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The Case of Social Entrepreneurship under the Background of Rural Revitalization and Its Enlightenment

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ABSTRACT
The implementation of rural revitalization strategy in China is a powerful measure to realize rural poverty reduction and promote common prosperity. Under the strategic background of rural revitalization, social entrepreneurship pays more attention to the creation of social value and is more conducive to the realization of rural revitalization. This paper analyzes the social entrepreneurship case of Researcher Yao Jianmin in detail, and draws four conclusions and inspirations based on the case analysis. Social entrepreneurship needs to be in line with the direction of national development; China's social entrepreneurship technology content increased; Interdisciplinary is conducive to innovation; Social entrepreneurship requires strong communication skills.

Keywords: *rural revitalization，social entrepreneurship，social value，degradable water permeable mulch film.*

1. INTRODUCTION

China's economic and social development has entered a new era. According to the 19th National Congress of the Communist Party of China, in the new era, the principal contradiction of society becomes, that of the contradiction between unbalanced and inadequate development and the people's ever-growing needs for a better life. Among them, the contradiction of unbalanced development is mainly reflected between urban and rural areas. There is still a big gap between the income of urban residents and that of rural residents. There is also an income gap between developed eastern coastal provinces and inland provinces; the problem of inadequate development is even more acute in rural areas, where people's incomes are low. Although we have achieved success in poverty alleviation, we still need to consolidate our achievements in poverty reduction and prevent them from falling back into poverty. In this context, the 19th National Congress of the Communist Party of China proposed the implementation of the rural revitalization strategy[1], which aims to reverse the situation of rural blight and improve the overall level of rural development. Implementing the rural vitalization strategy is not only a necessary requirement for solving the main contradiction, but also an inherent requirement for achieving common prosperity.

Commercial entrepreneurship is purely oriented to pursue economic value, which has limitations in increasing the income of poor farmers, reducing poverty and promoting common prosperity. Social entrepreneurship is a more effective way to reduce rural poverty[2][3], promote common prosperity and realize rural revitalization due to its orientation of pursuing social values. The concept of social entrepreneurship grew in popularity in the mid-1980s, mainly to solve intractable social problems such as poverty and hunger. Faced with market failure, social entrepreneurship solves social problems in the pursuit and creation of social value by combining the logic of social welfare and the logic of commercial market. Social entrepreneurs have a high sense of responsibility to create value for their target groups, social entrepreneurs can combine great, forward-looking visions with practical problems, they are able to respond to the changing environment and its requirements with sustained entrepreneurial activity and create social value in the process. In the process of social entrepreneurship, the coordination of social value, economic value and ecological value is emphasized. Peter Drucker believes that social entrepreneurs "change

the capacity of social performance", and the comprehensive social value created by social entrepreneurs can effectively promote social reform.

This paper analyzes the social entrepreneurship process of Researcher Yao Jianmin in the context of rural revitalization, and draws conclusions and enlightenment on the basis of case analysis.

2.DEGRADABLE WATER PERMEABLE MULCHING FILM BY YAO JIANMIN

Yao Jianmin is an outstanding scientist and social entrepreneur working at Shanxi Agricultural University. Dr. Yao jianmin initially majored is agriculture in university and engaged in research on rural land resource planning and protection after working. He has achieved a series of outstanding research results and won a reputation in the academic circle. Later, in one of his researches, he collected and analyzed historical meteorological data in northern China. Shanxi Province is located in the north of China and belongs to the typical loess Plateau climate. The climate here is typically characterized by drought and little rain. Historically, there has been little rainfall for a long time, which has left a deep impression on the hearts of ordinary people and formed the proverb: Nine droughts in ten years. While collating and analyzing meteorological and precipitation data in northern China, Yao Jianmin realized that, on the one hand, the geographical climate itself is short of water, On the other hand, even if there is a small amount of precipitation, but the promoting effect for agricultural production and crop growth is still a little, because a small amount of precipitation in dry conditions quickly evaporate, difficult to infiltrate into deeper soil for crop root system to absorb, so is almost not any role for the growth of crops. Under these conditions, Yao jianmin realized that if an extremely dry climate appear it could be very bad for agricultural production, which has happened tragically in the past.

It was in feudal China, the Qing Dynasty of the 19th century, 1876-1879, Shanxi Province because of drought, more than five million people suffered from famine, due to the famine also caused the death of a lot of people, known as "Ding Wu serious famine". Travelers who passed by at the time had witnessed a tragic scene: the crunch of carriages passing through the disaster area was the sound made by crushing the bones of the starving dead, the cold wind blows the hair of the dead into the carriage, scavengers peck at the bodies in the wilderness...

Agricultural production depends on weather to a large extent, and in northern provinces such as Shanxi, precipitation especially effective precipitation--not just precipitation that moistens the surface of the land and evaporates quickly, but precipitation that penetrates deep into the soil and is sufficiently absorbed by crop roots –that is particularly important. Yuan Longping, a world-renowned scientist who studied hybrid rice, once said, "A grain of food can save a nation or trip it up. We should keep the rice bowl of the Chinese people firmly in our own hands." Since the founding of the People's Republic of China, Great achievements have been made in China's agricultural production, and food security has been effectively guaranteed. All this is because the Great Communist Party of China led the Chinese people to the great victory of the New Democratic revolution, this revolution made Chinese society no longer a semi-feudal and semi-colonial society, after that China made great achievements in socialist construction. In the field of agricultural production, we adopt and continue to adopt a strict farmland protection system, build water conservancy infrastructure, and encourage and develop advanced science and technology in agricultural production. Today, the average per-mu yield of grain crops in China is more than five times that before the founding of new China, reaching about 380 kilograms. With the continuous breakthrough of advanced agricultural production technology, the number is still increasing, and new records are constantly set, such as rice. n terms of major grain crops, China's per-mu yield far exceeded the world average, wheat and rice exceeded it even more.

Despite the great achievements, the traditional Chinese wisdom is still to be “In time of peace prepare for danger”， the adverse effects of drought and lack of rainfall on agricultural production in northern China still persist. It was easier for people in coastal areas to get rich through globalized overseas trade, compared with coastal areas, inland provinces in the north, such as Shanxi, lack easy ways to get rich through overseas trade, Moreover, farmers in the inland provinces of north China are more likely to obtain their main source of income from agricultural production. The adverse effects of drought and lack of rain hinder the continuous improvement of farmers' agricultural income and form the income gap with farmers in southeast coastal areas. China puts forward that the goal of further building socialism is common prosperity, not a widening income gap. In this context, researcher Yao Jianmin fell into deep thinking. How to raise the income of farmers in inland provinces? How to reduce the adverse effects of drought and lack of rainfall on agricultural production in inland provinces of north China? How to make the most use of limited rainfall? How can evaporation of rainfall be reduced?

What accompanied Yao jianmin's deep thinking was his passionate and decisive research action. He first experimented with needle holes in plastic mulch to reduce evaporation by allowing rainwater to seep through, but the initial results were not ideal. Later, Researcher Yao Jianmin made a series of experiments and explorations with all his knowledge of physics and chemistry. In this process, he cooperated with the material factory and consulted the Institute of Chemical

Materials for the difficulties encountered in the experiment. After a difficult and tortuous process, the ideal effect was finally achieved -- Unidirectional water infiltration film, Unidirectional means that rainwater can penetrate into the soil from the top down in a single direction through the permeable mulch. And as it evaporates, the water vapor forms droplets on the inner surface of the permeable mulch and drops back into the soil, Instead of evaporating through the mulch from the bottom up into the air, water seepage works by adding chemicals to the material to create evenly distributed pores that allow water molecules to pass through (the specific added chemicals are protected by patent). Through this technological innovation and product, the unidirectional seepage mulch can make full use of scarce precipitation resources during drought conditions, reduce evaporation and improve the utilization efficiency of rainwater, thus achieving the purpose of promoting crop yield in arid areas. For example, in the past, the yield of millet per mu in semi-arid areas was no more than 500 jin, in recent years, grain production at the demonstration bases in Shanyin and Shenchi counties has reached more than 1, 000 jin per mu, and it is the unidirectional seepage mulch that has helped dry land harvest, Yao said. In 2015, Hongyazi, a poverty-stricken village, 1400 meters above sea level in Shenchi County, Shanxi Province, set up a demonstration site for millet on dry land of 3,000 mu. During the severe drought, the per mu yield exceeded 1,200 jin, more than doubling the yield and lifting the whole village out of poverty. Known as China's most barren area of Ningxia Xihaigu, in the severe drought in 2020, the agricultural production in this area has created the miracle of the harvest of millet, per mu yield of 1426 jin, output value of 4278 yuan! The secret is the water-permeable mulch made by Researcher Yao Jianmin.

Yao experimented first in an open field near his home, and later in a farmland in Datong, Shanxi Province, where the weather is colder. One year Shanxi Province happened to encounter a relatively dry climate, the maize production in Datong area was seriously affected by the drought, and significantly reduced production. However, the maize in Yao Jianmin's unidirectional infiltration mulch experiment field is not affected by drought and grows well! This is in stark contrast to ordinary farmland without this technology. This fully proves that unidirectional permeable mulching film can resist drought, reduce evaporation, make full use of precipitation resources, and then realize the good efficiency of increasing crop yield. Since then, the research results and products of Yao Jianmin have attracted the high attention of government leaders.

The vast areas along both sides of the Great Wall in northern China have a dry and rain-less climate, because unidirectional water infiltration mulching film can alleviate the adverse effects of drought on crop growth, increase crop yield, and thus increase farmers' income, therefore, this technology and products have been promoted and applied in a wider range of provinces, such as Xinjiang, Qinghai, Inner Mongolia, Gansu, Ningxia and so on. In the process of expanding the range of applications, Yao went on to study and personally design agricultural machinery for laying mulch, The agricultural machinery he designed and developed has been updated several times to improve the efficiency of laying mulch. At the same time, due to the increasing use amount of the unidirectional water permeable plastic film, Yao jianmin then considered how to degrade the film, You can't solve one problem (drought) and create another (environmental damage caused by white pollution), Through constant exploration and research, Finally, the plastic film can be degraded by microorganism, that is, the plastic film can be completely degraded by some bacteria, so as to achieve the purpose of environmental friendliness. Finally, the mature product is degradable unidirectional permeable mulching film, which can make full use of precipitation resources and the mulching film is harmless to the environment at the same time.

Thanks to his scientific and technological innovations and products, Yao has improved crop yields and farmers' incomes in arid areas, he has made outstanding contributions to the national poverty alleviation, received national commendation, and won the lofty honor of advanced individual in the national poverty alleviation.

3. IMPLICATIONS OF THE CASE

From the design and development of unidirectional water permeable plastic film, to the renewal of special agricultural machinery when the mulching film is popularized and applied in large areas, then to the microbial degradation of mulching film, researcher Yao Jianmin went through the whole process. The scientific and technological innovation and products of Yao Jianmin are obviously social entrepreneurship. Social entrepreneurship not only pursues economic value, but also seeks to create social value, solve social problems and improve the welfare of the whole society. The degradable unidirectional water permeable mulching film not only granted Yao Jianmin a patent, (The gains from patents are negligible compared with the social value it create for the vast majority of farmers), at the same time, it has increased crop output in arid areas, maintained national food security, raised farmers' income, reduced farmers' poverty, narrowed the income gap between farmers in arid inland areas and people in developed coastal areas, and created enormous social value that is difficult to measure.

From the social entrepreneurship of Researcher Yao Jianmin, we can get the following enlightenment. First, social entrepreneurship and scientific and technological innovation should respond to national needs, such as winning the battle against poverty, building a moderately prosperous society in all respects, and achieving common prosperity. We should respond to social needs and solve

pressing problems in social production, such as water shortage in crop production caused by drought. Only by responding to the needs of the country and society can scientific research be put into practice and "write papers on the ground", rather than just from paper to paper.

Second, the theme of Entrepreneurship in China is undergoing profound changes, and technology-led entrepreneurship is becoming more and more obvious. In the portfolios of China's many venture capitalists, the proportion of high-tech projects is gradually increasing. China's past entrepreneurial cases have some characteristics of survival entrepreneurship, such as the entrepreneurship of laid-off workers and so on. Survival entrepreneurship is more to make a living through entrepreneurship, low technology requirements, lowcapital requirements. However, opportunistic entrepreneurship pays more attention to the grasp of market opportunities and has higher requirements on science and technology and capital, technology-oriented entrepreneurship can also create more social value. Technological innovation-driven entrepreneurship It often takes longer time to develop, For nearly 30 years, Yao Jianmin has been deeply engaged in the research, development and application of degradable unidirectional water permeable mulching film, in many cases, the research was done with his own money (relatively meagre salaries), although this reflects the noble sentiment of social entrepreneurs, but it is still reasonable to speculate that the r&d process would have been smoother if external funding had been more abundant. This requires investment institutions to be more patient and provide long-term financial support for innovators; it also requires investment institutions to be more forward-looking, not just looking at the small accounting of short-term return on investment, but also weighing the huge social value that tech entrepreneurs can bring.

Third, cross disciplines are often conducive to the realization of innovation. Looking back on his technological innovation and entrepreneurship, researcher Yao Jianmin, believes that, Science plays a huge role in promoting social progress, but science is divided into disciplines, and the discipline itself is limited. If the discipline sticks to its own limited field and draws a closed circle, it will be difficult to solve practical problems. The cross disciplines are often conducive to the breakthrough of scientific and technological innovation, the solution of practical problems and the creation of social value. Researcher Yao Jianmin himself is majoring in agriculture, not material science, chemical manufacturing, nor mechanics or microbiology. However, in his process of technological innovation and entrepreneurship, knowledge in these related fields has been well applied, which is a perfect embodiment of interdisciplinary innovation. Researcher Yao Jianmin believes that knowledge in related disciplines should be learned from what is needed and acquired from what is wanted. It is not necessary to master the complete pedigree and panorama of a single subject, as long as the acquired information and learned knowledge can solve the problems and meet the needs，it is just ok.

Fourth, technological innovation and entrepreneurship require communication skills. It is difficult for entrepreneurs to create social value by going it alone[4][5]. Entrepreneurs need to communicate and cooperate with scientific research teams and entrepreneurial teams, as well as with other relevant external organizations, institutions and departments. All of these put forward higher requirements for communication ability. For example, Researcher Yao Jianmin needs to communicate and consult with the Institute of Chemical Materials, communicate and cooperate with the plastic film production plant, and rent the land of farmers for farmland experiments, which further involves communication with farmers, and communication and cooperation with microbial-related research institutions and researchers. In this series of links, any link lack of communication skills, it is difficult to achieve the success of entrepreneurship and the creation of social value. At the same time, it is necessary to actively publicize the functions and values of scientific and technological innovation products to relevant government departments, which also requires the ability to communicate. In the process of entrepreneurship, sometimes it may face with the mousetrap fallacy, the mousetrap fallacy is the belief that if the entrepreneur's product is good enough (a good mousetrap), someone will spontaneously find a way to his door, even if he lives alone in the deep woods. This is a fallacy, of course, in which entrepreneurs focus too much on their products, pay too much attention to their products, and have a strong psychological ownership, and It is precisely this attachment to psychological ownership (and hence to some extent fetishism) that is narrow. Paying too much attention to things and ignore the field outside of things (where things belong to), but the field is important. Compared to just the product， the market conditions and external environment, the construction of enterprises are of much more importance. Therefore, Researcher Yao Jianmin believes that technological innovators should not pretend to be lofty, but should take the initiative to introduce and publicize the functions and values of their products to relevant functional departments.

4. CONCLUSION

Through the promotion and application of his innovative technological product, unidirectional permeable mulching film, Yao Jianmin has improved crop yield and farmers' income in arid areas, it has created huge social value and belongs to social entrepreneurship. This paper argues that social entrepreneurship and technological innovation should respond to national needs and focus on creating social value, not just

economic value. The feature of technology leading is more and more obvious in the process of social entrepreneurship in China. Cross disciplines are often conducive to the realization of innovation. Technological innovation and social entrepreneurship require entrepreneurs to have strong communication skills.

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