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Interactive Development-oriented Poverty Reduction Model for Bijie Experimental Region under the Guidance of Scientific Outlook on Development

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Abstract Bijie Experimental Region takes the ecological construction as the guarantee and takes population control as the key, to promote development-oriented poverty reduction and explore benign interaction between development-oriented poverty reduction and ecological construction and population control. Development-oriented poverty reduction model includes combination of raising crops and livestock, coordinated development of multiple wealth sources, transferring labor, and partner assistance; ecological construction model includes "Five sons passed imperial examinations", desertification control, agricultural circular economy, and project promotion; population control models includes human-land linkage, combination of favorable policies and propaganda and education, and combination of ambition arousing and education promotion.

Key words Bijie Experimental Region, Development-oriented poverty reduction, Ecological construction, Population control

Poverty is a kind of syndrome. The vicious circle of "more children, poorer condition; more children, more reclamation; more reclamation, poorer condition" has brought Bijie another name of poverty-stricken area. Under this serious background, Bijie Experimental Region undertakes the great mission of "making model in short term and making exploration in long term". Now, Bijie Experimental Region has found a new development-oriented poverty reduction path, which will set a good example for promoting rapid and sound socio-economic development of Guizhou Province.

1 Promoting benign interaction between development-oriented poverty reduction and population control

1.1 Relationship of unity of opposite between human and nature Searching material living resources is the motivation driving people to engage in production activities, but it must follow the contradiction rule and systematic opinions. On the surface, human and nature are contradictory; in fact, human is a part of nature. Thus, their relationship is a unity of opposites. Such relationship requires that it should keep equal and balanced relationship between subject and object in the process of substance and energy exchange between human and nature, and human should play the role of protector and defender. The relationship between human and nature is interactive. They will prosper or fail together. Therefore, it is required to properly treat the relationship between material productivity, natural productivity and population productivity, and keep benign circle of economy, society, resource, environment and population. Otherwise, it will form the vicious circle like Bijie in the past.

1.2 Interaction between development-oriented poverty reduction and ecological construction and population control

Now, Guizhou Provincial Party Committee and Provincial government are beset with tremendous population pressure, sharp human-grain and human-land conflict, severe water loss and soil erosion, deteriorating living environment, poverty-stricken material life. Where is the path for Bijie? Where is the hope of Guizhou Province? On the basis of intensive survey and close consultation, in 1988, Guizhou Provincial Party Committee and Provincial Government decided to change poverty reduction strategy, make breakthrough in all-round aspects, select typical Bijie region, and explore development-oriented poverty reduction way through setting up experimental Karst mountain area. The experimental region takes development-oriented poverty reduction, ecological construction and population control as its three major subjects. Specifically, it is taking development-oriented poverty reduction as the objective, ecological construction as the guarantee, and population control as the key, to walk out a comprehensive, coordinated and sustainable scientific development road.

1.3 Interaction between development-oriented poverty reduction and ecological construction

Nature is the source for food and clothing of human. Both production and living are closely related to nature. "Land is the essential guarantee for grain", which is a simple truth for agricultural society. Without excellent agricultural ecology, agricultural economic development becomes rootless. Bijie is a large agricultural zone. Hostile agricultural ecological environment has put Bijie people into deep abyss. Development-oriented poverty reduction faces with not only the challenging task of economic development, but also the great mission of protecting environment. Ecological construction and development-oriented poverty reduction seems a pair of contradiction; deteriorating ecology will aggravate poverty and struggling for shaking off poverty will further destroy ecology. Nevertheless, development

without ecology will lose basis, and ecology without economic development is feeding on illusions. Incorporating the ecology into the development-oriented poverty reduction to promote ecological construction through economic development is precious experience accumulated in construction of experimental region.

1.4 Interaction between development-oriented poverty reduction and population control The national income per capita is positively correlated to labor productivity and economic growth, while negatively correlated to size and growth rate of population. Malthus has stated that geometric growth of population will lead to short supply of food, and human will suffer from famine^[1]. Marx and Engels put forth the theory of "two kinds of production"^[2], contending that once the economic system made up of production of mankind itself and production of material goods is destroyed, it will induce poverty and provoke social problems. Bijie City has total area less than 27 000 km² and has become the second largest population region of Guizhou Province since 1987. Swelled population, unique karst landform, and deteriorating ecology make Bijie City become a poverty-stricken region. Swelled population not only offsets economic development, but also raises the possibility of individual family reduced or relapsed to poverty. To fight against this problem, Bijie Experimental Region considers the population as the key and precondition of development-oriented poverty reduction. In two decades, it reduced the birth of 1.4 million people, saving 50 billion yuan, equivalent to financial revenue of the whole region in 8 years.

1.5 Interaction between population control and ecological construction Human is both producer and consumer, so the population size is subject to resource reserves and environmental capacity. Human stays in the primary aspect of the conflict between resource and environment. It exerts influence on resource protection and environmental construction in both quantity and quality. Swelled population, extensive farming, special geology and ground form push Bijie into a region not suitable for survival of human^[3]. Excessive population production in Bijie forces people to solve the bread and butter issue. Action of destroying forest for land reclamation exacerbates water loss and soil erosion, and finally brings Bijie into desperate state. Farmland becomes thinner and thinner, stones become more and more, and grain becomes less and less. All of these reflect farming methods and agricultural ecological situations of Bijie in the past. Bijie Experimental Region pays close attention to the variable factor, human, and grabs the key ecology firmly, gradually restoring the deteriorating ecology.

2 Promoting development-oriented poverty reduction through multiple channels

2.1 Commodity agricultural mode with combination of raising crops and livestock Influenced by traditional farming culture, Bijie farmers have formed the thinking set that raising cattle is for farming, raising pig is to celebrate the New Year, raising chicken is for eggs, and farming is for food. Accordingly, it takes grain production as leading industry of mountain region. Obviously,

this is not suitable for local conditions. As a result, it not only fails to satisfy basic living necessities, but also exacerbates the poverty. Through extensive propaganda and discussion of commodity economy, with baptism of market economy, Bijie farmers gradually transform their ideas, orient towards market, and develop commodity agriculture in compliance with local situations. Specifically, it should operate planting industry and develop breeding industry. For example, farmers can plant grain, cash crops, traditional Chinese medicinal materials, economic forest and fruit, raise cattle for farming, raise pig for celebrating the New Year, and develop production of commodity cattle, sheep, pig and chicken. Commodity agricultural mode with combination of raising crops and livestock conforms to its natural characteristics, not only solves the food issue, but also alleviates human-land conflict, and more importantly, protects ecology.

2.2 Coordinated development of multiple wealth sources

Resource is wealth. Rich mineral resources, unique climate, well-developed karst landform, diversified animal and plant species, long history, as well as background of the Experimental Region, are all advantages of industrial development in Bijie Experimental Region. Coal is its superior resource. Its coal-bearing strata accounts for 45% of national land area. Much coal belongs to high quality anthracite coal. Thus, it is praised as coal sea of Guizhou or even southern regions of Yangtze River. However, long time deep excavation and raw coal sales not only destroy ecology and waste resources, but also exacerbate efforts of people. After founding of the Experimental Region, coal can be converted to electricity through coal-electricity integrated project and coal chemical industry. Such resource-oriented development model transforms living conditions of Bijie people, brings economic benefits, ecological and social benefits to Bijie Experimental Region. Besides, it should develop hydroelectric projects in mountain areas, to realize sustainable use of energy. In addition, it should develop tourism resources. For example, it can set up famous brands, such as Zhijin Cave, 100 Miles of Azalea, and Weining Grass Sea, *etc.*

2.3 Reducing poverty through transferring labor An old saying goes: "If you are that desperate to get rich, you might as well be a businessman first". The poverty of Bijie is not simply because of agriculture, but also closely related to large population base. Large amount of surplus labor is restricted on limited barren land, which not only intensifies human-land conflict, and results in great waste of labor, but also brings hidden trouble for rural stability and harmony. In this situation, transferring labor is a practical path for shaking off poverty. China's president, Hu Jintao, paid close attention to labor migration of Bijie or even Guizhou Province in the beginning of 1987. Besides, the Party and government of Bijie Experimental Region also take labor migration as a practical path. At present, Bijie Experimental Region has basically realized the transformation from scattered spontaneous labor migration to planned and organized labor migration stage. The annual migration is up to 1.2 million people. It not only alleviates hu-

man-land conflict, increases income of poor people, changes rural situation, but also broadens mind and renews ideas of people.

2.4 Alleviating poverty through coordinated partner assistance In Bijie Experimental Region, partner assistance comes from the United Front Work Department of CPC Central Committee, democratic parties, All – China Federation of Industry and Commerce, Shenzhen Special Zone and organizations directly under Guizhou Province, and also from internal organizations within the region. The Office of Prefectural Party Committee and Administrative Office have issued notice to ask leaders and cadres to stick to the poverty reduction work contact point system, make effort to survey poverty situation, make filing for poor families, and carefully implement preferential policies. Later, they proposed to implement "4, 3, 2, 1" partner assistance responsibility system. Specifically, each prefecture-level cadre assists 4 families, each county-level cadre helps 3 families, each section and bureau level and township cadre assists 2 families, and each general cadre assists 1 family. In addition, it implements "5 fixed aspects and 3 assistance" principle; fixed objects, fixed long-term plan, fixed current year task, fixed time, fixed effect; assisting in formulating poverty-reduction measures, assisting in implementing favorable poverty-reduction policies, and assisting in solving practical problem.

3 Advancing construction of ecological civilization in many ways

3.1 The model of "Five sons passed imperial examination" combining ecological construction and development-oriented poverty reduction The story of "Five sons passed imperial examination" comes from Biography of Dou Yi in History of Song Dynasty. Now, the story has changed, but people still have the hope of joint success like five sons in Dou family. In Bijie Experimental Region, the story has become another name of three-dimensional ecology and agriculture. Specifically, it is "wearing green hat through tree planting and afforestation, laying green belt through planting trees at hillside, covering blankets on slope land through applying green manure, earning money through running township enterprises and developing courtyard economy, and harvesting grain through intensive management of basic farmland". Such three-dimensional ecological agriculture takes small basin as unit, takes sloping slope basic farmland construction as main line, takes flood detention, floodwater storage, irrigation, and rainwater collection and storage as auxiliary works, takes solving the problem of engineering water shortage as key point, and takes green industry such as economic forest and fruit, forests for water and soil conservation, and growing grass for raising livestock as support, to carry out comprehensive ecological control.

3.2 Desertification control model Desertification, just like cancer of the earth^[4], engulfs survival conditions of human, so it is the largest internal injury for agricultural development^[4]. Bijie Experimental Region takes desertification control as the core and has established many models. Firstly, fostering long-term projects with short-term ones and combining both short and long term pro-

jects. For example, it is feasible to plant fruit trees in desertification areas. Under fruit trees, it is able to raise cattle, goose, to increase farmers' income in short term, and to realize ecological protection for a long term. Secondly, promoting company + base + farmer household model. Companies can provide fruit seedlings and labor subsidy, and purchase agricultural products at protective price. Thirdly, cooperating with construction of scenic spots, to plant trees and grow flowers, to realize more green mountain and clearer water, attracting tourists to taste fruit and appreciate flowers and beautiful landscape. Fourthly, combining economic forest and traditional Chinese medicinal materials. For example, it can plant Chinese pricklyash, pear, walnut, and honeysuckle, and may raise livestock together, and change slope land to terraced field. Fifthly, combining with planting organic tea. Sixthly, combining with developing ecological animal husbandry. Namely, grow grass in desertification areas, to develop animal husbandry and plant traditional Chinese medicinal materials at the same time.

3.3 Banqiao model of agricultural circular economy As a type of ecological economy, the circular economy takes ecological industrial chain as carrier, and takes consumption reduction, reuse and recycling as principles, to realize sustainable development of resource, economy, and ecology through recycling and high efficient use of resources. Banqiao Village, taking full advantage of its flat land, convenient traffic, temperate climate, high coverage of forest and rich water resources, incorporates marsh gas into its ecological construction, forming three recycling models "pig → marsh gas → grain", "pig → marsh gas → fruit" and "pig → marsh gas → fish", realizing the ecological civilization that "pigs grunt in pigsty, cooking with marsh gas, marsh fertilizer feeds fishes, wild ducks quack, and melon and fruit are hanging on the pond". Such model realizes agricultural circular economy of forest, fruit, traditional Chinese medicinal materials and vegetable. Mawo Village in Guanzhai Town of Zhijin County developed the ecological economic road of "water and soil conservation → green manure → pig or cattle raising → marsh gas → fruit and vegetable → ecological protection".

3.4 Project promotion model To cope with financial difficulty, Bijie Experimental Region makes effort to promote ecological construction through establishing projects. As early as 1988, it has won the China 3356 Project supported by United Nations World Food Programme. This project focuses on planting forests for water and soil conservation, and improving grassland, changing slope land to terraced field, improving rural road, and carrying out comprehensive control of mountain, water, field, forest and road. Bijie Experimental Region, seizing the marvelous opportunity of conceding the land to forestry and grass, control of Wujiang River basin, and desertification control in the Western Development Drive, actively promote ecological construction, particularly comprehensive control of small basin. For comprehensive control of small basin, it should adhere to the principle of controlling both upper and lower hills, combining plant, engineering and

farming, and implementing comprehensive control of mountain, water, forest, field and road. The objective is to increase vegetation within the basin, change slope land into terraced field, expand surface water and water storage, improve soil quality, and turn the past water loss, soil erosion and fertilizer loss into the present soil conservation, water protection and fertilizer retention. Press corps of protecting mother river Yangtze River in Centurial Trip for Chinese Environmental Protection, said with deep feeling that "here, we see hope of Guizhou".

4 Solving population problem in many ways

4.1 Human-land linkage model integrating population control with ecological protection As basic means of production for agriculture, land also has limitation. Population expansion in Bijie aggravates human-land conflict, and excessive reclamation leads to water loss and soil erosion and ecological crisis in karst mountain areas. Some farmers give birth to more children to get more contracted land. To contain such action, Taoyuan Town of Jinsha County started implementing the human-land linkage policy from 1989. Specifically, on the basis of household contract responsibility system, the area of land owned by a farmer household will not change regardless of increase or reduction in family member. Such policy stops the connection between newly increased population with redistribution of contractual land use right. It not only restrains rapid growth of population, but also well combines cultivation land protection with family planning, ecological protection, as well as population control, so as to explore feasible way for scientific development of poverty-stricken regions^[6].

4.2 Population control model through combining favorable policies with propaganda and education To complete transform the old idea of "the more sons, the more blessings", Bijie Experimental Region firstly rewards only-child family by material, sets endowment insurance reserve, provides favorable policies for approval of homestead, and provides skills training, and establishes preferential policy for education and medical care of children of those families. Secondly, it should create healthy marriage and childbirth culture; holding book reading class and study class in Party schools at all levels, to make cadres in the government and the Party understand the necessity of population control; carrying out propaganda of policies and regulations through movie, television, newspaper and magazine; providing marriage and childbirth education for women of child-bearing age through rural population schools; setting propaganda boards along transportation lines;

establishing propaganda team of "new marriage and childbirth style among tens of thousands of families". Thirdly, transforming rush jobs into setting up three-level (county, township and village) standing management organization, shifting the focus from county and township to village, so as to facilitate mutual supervision of villagers. In addition, Bijie Experimental Region also recruits college and university graduates to strengthen family planning team, and increase convincingness of family planning work.

4.3 Human resource development model through combining ambition arousing and education promotion Problems of Bijie Experimental Region not only come from objective nature, but also from subjective men. President of China, Hu Jintao, once called for energetically developing education in experimental region, developing human resources, never vacillate in or relax efforts or act recklessly, and forge ahead with tenacity and resolve, overcome subjective factors causing poverty, and fire spiritual motivation of development-oriented poverty reduction. Bijie Experimental Region should improve people's educational and intellectual level through developing elementary education and various types of vocational education and training, and gradually set up its own spirit of "having firm belief, working hard, being realistic and forging ahead with selfless dedication". It has proved that combing ambition arousing and education promotion is a comprehensive poverty reduction model integrating relief anti-poverty and development-oriented poverty reduction, so it is an inevitable choice for sustainable development of Bijie Experimental Region.

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