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How to Quickly Cast off Poverty in Poverty-stricken Mountainous Areas Relying on the "Whole Village Advancement" Model?

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Abstract We carry out a field survey on the implementation of the "Whole Village Advancement" poverty alleviation model in Lisizhuang Village, Shunping County, Hebei Province. Based on the "Whole Village Advancement" poverty alleviation model, we put forth the following recommendations: (i) Oriented by the market, fostering the function of "blood-refreshing"; (ii) Strengthening the new ideas of using projects to attract investment; (iii) Implementing the new strategy of "driven by the able person"; (iv) Improving the farmers' quality; (v) Adhering to the diversification of financing channels.

Key words "Whole Village Advancement" model, Poverty-stricken mountainous areas, Poverty alleviation, Lisizhuang Village

In May 2008, the state clearly pointed out that the "Whole Village Advancement" is an important measure to alleviate poverty at the new stage^[1]. The poverty alleviation and development model of "Whole Village Advancement" led by government, is the universally implemented new poverty alleviation model, to adapt to the new situation in the poverty alleviation and development work of China at present, and has achieved remarkable results in the practice nationwide. In order to improve the poverty alleviation work under the new situation and grasp the current situation of poverty alleviation and development model of "Whole Village Advancement", we take Lisizhuang Village in Shunping County of Hebei Province for example, to conduct a survey.

1 Basic situation of Lisizhuang Village

Lisizhuang Village is located in the northwest of Shunping County of Hebei Province, surrounded by mountains. The village is a typical agricultural village in the Taihang Mountains. There are a total of 430 families with 1 600 people; the farmland area is 100 hm²,

and the per capita arable land area is 0.06 hm²; the dry land accounts for approximately 60%, and the area of waste mountains suitable for afforestation is 166.67 hm² (Table 1).

The agricultural production in this village is mainly the vegetable cultivation, and the main varieties include cucumber and beans. Currently, the planting area reaches 66.67 hm², and the vegetable cultivation area accounts for 66.67% of the total planting area. The farmland in the mountainous areas is much more fragmented than in the plains, and the transportation conditions are backward, which increases the long-distance trip time, transportation difficulties, capital investment and basic farmland construction difficulties, resulting in lower net income per unit area in the mountainous areas. Since the natural conditions in the Taihang Mountains are poor (drought, rare groundwater), it will cause severe water shortage. Meanwhile, the deterioration of ecological environment seriously troubles the farmers in the mountainous areas to cast off poverty.

Table 1 The labor and land resources in Lisizhuang Village

Division of labor	Number of people	Allocation of land resources	Area//hm ²
Growing vegetables	710	The total land area of the village	666.67
Working outside the home	130	Arable land area (vegetables)	100.00(66.67)
"Lianghousheng"	20	Barren hill area	400.00
Engaging in trade	10	The area of waste mountains suitable for afforestation	166.67
Breeding	10	Arable land area per capita	0.06

Note: "Lianghousheng" refers to the person who has not yet been employed after graduating from junior or senior high school.

There are 880 labor forces in this village and 130 migrant workers. The migrant workers account for 14.78% of the total la-

bor forces, and 80.69% of labor forces are mainly engaged in growing vegetables, indicating that this village is still based on traditional farming. It is particularly important to note that there are still some "Lianghousheng" with proportion of 2.28%, who have not yet been employed after graduating from junior or senior high school, belonging to a special group in the labor force. Compared to other labor, the scientific and cultural quality of "Lianghousheng" is higher, with stronger ability to accept new things.

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The division of labor is shown in Fig. 1.

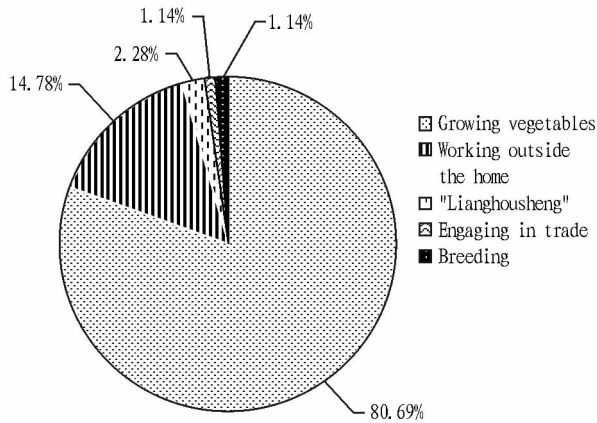


Fig. 1 Division of labor in Lisizhuang Village

2 Current situation of poverty

2.1 Survey of poor population There is a population of 1 091 in this village, and 297 poor households are registered in the file. There are 44 low-income families and 44 people living on minimum subsistence allowances. As can be seen from Table 2, the poor families registered in the file account for 69.07% of total families, and the poor population accounts for 68.19% of total population in the village, indicating that the proportion of poor population is still high in the village at present.

Table 2 Poverty situation of Lisizhuang Village

Current situation of poverty	Number	Proportion // %
Poor family registered in the file	297	69.07
Poor population	1 091	68.19
Low-income family	44	10.23
People living on minimum subsistence allowances	44	2.75

2.2 Income level The statistical results of Shunping County Bureau of Statistics show that per capita net income of farmers in Lisizhuang Village was 1 812 yuan in 2007, and 1 977 yuan in 2008. According to the survey results, the per capita net income of the poor is only 790 yuan, and the lowest income is 450 yuan, far below the level of per capita income in Hebei Province. From the average annual household income in Table 3, the main source of income for the farmers in the village at present is mainly based on vegetable production and working outside the home, but the income level is still very low.

The reason for this income structure is the long-term single cultivation variety, leading to continuous cropping, low quality of agricultural products, and low sales prices; most migrant workers are unskilled, who are mainly engaged in some industries with low wages, such as construction, textile, repair and service. In terms of the housing situation for farmers, it forms clear polarization: the ones with good conditions have lived in the brick houses, but there are still 10% of the farmers living in the adobe room.

2.3 Low overall level of infrastructure Lisizhuang Village is in the landlocked mountainous areas, where the overall level of

transportation, electricity, information and other infrastructure is not high; in addition, there are frequent natural disasters, often leading to poverty. Currently, there is not any street lighting facilities in the village, and it lacks irrigation facilities, with poor ability to resist disasters, seriously affecting the normal agricultural production and life of farmers.

Table 3 Family income sources in Lisizhuang Village in 2011

Income sources	Average annual income // 10 ⁴ yuan
Growing vegetables	1.0
Working outside the home	2.0
"Lianghousheng"	4.0 – 5.0
Engaging in trade	10.0

2.4 Sluggish development of social undertaking and poor ability to cast off poverty

Slow development of social undertaking is in particular manifested in poor health conditions. There are only two small private clinics in the village with poor medical facilities. It is followed by underdevelopment of education. This village has an elementary school and two private nursery schools, in dire need of all kinds of facilities. There are many illiterate farmers who conform to the traditional way in the agricultural planting and breeding, difficult to master advanced agricultural science and technology.

Another point is imperfect social security system. Those who are old, infirm, sick and incapacitated, do not be covered by the corresponding social security in the village, so most of them are included within the scope of low-income family, difficult to get out of poverty.

The final aspect is the lack of cultural and recreational activities. The farmers' life is monotonous due to lack of cultural and recreational room and library in the village.

3 Root cause of poverty

3.1 Harsh natural conditions and deteriorating ecological environment

Lisizhuang Village is surrounded by mountains, where the soil is mainly limestone, farmland area is small and resources are short. First, the quality of arable land is poor, not suitable for farming; second, it often suffers drought and the crops are not irrigated timely; third, high mountains and steep slopes cause soil erosion and resource utilization difficulties, and poor geographical environment is the root cause of poverty in the mountainous areas^[2]. Other factors such as light and temperature also become the obstacles to agricultural development in some regions. Remoteness and inconvenient transportation, coupled with frequent natural disasters in the mountainous areas, further exacerbate the village's poverty^[3].

The fragile ecological environment in the mountainous areas is particularly obvious in serious soil erosion and low forest coverage. The soil erosion area of the Taihang Mountains reaches 1.88 million hm², accounting for approximately 58% of the total land area; the mountain farm, land degradation is very serious, and the forest coverage rate is only 15.24%. Especially accompanied by

the increase in the frequency of flood, the forest coverage is decreasing year by year^[4].

3.2 Outdated villagers’ ideas and poor market awareness

The villagers are slow in changing ideas, due to conservative small-scale peasant consciousness; they are not good at seizing market opportunities and using market information. Due to several factors, it has caused difficulties for the farmers to get market information and technical information to get rich. Taking breeding for example, the mountain area of the village is very large, especially suitable for the development of breeding. Due to lack of information, the village so far has not yet had any large-scale farm; only a few people breed sheep, and the sheep meat is not tasty, difficult to sell at a good price.

In addition, the village lacks deep processing enterprises of agricultural products, and the added value of agricultural products is low. When the agricultural products are ripe, farmers will directly sell them to traders, leading to the vicious circle that low prices of peach caused the farmers to cut peach trees and grow other crops in 2011, so that farmers can not always grasp market information, seriously hampering the development of the local economy.

3.3 Inadequate "blood-refreshing" capacity The education level of most labor forces in the village is below junior high school, with low scientific and cultural quality and poor ability to accept the new technology and new knowledge, resulting in difficulties in the promotion and popularization of practical agricultural technology, and lack of capacity for self-development^[5].

Long supported by the national poverty alleviation funds, it has led to inadequate "blood-refreshing" capacity, restricting the development of rural economy and poverty alleviation process^[6]. Large amounts of funds are needed for economic development, and the input is insufficient. Especially for the farmers in the Taihang Mountains, the income is significantly low, and they even can not afford to buy necessary means of production, generally lacking the funds for expansion of production and development of non-agricultural industries^[7].

4 Advantages for poverty alleviation

4.1 The scale of the leading industry is expanded and the economies of scale is achieved The village is surrounded by

mountains, and the main feature is adequate light in spring and autumn, hot and rainy in summer, cold and dry in autumn. The region is rich in light energy resources, with adequate heat conditions, and the annual average temperature is 7.4 – 13.9 °C, forming unique microclimate. Because of adequate light, the vegetables grown are ripe one week or so earlier than the vegetables in the same geographical conditions of the county, and they are delicious, well-known among major wholesale markets^[8].

Based on the resource advantages of the villages, the vegetable planting structure is optimized, and the vegetable production scale is further expanded. Currently, the vegetable cultivation area has reached 66.67 hm², increase of 13.33 hm² over the previous year. To accelerate the pace of the village to cast off poverty and promote economic development, 0.2 million yuan of poverty alleviation funds have been put in place at present, and 50 greenhouses are to be built, greatly mobilizing the enthusiasm of farmers.

4.2 The input to infrastructure is increased After Baoding Poverty Alleviation Conference was held in July 2008, the village began to implement the "Whole Village Advancement" project. Supported by the village committee and higher authorities, the poverty alleviation funds have been basically put in place, and the infrastructure thus has been improved. Meanwhile, it plans to build 50 turnover houses, and the Financial Bureau has allocated 0.368 million yuan to alleviate the problem of insufficient funds. There are a small number of motor pumped wells previously, so the irrigation difficulty problem is very prominent. It will take half a month to irrigate the land, unable to meet the growth needs of vegetables, which has seriously hampered the development of vegetable industry.

Currently 0.1 million yuan has been invested in the village. In August 2008, two deep wells were dug, and 5 000 m of impermeable pipes were laid, easing the difficulties of the irrigation in the village. There are mainly dirt roads and gravel roads in the previous main streets. The poor transportation conditions seriously restrict the economic development of the village. In October 2008, 80% of streets in the village were hardened and 8 700 m² of roads were hardened. The project cost reached 0.4176 million yuan, including support funds of 0.23 million yuan and self-raised funds of 0.032 million yuan, still with financing gap of 0.155 6 million yuan (Table 4).

Table 4 Poverty alleviation funding in 2011^[9]

Project		Source of funds	Amount 10 ⁴ yuan	Funds that have been put in place//10 ⁴ yuan
Turnover house	Water conservancy facilities	Bureau of Finance	36.80	36.80
		Poverty Alleviation Office	10.00	10.00
Road infrastructure		Poverty Alleviation Office and County Bureau of Economic Development	23.00	23.00
		Self-financing	3.20	3.20
		Mutual aid money	15.56	–

4.3 The regional advantage of local vegetable wholesale market is exerted Since the village has long grown the outdoor vegetables, three vegetable wholesale markets are naturally formed in the east of village, trading twice a year. The daily market

trading volume of cucumber is 480 t, and the daily market trading volume of beans is 540 t. It has not only promoted local economic development, but also driven the rapid development of vegetable industry in the surrounding villages.

5 Problems

5.1 Poor comprehensive village strength In terms of "hard power", it should complete the remaining 20% of street hardening tasks, dig a deep well, build a recreation center, renovate 15 dilapidated school buildings, erect 50 street lights, and set up 3 clinics. In terms of "soft power", it should further strengthen the self-construction of "two committees", study and practice the concept of scientific and technological development; train the poor labor forces on a large scale, and improve the management level of vegetable wholesale market.

In terms of "smart power", it should continuously promote the village's development projects to link up with the outside capital, technology, human resources, and management market; further intensify efforts in helping to form the combination of internal demand and external aid.

5.2 Lack of working capital in the leading industry To further expand the village's vegetable industry, currently 8 greenhouses have been built, and Finance Bureau still has 0.168 million yuan of special poverty relief funds. Many farmers can not afford to bear the cost of each vegetable greenhouse around 40 000 yuan. In order to complete the program of 50 turnover houses, farmers need to raise 16 000 yuan by themselves; each house will cost working capital of 4 000 yuan, still needing to loaning about 0.832 million yuan.

However, the village is economically backward. Since the abolition of agricultural taxes, the village's collective economic accumulation has been little, unable to borrow with the material object as the collateral, so it is necessary to increase other financing channels to expand the scale of leading industries.

6 Recommendations for casting off poverty quickly relying on the "Whole Village Advancement" model

6.1 Oriented by the market, fostering the function of "blood-refreshing" According to the climate characteristics, land conditions, market demand and management level, it is necessary to give top priority to establishing the superior agricultural projects suitable for the regional development, give full play to regional resource advantages, continue to expand the scale of vegetable industry, and build the leading enterprises (those enterprises with less investment, high success rate, a huge market and wide coverage), to solve the problem of food and clothing for every family.

Relying on science and technology, it is necessary to select some mature, reliable and applicable technology with significant effect of yield increase for extension, such as greenhouse vegetable cultivation, livestock breed improvement and film grain planting, in order to improve the technological added value.

6.2 Strengthening the new ideas of using projects to attract investment Relying on mountain resources, it is necessary to actively develop 166.67 hm² of barren wasteland in the village, and introduce capital for project construction, to gradually form industrial advantages, ultimately realizing farmers' income increase, which not only makes the resources become a driving force for development, but also helps to protect the environment and

achieve ecologically sustainable development.

6.3 Implementing the new strategy of "driven by the able person" Using the able person to drive the development of whole village is the successful experience for many villages to cast off poverty. Therefore, it is necessary to be based on the rural characteristic resources in the mountainous areas, to encourage local large households and able persons to set up enterprises, attract merchants and lure investments to make full use of private capital, enhance the development of non-agricultural industries, foster famous enterprises and name-brand products, and improve the added value of products, to lay a good foundation for the development of non-agricultural industries.

6.4 Improving the farmers' quality It is necessary to accelerate the development of rural education, skills training and cultural undertakings, to cultivate new literate and skilled farmers. Especially it is necessary to increase training efforts for the group of people like "Lianghousheng".

On the one hand, we can organize practical technical training classes, science and technology seminars, experience exchange meetings and technology promotion meetings, to teach practical skills to farmers, and speed up the training of rural practical talents.

On the other hand, it is necessary to establish the farmer training services team with the agricultural technical personnel as the backbone, establish effective profit-driven and assessment mechanism, and encourage agricultural technical personnel to conduct on-site guidance to farmers to solve the technical problems that farmers encounter in the production; actively organize the implementation of "technology into households project", vigorously support a number of scientific and technological demonstration households to improve their ability^[10].

6.5 Adhering to the diversification of financing channels

There is a need to increase financial support for agriculture and especially the rural funds for the mountainous areas; encourage and guide social organizations, enterprises, institutions and individuals to participate in the poverty alleviation mechanism, to expand capital input channels; increase credit input to agriculture, so that the majority of farmers really get the support and services of financial capital in the production and life; seize the favorable opportunity of "village-level mutual aid money experimental unit", and further mobilize farmers to become shareholders, to gradually solve funds problems for the villagers to expand production scale.

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to agricultural production. Some native foods in Ludian County are well known, such as cherries, apples, cattle Thelephora, walnuts, green peppers and maltose, but the blocked market channels and poor transportation conditions hinder the development of its agricultural industry.

The government can conduct collective cultivation planning of the related characteristic industries, and organize unified sales, to form economies of scale, increase the bargaining power of farmers, and increase the income of farmers who do not work outside the home.

3.2 Increasing support to small and medium-sized enterprises while laying emphasis on supporting large enterprises

There were 35 industrial enterprises in Ludian County in 2011, including 12 large-scale enterprises and 23 small-scale enterprises. The industrial enterprises above designated size achieved total output value of 1.52152 billion yuan, an increase of 28.0% over the previous year; the industrial enterprises below designated size achieved total output value of 74.87 million yuan, an increase of 0.9%^[4].

Although the output value of small and medium-sized enterprises grows, but compared with the enterprises above designated size, the growth rate is too low; the number of small and medium-sized enterprises is nearly twice that of the enterprises above designated size. If the small and medium-sized enterprises grow rapidly, it will ease the employment pressure in Ludian County and increase farmers' income.

Therefore, Ludian government should increase efforts to support small and medium-sized enterprises, and relax the loans policy for small and medium-sized enterprises, to create a good environment for the development of small and medium-sized enterprises.

3.3 Improving the quality of labor, increasing investment in education and providing equal opportunities for education

The education should be oriented for farmers, and teach farmers according to their aptitude. It is necessary to enhance technical training for farmers and improve farmers' ability to obtain market information and participate in market competition, to make education truly benefit farmers^[5].

Therefore, the government should increase financial support for education, give extra help to vocational training for farmers and educational subsidies to poor families under the premise of ensu-

ring rural basic educational funding, to stimulate farmers' motivation to learn and participate in technical training.

3.4 Reforming the existing household registration system and improving the social security and labor protection for farmers

The long term existence of urban-rural dual economic structure and the household registration system firmly controlling the population migration in the course of ordinary labor migration have become the biggest obstacle. Therefore, it is necessary to gradually get rid of barriers to urban-rural dual economic structure, so that rural residents obtain more employment opportunities and participate in the right to distribution of economic outcomes. In the areas where conditions permit, it is necessary to establish and promote rural subsistence security system, actively and steadily push forward the basic medical service and educational assistance, and gradually institutionalize and standardize the poverty reduction in rural areas.

In addition, there is a need to popularize labor-related legal knowledge for farmers, to increase farmers' rights-defending awareness. Other poverty-stricken counties in Yunnan Province should draw a lesson from Ludian County to increase investment in agricultural technology and develop specialized agricultural economy; increase non-farm employment opportunities for farmers, increase the technical content of the labor, and improve the quality of the labor. It is necessary to lay more emphasis on the development of small and medium-sized enterprises, to provide more resources for small and medium-sized enterprises and improve social security system for farmers.

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(From page 74)