), and spend consequently less time on forest related activities, for instance, joint harvesting/transportation (from 105 to 0 days in Gansu and 27 to 0 days in Chongqing), fuel wood collection (from 36 to 15 days in Gansu and from 30 to 6 days in Chongqing). Moreover, the implementation also influences the perceptions of the local households to the public health and safety, and the values of the local forests in their eyes.

Interpretation, Conclusions and Outlook

The NFPP implementation influences the local community development, challenges the household economy, and alters the lifestyle of local households who were formerly dependent on the local forest resources. Therefore, the impacts of the NFPP to the local forest communities and households are profound and complex: partly negative and partly positive. Meanwhile, the different forest ownership types, socioeconomic and cultural backgrounds as well as the historical forest development conditions differentiate the social impacts of the NFPP in different study areas. Therefore, it incurs the different local strategies to cope with these different impacts for their better surviving and livelihood improvements; meanwhile, it also requires the different mitigation measures from outside (governments, research institutes, development agencies, NGOs) to support the local communities and households to reduce the negative impacts and enhance the positive impacts. Moreover, SIA has proved to be a useful tool for the forest management planning. A better SIA of the NFPP to the local people needs to consider the unique characteristics and elements of the local forest communities and households as a whole. The local forest communities might be considered as a small scale “human ecosystem”, and the conceptualization of social impacts on the local forest communities and households is an important element of the SIA. In addition, the development of a systematic conceptual framework of SIA in this research will be also valuable and referent for the future SIA practices in forest management plans and policy making processes in different regional contexts.

References

- Barrow, C. J. (2000). *Social Impact Assessment, an Introduction*. Oxford University Press, London
- Becker, H. A. et al (2003). *The International Handbook of Social Impact Assessment*. Edward Elgar Publishing Limited, Bodmin, Cornwall. ISBN 1 84064935 6.
- IAIA (2003). *International Principles for Social Impact Assessment*. Special Publication Series No.2 (4-7). On-line Website: www.iaia.org.
- Machlis, G. E. et al (1997). *The Human Ecosystem: part 1: human ecosystem as an organizing concept in ecosystem management*. Cooperative Park Studies Unit, University of Idaho, Moscow
- Gerade G. Marten (2001). *Human Ecology: Basic conceptions for sustainable development*. NewYork
- SFA (2004). *Documentation: “Chinese Forestry development Report (2000-2006)”*. Beijing: Chinese Forestry Press.
- Vanclay, D. A. (1999). *Environmental and Social Impact Assessment*. Wiley, Chichester.

¹ Yuan is the Chinese currency. 10 Yuan is equal to 1 Euro, author, 2008