

# **Land Consolidation Helps Rural Poor Population Get Rid of Poverty**

—Taking Gansu Province of China as an Example

**Shiguang HE and Yongzhong FENG, People's Republic of China**

**Key words:** Land Consolidation; Rural Poor Population;Gansu Province

## **SUMMARY**

The 2030 Agenda for Sustainable Development set 17 sustainable development goals, among which the first one is to end poverty in all its forms.China set the struggling objective to make about 70 million rural population getting rid of poverty,and build a well-off society in an all-round way by 2020.Taking Gansu Province which is the second poorest province in China as an example,this paper researches land consolidation's measures and roles in poverty alleviation. The paper reviews experience of land consolidation in some typical countries,then gives an introduction of Gansu Province , analyses its poverty problem,discussed land consolidation's measures and effectiveness.Finally a conclusion is drawn that land consolidation improves agricultural productive conditions,increases crop production,boosts farmer's income, beautifies their living environment ,and helps rural poor population get rid of poverty.

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## 1. INTRODUCTION

For a long time, the problem of eradicating poverty has been disturbing human races, and it has become an important social problem for international community to solve. On October 17, 1987, 100 thousands people gathered at Trocadero Square of Paris where the Declaration of Human Rights was signed, and they claimed poverty was a violation of human rights. On December 22, 1992, the 47<sup>th</sup> Congress of the United Nations (the UN for short) decided October 17 as the International Day for Eradication of Poverty from 1993. In March, 1995, the UN set 1996 as the International Year for Eradication of Poverty in order to push global poverty eradication; In December of the same year, the UN set the ten year (from 1997 to 2006) as the first-ten-year of eradicating poverty. In September, 2000, the UN Millennium Summit set the goal that the number of extreme poor people and hungry people in the world would decreased by 50%. In December, 2008, the UN also set the ten year (from 2008 to 2017) as the second-ten-year of eradicating poverty. In September, 2015, The 2030 Agenda for Sustainable Development put forward 17 sustainable development goals, and the first one is to end poverty in all its forms.

In past years, the international community has made great efforts to eradicate poverty, and obtained great achievements. According to the 2015 Report of Millennium Development Goals, the number of people in extreme poverty decreased from 1.9 billion in 1990 to 0.836 billion in 2015, and the goal realized that the number of extreme poverty decreased by 50%. However, it still needs a lot of efforts to realize the goal of eradicating extreme poverty by 2030, in view of the decrease of global economy and the width and depth of the poverty problem.

Since opening-up and reforming, China launched development-oriented poverty alleviation. With the implementation of the Seven-year Priority Poverty Alleviation Program, the Outline of Rural Development-oriented Poverty Alleviation (from 2001 to 2010), China found a successful way of development-oriented poverty alleviation with Chinese characteristics, and made 7 billion rural poor people get rid of poverty, and made attribution to global poverty alleviation. According to statistics, the decreasing number of poor people accounted two thirds of the world's from 1990 to 2011. In November, 2015, China set the goal that 70 million rural poor people (per capita net income is less than 2300 RMB which is calculated by the constant price in 2011) and all poor counties will be out of poverty, and the regional issue of poverty will be taken care of.

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From 1986, China has been carrying out land rearrangement projects orderly, and obtained good social, economical and ecological benefits, and played a pushing role in helping rural poor people get rid of poverty. Taking Gansu Province of the People's Republic of China, this paper studies the roles of land rearrangement in helping rural poor people get rid of poverty.

## 2. REVIEWS ON LAND REARRANGEMENT ABROAD

Foreign land rearrangement started early at the beginning of 13<sup>th</sup> century. In 1250, the practice of land rearrangement was carried out in Bavaria, Germany, and its content is pilot merging. The process of foreign land rearrangement from the middle of 16<sup>th</sup> century to now can be decided into the following three phases. The first phase is simplified land rearrangement which was from the middle of 16<sup>th</sup> century to the end of 19<sup>th</sup> century, and its main contents are field merging, land ownership adjustment and improving agricultural production conditions. The second one was specified land rearrangement which was from the beginning of 20<sup>th</sup> century to 1950s, and it mainly solved the problem of urban land, animated negative influences of construction upon land use. The third one was comprehensive land rearrangement which was from 1960s to now, and it tended to promote regional economical development, narrow gaps between city and countryside, protect and improve ecological environment and living conditions.

Germany, Netherlands, France and Russia started to carry out land rearrangement, Austria, Canada earlier than other countries, and Japan, South Korea and China's Taiwan region also made achievements in land rearrangement. Among these countries, land rearrangement in Germany and Netherlands was very representative.

Germany's land rearrangement in real sense started in 1886 when the Bavaria Kingdom promulgated Land Consolidation Act. The concept of land rearrangement was put forward in this law for the first time, and the special land rearrangement institution was set up. In 1953, the unified Land Consolidation Law was passed, and was revised in 1976 and 1982 in order to adapt to the constantly changing situations. Germany's land rearrangement includes five types (ordinary land rearrangement, simplified land rearrangement, quick land merging, exchanging land volunteer and project land rearrangement), and eight contents (land merging, countryside and township renewal, exploring new construction land, large engineers land rearrangement, forest land rearrangement, reforming and protection of landscape, special plant zone's rearrangement, cadastre renewal).

Netherlands started to carry out land rearrangement as early as the beginning of 20<sup>th</sup> century, in order to adapt to machinery agricultural production and boost agricultural productivity. In 1924, The Dutch Land Consolidation Act was published, and was revised in 1938 and 1954. In 1985, the Land Development Act was enacted in order to adapt to the trend that land rearrangement shifted from increasing land productivity to comprehensive rural land development. In Netherlands, land Land Consolidation Helps Rural Poor Population Get Rid of Poverty—Taking Gansu Province of China as an Example (8729)

Shiguang He and Yongzhong Feng (China, PR)

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rearrangement was in accordance with special planning,implied project running system,planned and carried out land rearrangement projects under the guideline of land rearrangement planning.It included four types:non-agricultural land rearrangement,agricultural land rearrangement,land ownership adjustment and agreement land rearrangement. Land rearrangement went through Netherlands agricultural and rural development in the 20<sup>th</sup> century.

From the process and trends of international land rearrangement,land arrangement has become an important pushing force to promote agricultural development and coordinate urban and rural development,has taken perfect laws and regulations as institutional guarantee and paid more attention to promote urban and rural land layout,ecological landscape construction,public involvement,mutual investment and industrial operation.

### **3. LAND REARRANGEMENT HELPS RURAL POOR PEOPLE GET RID OF POVERTY**

#### **3.1 An Introduction and the Poverty Problem of Gansu Province**

##### 3.1.1 An introduction of Gansu Province

Gansu Province is located at the western part of China,and borders Shan'xi Province in the east,Sichuan Province and Qinghai Province in the south,Xinjiang Uygur Autonomous Region in the west,Inner Mongolia Autonomous Region and Mongolia in the north,Ningxia Hui Autonomous Region in the northeast.The total land area is 0.4558 million square kilometers.Its terrain is long and narrow and tilts from southeast to northwest,with the length of 1655 kilometers and the width of 530 kilometers.Its topography is complex and varied,including mountains,plateaus,planes,valleys,deserts,etc.It's dry in the most part of the province,with the year average temperature of 8.7 degrees centigrade and the year average rainfall of 420.2 millimeters.There are 12 cities,2 autonomous prefectures,and 86counties,and the provincial capital is Lanzhou City.Gansu is a multi-ethnic province,with 56 nationalities,such as Han,Hui,Tibetan,etc.At the end of 2015,the number of resident population is 25.9078 million.The ancient silk road and the new Asia-Europe continental bridge cross the whole territory.The famous Dunhuang Mogao Grottoes is located at Dunhuang City which lies in the west of the province.

##### 3.1.2 The poverty problem of Gansu Province

The poverty incidence of Gansu Province ranks at the second place in China.Its poverty was caused by the following reasons.Firstly,its geographic environment is very complex,with high mountains and deep grooves.It lies at the confluence of Loss Plateau,Qinghai-Tebetan Plateau and Mongolia Plateau,and most parts are folded gullies.Its terrain is fragmented and its topography is complex and changeable.Mountains are steep and the relative elevation is large.So,human activities are severely limited.Secondly,its climate is dad and natural disasters happen frequently.It lie at the confluence of

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Shiguang He and Yongzhong Feng (China, PR)

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Helsinki, Finland, May 29–June 2, 2017

the northwest arid area, Qinghai-Tibetan cold area and the eastern monsoon area, and the climate is changing. The natural disasters are difficult to be forecasted and often caused great damages. Thirdly, culture and education is undeveloped, and people's thoughts are backward. People in rural area usually pay less attention to education, so they lack in science and culture, with narrow vision and low self-development ability.

With the implementation of agricultural-oriented construction of Three Western Regions and the strategy of west development, the poor population in Gansu Province reduced year by year. In order to get rid of poverty as soon as possible and build a well-off society in an all round way by 2020, people in Gansu Province have been working hard. At the beginning of 2016, Gansu Province passed Reviews over Pushing Targeted Poverty Alleviation and 17 Special Work Schemes for Targeted Poverty Alleviation, and determined missions, plans and time of poverty alleviation for the present and near future. So far, there are 2.885 million people in poverty in Gansu Province.

### **3.2 Review over Land Rearrangement in Gansu Province**

Land rearrangement refers to consolidating land used unreasonably, repairing land which was damaged by production or construction and natural disasters, and developing unused land and other activities, in order to boost efficiency of land use and make sure using land resources sustainably. The types of land rearrangement include agricultural land consolidation, rural construction land consolidation, urban industrial and mining land consolidation, land rehabilitation, and arable reserved land resources reclamation.

The Process of land rearrangement in Gansu Province can be divided into the following three phases. The first stage is exploring stage (from 1986 to 1997). It enhanced land reclamation and supplemented cultivated land in order to keep the balance of farmland area in the province. The second one is expanding stage (from 1998 to 2007). It comprehensively rearranged fields, channels, roads, forests and villages in order to increase cultivated land area and improve its quality. The third one is comprehensive development stage (from 2008 to now). It integrated land rearrangement and the equilibrium between increasing of urban construction land and decreasing of rural construction land, established the platform of coordinating urban and rural development. The aim shifted from increasing farmland area to multi-aim of quantity, quality and ecology.

Land rearrangement usually includes land leveling engineering, irrigation and drainage engineering, road engineering, farmland shelter and environment conservation engineering. Land leveling engineering includes converting sloped fields into terraces, building ridges, peeling and reusing cultivated layers, converting dry farmland into irrigated one when there are plenty of irrigation water, rehabilitation of deserted villages, plunging deeply after land leveling. Irrigation and drainage engineering includes improving irrigation and drainage channels and its structures. Road engineering includes field roads, production paths and ancillary facilities. Farmland shelter and Land Consolidation Helps Rural Poor Population Get Rid of Poverty—Taking Gansu Province of China as an Example (8729)

Shiguang He and Yongzhong Feng (China, PR)

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Helsinki, Finland, May 29–June 2, 2017

environment conservation engineering includes planting trees and grasses to protect fields, roads, channels, slopes, and shores, etc.

### **3.3 Land Rearrangement Helps Rural Poor People Get Rid of Poverty**

#### 3.3.1 Optimizing land use structure

Through implementing land rearrangement, unused land was used fully under the condition that the ecology should be protected, and the destroyed land was rehabilitated. On the premise of guaranteeing agricultural production, it was possible to reduce the rate of infrastructure occupying land. With many measures, it was a viable to better land use layout, increase effective farmland area, and improve land use efficiency.

#### 3.3.2 Improving agricultural production conditions

Land leveling engineering could determine field scale reasonably, adjust field shape, and improve its smooth degree. Irrigation and drainage engineering could increase the proportion of irrigated farmland, enhance the ability of farmland anti floods. Road engineering could improve load standard and prudent degree of countryside roads. Farmland shelter and environment conservation engineering could form the shelter of farmland, and prevent and control soil erosion and water loss. After land rearrangement implementation, agricultural production conditions were greatly improved, the average quality of farmland was increased 1 to 2 levels. Comprehensive agricultural production capacity was enhanced, and farmland became high standard basic farmland with a stable and high yield.

#### 3.3.3 Increasing poor peasants' income

After land rearrangement projects finished, farming plots became neat, the irrigation and drainage facilities were improved, countryside roads became prudent, farmland shelter was effective. With improvement of farmland infrastructures, the yield per acre increased 100 kilograms, then farmers increased their income 200 RMB. In addition, rearranged farmland can realize machinery operation, and was easy to be transferred. The transfer fee of farmland increased about 200 RMB. In all, farmers could increase their income 400 RMB from each acre farmland.

#### 3.3.4 Beautifying rural living environment

In rural areas, construction land usually scattered, abandoned, idle, used inefficiently. Combining the new countryside planning, land rearrangement comprehensively rearranged fields, channels, roads, forests and villages. It dismantled, removed and merged old villages. Land was ~~used economically and intensively, the farmland area increased. The dirty, chaotic and poor condition~~ Land Consolidation Helps Rural Poor Population Get Rid of Poverty—Taking Gansu Province of China as an Example (8729)

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Helsinki, Finland, May 29–June 2, 2017

was changed. Rural infrastructures and public service facilities were bettered, and farmers' living conditions were improved significantly.

### 3.3.5 Improving regional environmental quality

Cultivated land is an important part of agricultural ecology, and it has multi ecological functions, such as wetland, green space, land scope etc. Rearranged farmland became high standard farmland. That not only strengthened the foundation of modern agriculture in poor area, but also promote the quality of regional environment. Through engineering, ecological measures, it could effectively prevent and control land desertification, salination, reduce water and soil erosion, and obtain good ecological benefits.

### 3.3.6 Upgrading rural civilization degree

In the process of land rearrangement, it is encouraged to promote public participation, and the people in the project area have the chance to take part in project site selection, planning and designing, engineering construction and supervision and so on. That guaranteed farmers' right to know, to participate and to get income, enhanced their scientific idea and participation consciousness, improved their ability of participation and self-development, and promoted rural civilization construction.

## 4. CONCLUSION

Eradicating poverty and realizing richness is the common wish of human beings. The international community has made active efforts to eradicate poverty, and obtained remarkable achievements. China has also made great attribution to the cause of world poverty eradication. Due to natural, historical and social reasons, the poverty incidence of Gansu Province ranks at the second place in China. With the support of national poverty alleviation policies and the provincial people's hard work, the number of rural poor people greatly reduced. In past nearly 20 years, Gansu Province implemented a large amount of land rearrangement projects. Those projects optimized land use structure, improved agricultural production conditions, increased poor peasants' income, beautified rural living environment, improved regional environmental quality, upgraded rural civilization degree, obtained good social, economical, and ecological benefits, and played a pushing role in helping rural poor people out of poverty. With the implementing the policy of targeted poverty alleviation, the money and projects of land rearrangement have been tilting toward the rural poor areas, and they will play a bigger role in helping poor people get rid of poverty.

## CONTACTS

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