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A SWOT analysis of poverty alleviation and mountain development in China: A case study of Xiangxi prefecture

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ABSTRACT

Chinese government is updating its Aid-the-Poor Program to develop a sound national poverty alleviation system, especially in mountain areas. And promoting economic growth and improving quality of life of residents are important components to ensure that poverty alleviation goals meet throughout the poverty alleviation chain. In this paper, Xiang-xi Prefecture, a typical mountain region, was taken as an example to analysis strategy of poverty alleviation in mountain area. This context highlights the internal strengths and weaknesses, as well as the external opportunities and threats. With the purpose of reducing poverty in Xiang-xi Prefecture, collective actions could be implemented including constructing modern transportation infrastructure, encouraging regional characteristic industries and setting up restraint-incentive scheme on ecological reserve and economic development.

Key words: Poverty alleviation; SWOT analysis; mountain area; Xiang-xi Prefecture

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INTRODUCTION

Poverty alleviation in mountain areas is significant to growth of rural economy in China. And the problems of sustainable development and poverty alleviation in mountain areas have been paid great attention from more and more people nowadays. At international level, fundamental changes have been shown in poverty alleviation in recent years. *Agenda 21* signed in 1992 strengthens ecosystem and sustainable development in mountain areas. FAO sets up the *International Mountain Day* to create awareness about the importance of ecosystem in mountain areas and reducing poverty of local residents. *The Future We Want* which was adopted at Rio+20 Conference highlights the economy growth in mountain area and suggests that sustainable development in mountain areas should be integrated into long term development strategy. With this background, many countries set up relevant conventions, laws and regulations aiming at promoting economy of mountain areas and reducing poverty, such as Alpine Convention.

Due to the great importance of poverty alleviation in mountain areas, there are growing literatures in this area analyzing the effective way of developing economy and reducing poverty in mountain areas from different aspects including economic sustainable development of mountain areas, development model in mountain areas, and poverty alleviation in mountain areas. Firstly, the theoretical system of economic sustainable development of mountain areas has been built with the remarkable contribution from Donella Meadows[1], Rachel Carson [2]*etc*. Secondly, Bugmann Harald discussed the model of economic development and resource management based on the perspective of degradation of ecosystem[3]. Xie Jian analyzed the industrialization of mountain areas in the east of China and proposed that small eco-industrial parks should fit for underdevelopment mountain areas in the east of China [4]. Thirdly, Wang Cheng-jiang studied reality after the relocation of migrants in Xiang-xi Prefecture in China, suggesting that the model of relocation of migrants is an effective way to improve quality of life of local residents who live in the harsh living environment in Wu-ling Mountain in China[5]. However, resource endowment, economic event and policy implementation vary from place to place, which can cause structure changes in the pattern of poverty alleviation and policy-making for a given time period under research. These create a room for SWOT analysis of poverty alleviation and mountain development in China.

In this paper, we carefully consider the issue about strategies of poverty alleviation and economic development of mountain areas in China. A SWOT analysis is used regarding to sustainable development and ecological civilization building. For the sake of aiding the policy design and implementation, our research focuses on Xiang-xi Prefecture located in Wu-ling Mountain Area in hope to provide more definitive evidences and feasible ways of poverty alleviation under the new background of ecological civilization building

The rest of this paper is organized in the following fashion. Section 2 briefly describes the methodology and data source. Section 3 presents the SWOT analysis results. Section 4 draws the conclusions and policy recommendations. Section 5 is acknowledgement.

EXPERIMENTAL SECTION

2.1 Methodology

SWOT analysis is a widely adopted methodology for strategy planning. It refers to not only analysis of internal strengths and weaknesses which might influent objective accomplishment, but also external environment including opportunities and threats which could possibly affect the object's role and operations[6]. A growing number of literatures used SWOT analysis to identify the strengths, weaknesses, opportunities and threats of various kinds of corporations and industries, but rare attention was devoted into the strategy of poverty alleviation in a certain mountain area in the background of industrialization and urbanization, which create a room for SWOT analysis in determining what may assist the development of mountainous areas especially in Xiang-xi Prefecture in reducing its poverty, and what obstacles must be overcame or minimized to achieve poverty alleviation and mountain development.

2.2 Study area

Xiang-xi Prefecture is short for Tujia-miao autonomous prefecture of Xiang-xi, which is located 27.44 degrees to 29.38 degrees north latitude and 109.10 degrees to 110.28 degrees east longitude in Hunan Province in China. The site has a hilly topography and is associated with abundant forest resource. The total land area of Xiang-xi Prefecture is 15.5 thousand square meters including mountain area account for 81.5%.

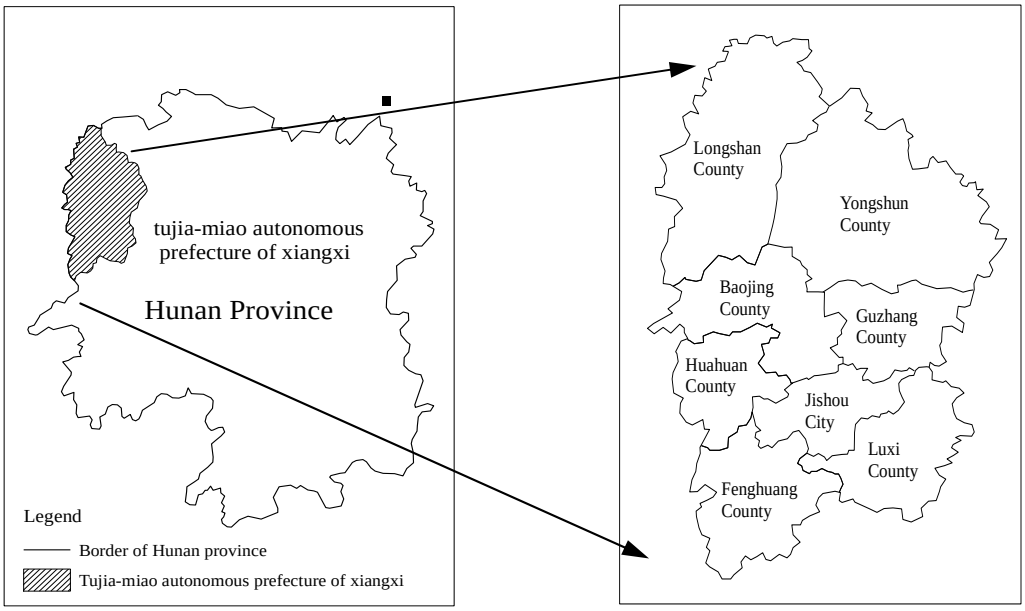

Fig.1 Location of study area

Fig.1 is a graphical representation of the location of study area. As we can see in Fig. 1, Xiang-xi Prefecture consists of 8 countries, which are all poor countries struggled in poverty trap. Fig.2 reports the annual rural per capita net income of Xiang-xi Prefecture and China respectively. It can be seen from Fig.2 that rural per capita net income of Xiang-xi Prefecture only account for 52% to 55% of rural per capita net income of China in the latest 10 years, which is significantly lower than the national average level.

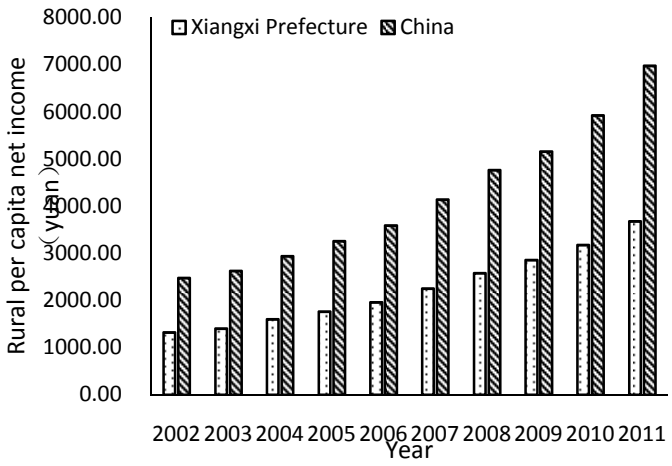

Fig.2 Annual rural per capita net income of Xiang-xi Prefecture and China

In this paper, the collection of information, which is based on available documents related to local municipal, was carried out from *China Statistical Yearbook* published by National Bureau of Statistics of the People's Republic of China and *Xiang-xi Statistical Yearbook* written by local authorities.

RESULTS AND DISCUSSION

In order to facilitate the assessment of strengths, demands, potential solutions and to help local authorities to make schedules on poverty alleviation, a SWOT analysis matrix is developed on Table 1. The specific contents present in Table 1 are discussed below.

Table 1 SWOT framework related to poverty alleviation of Xiang-xi Prefecture

Internal factors	
Strengths	**Weaknesses**
Xiang-xi Prefecture has significant advantage of natural resource endowments.	Frequent natural disasters lead to limited ecological carrying capacity
Eco-tourism in Xiang-xi is developing fast.	Poor traffic conditions hinder economic growth.
Low-cost labor becomes a prominent comparative advantage.	Xiang-xi's underdeveloped industrial base weakens its power of development.
External factors	
Opportunity	**Threat**
Implementation of legislation on poverty alleviation specific on mountain areas	Xiang-xi faces with increasingly intense competition from surrounding areas.

3.1 Strengths

1) Xiang-xi Prefecture has significant advantage of natural resource endowments.

In general, Xiang-xi Prefecture has significant advantage of natural resource endowments, mainly for abundant biology resource, mineral resource, and water resource. These create the condition for industrialization and economic development.

Taking biology resource as an example, forest coverage in Xiang-xi Prefecture is up to 66.58%, with total stumpage up to 2653.52 cubic meters. Regarding to mineral resource, there are abundant reserves of coal，uranium，iron, manganese, vanadium, lead, diamond, pyrite and so on.

2) Eco-tourism in Xiang-xi is developing fast.

Regarding to eco-tourism, Xiang-xi Prefecture is rich in tourism resources. Due to the remarkable forest resources and numerous historic sites in Xiang-xi, eco-tourism in local mountain areas is developing fast, with the average annual growth rate up to 12.33%. Fig.3 shows the annual income of eco-tourism from 2005 to 2011 of Xiang-xi Prefecture. According to Fig.3, eco-tourism income of Xiang-xi kept on increasing over time.

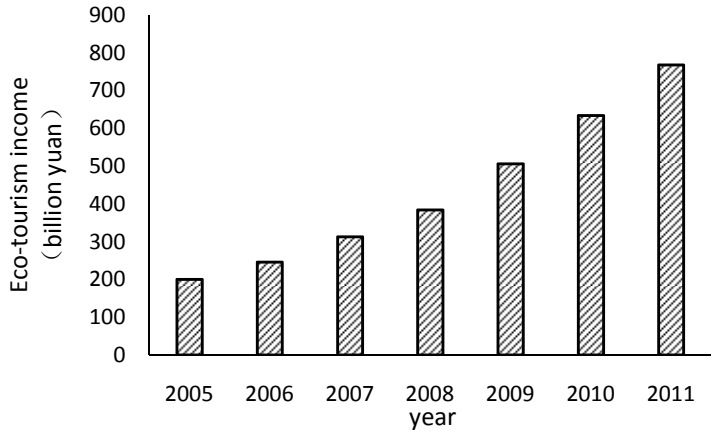

Fig.3 Annual eco-tourism income of Xiang-xi Prefecture

3) Xiang-xi has a comparative advantages in labor costs

Due to the backward industrial capacity and underdeveloped service industry, the number of jobs on offer is limited and cannot meet employment needs of local people. For instance, farm population in Xiang-xi is up to 1.47 million, accounting for 57% of local residents. As a result, there are a number of surplus labor including young women. Because of seasonal nature of agriculture, the opportunity cost of local labor is very low. As a conclusion, low-cost labor comes to be a prominent advantage in poor mountainous area.

3.2 Weaknesses

1) Frequent natural disasters lead to limited ecological carrying capacity.

Xiang-xi Prefecture has vast landscape of inundation area, mountain area and Karst area, along with frequent drought, flood, mudslides, and ice storms. As a result, the area of cultivated field is limited and the soil quality is poor. Because of the harsh climate, food production reduces greatly every year. Compared with total food production of Xiang-xi Prefecture in the same period, the percentage of food losses caused by natural disasters fluctuates drastically over time, which is as high as 44% in 2005 and as low as 5% in 2004. Due to the harsh climate and low-level food production, Xiang-xi Prefecture may lack the power of development and have heavy economic burdens for the food sector.

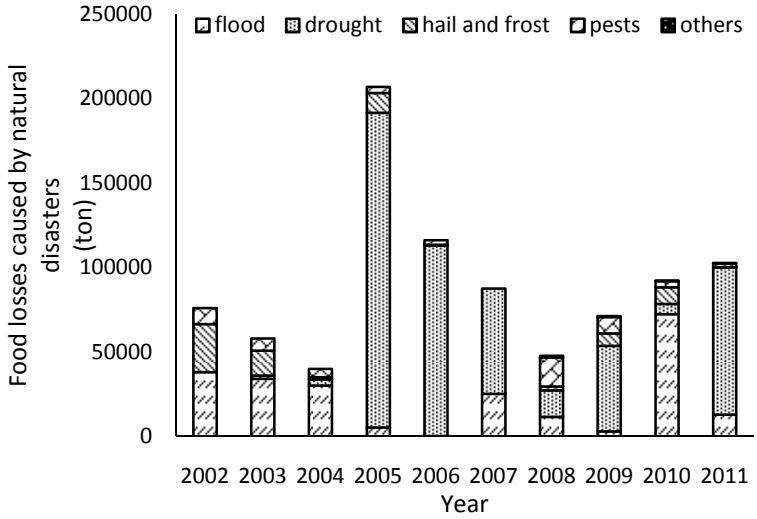

Fig.4 Annual food losses caused by natural disasters of Xiang-xi Prefecture

2) Poor traffic condition hinders economic growth.

As for infrastructure, a majority of countries in Xiang-xi Prefecture still lack running water, access to electricity and modern transportation infrastructure, which is seriously affected the quality of life of local farmers. In addition, the region has a total road network of 12,259.29 kilometers with a road density of 0.737 kilometer per square kilometer of land area, which is far less than the average of China in the same period. Given that the inhabited areas of local farmers are widely distributed, poor traffic condition becomes a bottleneck of economic growth and poverty alleviation.

3) Xiang-xi's underdeveloped industrial base weakens its power of development.

Regarding to the development of industries in Xiang-xi, it has total industrial output value of 31.603 billion yuan in 2013, which is increased by 19% as compared with last year. However, the increasing rate of the total industrial output value is declined over the past ten years. Fig.5 is a graphic representation of total industrial output value of Xiang-xi from 2002 to 2011. According to Fig.5, total industrial increased from its bottom of 3.59 billion yuan in 2002 to as high as 31.60 billion yuan in 2011, with the increasing rate fluctuated declining. This may mainly cause by the underdeveloped industrial base and the lack of regional characteristic industries.

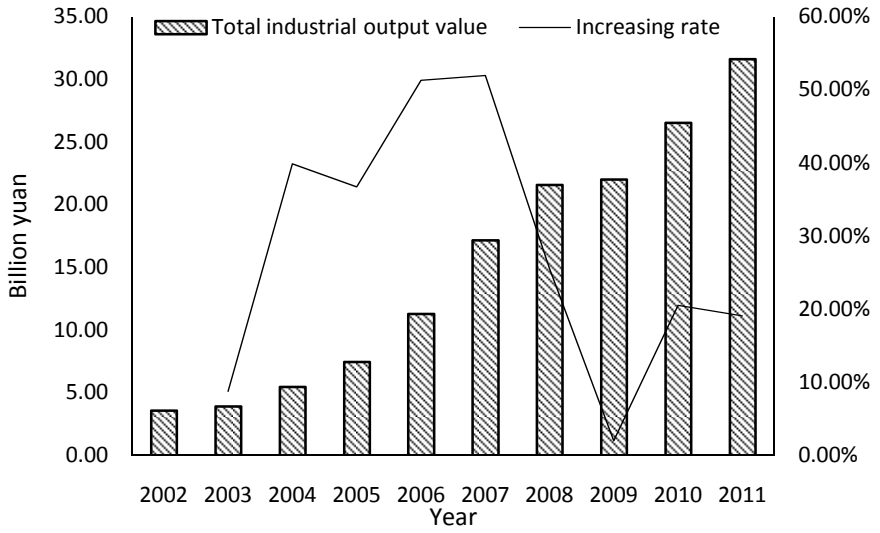

Fig.5 Annual total industrial output value of Xiang-xi Prefecture

3.3 Opportunity

Implement legislation on poverty alleviation specific on mountain areas

A large work is under process in China, aiming for setting up the legal and regulatory framework for poverty alleviation in mountain areas. For instance, a national wide poverty relief policy has been implemented dating from 1986. In 2011, China maps out *Outline for Development-oriented Poverty Reduction for Chinese Rural Areas (2011-2020),* which centers on reducing poverty and narrowing a widening wealth gap. And the outline addresses the following issues:

—Chinese government will increase its spending on poverty reduction over the next decade.
—Living conditions of rural area dwellers need to be improved.
—People in rural areas will be well trained.
—Regional characteristic industry in rural areas will be encouraged.

In 2013, programs of alleviating poverty in the concentrated destitute areas including Wu-ling Mountain, where Xiang-xi Prefecture is located, is implemented, which is significantly beneficial to poverty alleviation in mountain areas.

3.4 Threat

Xiang-xi Prefecture faces with increasingly intense competition from surrounding areas which have similar economic situation and natural environment.

Xiang-xi Prefecture is located in the middle of Wu-ling Mountain. Surrounding areas of Xiang-xi are also mountain areas and are struggled in poverty trap. As a result, Xiang-xi faces with heated competition of attracting investment and developing eco-tourism from surrounding areas. Taking eco-tourism as an example, Zhangjiajie city, which is located next to Xiang-xi, is a big threat. Due to the similar natural environment and close location, the two places have to compete for the potential consumers.

CONCLUSION

This paper centers on strategy of poverty alleviation in Xiang-xi Prefecture. Based on the result of SWOT analysis, it can be seen that government commitment is an important driving force of success of poverty alleviation. So it is essential to strengthen the role of the actual competent authority and more active financial policy should be set up and implemented.

In addition, collective actions could be promoted to improve quality of living of local farmers, to provide economic growth for the purpose of alleviating poverty in Xiang-xi Prefecture. Firstly, modern transportation infrastructure, together with running water and access to electricity should be built at a large scale. Secondly, regional characteristic industries utilizing local natural resource should be encouraged by various means including special subsidy and preferential policy. Last but not the least, restraint-incentive scheme on ecological reserve and economic development should be set up and implemented.

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