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Barriers to Rural Women's Involvement in Economic Activities: Evidence from Shaanxi, China

A Dissertation presented in partial fulfilment of
the requirement for the degree of

Doctor of Philosophy
in Economics

At Massey University, Manawatu,
New Zealand

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2017

Abstract

With China's fast development in urbanization and agricultural modernization, rural women are one of the most affected yet ignored groups in society. However, strong evidence has shown that women's active economic participation can not only reduce the likelihood of household poverty, but also improve distributional dynamics within a household. With first-hand data collected from three areas in one province, this research studies rural women's barriers to economic participation in farming and off-farm employment under the government's policy of land transfer. It is found that rural women are facing different challenges and have diversified needs and aspirations. There is a mismatch between the training local government offered and what rural women really want. The study of women professional farmers aims at building an updated understanding of rural women within the fast pace of China's modernization. This research covers some of the critical factors of economic growth, such as the role of geography, gender, history and institutions. The findings provide information to policy makers, researchers and social organizations concerned with the future of rural women, and assist the sustainable implementation of the land transfer policy and gender equality.

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Abbreviations

ACWF: All China Women Federation

CCP: Chinese Communist Party

GAF: Gender Analysis Framework

GDP: Gross Domestic Product

FAO: Food and Agriculture Organization

HRS: Household Responsibility System

Hukou: Household Registration System

LDC: Less Developed Country

NWAFU: Northwest A&F University

NGO: Non-governmental Organization

PRA: Participatory Rural Appraisal

PRC: People's Republic of China

PWF: Professional woman farmer

STSCRW: Science and Technique Service Centre for Rural Women in Shaanxi Province

TVEs: Town and Village Enterprises

UN: United Nations

UNDP: United Nations Development Programme

Acknowledgements

Time flies: it is almost the end of my Ph.D. study. Looking back, I can see clearly how I have come to this stage step by step with lovely people's help. The thesis is not only about the research but also about my life in New Zealand in the past four years. I feel very worthy being in Massey and accomplishing my Ph.D. here. I would like to express my greatest gratitude to those who have helped and supported me through the journey, although I know words can never express my gratitude enough.

First, I would like to thank all my supervisors: Professor Dr. Martin Young, Professor Dr. Huiyan Zhao, and Professor Dr. Allan Rae. I am grateful to have you as my supervisors and I would not make it without your help and support. Dear Professor Martin, I sincerely thank you for accepting me as one of you Ph.D. students. By offering me an opportunity and a new platform, you changed and uplifted my whole life level from then on. I thank you for keeping calm and give me confidence and encouragement whenever I was depressed or got lost in my study. I will always remember your support and kindness.

Dear Professor Zhao, you are my role model. Your optimistic attitude towards life and enthusiasm towards changing rural people's life, all contribute to my current research career. While collecting data in the harsh winter, I really appreciate you accompanied me going to every research area to ensure I got the satisfactory one. Sincere thanks to you, Dear Professor Allan, I will always remember that one morning in a two-hour time span, we exchanged eleven emails at a stretch simply for the selection of the preferred logistic regression models. I was deeply impressed by your clear mind and careful research attitude. I thank you for your patience, and lead me from an almost standby of economics to a researcher, although I know I need much more work to be like you.

I would also like to give my sincere thanks to Dr. David Tripe and Dr. Song Shi. Dr. David Tripe assisted me going through my hardest initial Ph.D. journey, and Dr. Song Shi, at that time sitting not far from my office, whenever I had puzzles, I went to his office, and he would put aside his work and give me some good insight, even knowledge in property. Sitting in one office, my Ph.D. mates, Bob Lissington, Andryan Setyadharma and Andres Camacho all gave me great help and encouragement in my daily progress. The newly enrolled Ph.D. candidates, Nikhil, Saba, Tran, Salah also brought me lots of friendship and pleasure. My friends Alice Cheng, David Zhuang, Peter Black and Jim McShane, and Chinese friends in the Bible study group also gave me various kinds of in time help and make the journey full of adventure.

I own my special thanks to my Chinese University, Northwest A&F University, without the grant they providing me to study in New Zealand, all this will not happen. Finally, yet very importantly, I extend my sincere thanks to my family: My great parents, husband, and daughter. Your support and love made all this become not only possible but true. I love you all.

Mei Yang

21/06/2017

If China wants to be strong, agriculture must be strong. If China wants to be beautiful, the countryside must be beautiful. If China wants to get rich, the farmers must get rich.

By China's President Xi Jinping's address to the Central Rural Work Conference, which ended on December 23, 2013?

Women should participate and contribute on an equal basis with men in the social, economic and political processes of rural development and share fully in improved conditions of life in rural areas.

Declaration of Principles and Programme of Action of the World Conference on Agrarian Reform and Rural Development, July 1979.

Chapter 1. Introduction

1.1. Statement of the Problem

China has made significant progress in economic reform. However, some have the idea it is one of the most unequal countries in the world due to its wide rural–urban income gap, regional gap, and gender gap. As women’s economic empowerment can reduce the likelihood of household poverty and improve distributional dynamics within a household, a study on Chinese rural women’s labour economic participation is of strategic importance to reduce all these three gaps, yet very little attention has been given to it.

With first-hand data collected from three areas in one province, this research targets rural women’s barriers to economic participation. Through descriptive analysis of the survey, interviews with women cadres and village committee members, and logistic regression, rural women’s current challenges in farming and their constraints of off-farm employment are investigated. Meanwhile, in response to the state’s calling for agricultural modernization, through thematic analysis, the common traits of professional women farmers and their challenges are also investigated.

This study will contribute to knowledge in at least three areas:

- 1) Combined with China’s on-going land reform, this is one of a small number of studies on rural women’s current situation and economic challenges, both in farming and off-farm employment. Meanwhile, the determinants of rural women’s off-farm employment choices are studied to see what support they need in adjusting to the state’s structural transition — namely, urbanization and agricultural modernization.

- 2) In response to the state's calling for reducing the number of farmers and fostering a group of professional farmers, the common traits and challenges of a group of professional women farmers are investigated. An updated concept of modern Chinese rural women is developed, which will also set role models for ordinary rural women.
- 3) A case study of rural women in Shaanxi, China, covers China's rural-urban and regional gap, but also the most ignored gender gap, and thus will provide information helping reduce the inequalities in China. Relevant political recommendations are put forward to improve ordinary rural women's labour participation, as well as encourage the state's gender equality, agricultural modernization, and rural-urban integration.

1.2. Research Questions

To contribute to this endeavour, this thesis will look at the following research questions:

- 1) What are rural women's current situations and challenges in farming and off-farm activities?
- 2) What are the predictors of rural women's off-farm work choices? Can variables such as land transfer, age and education, predict the outcome of their off-farm work choices?
- 3) What are the professional women farmers' common characteristics and challenges?

1.3. Objectives of the Study

- 1) Through reviewing institutional systems — the Hukou system and the PRC's rural land system evolution and unprecedented rural-urban migration—, it is planned to present a clear picture of what has led to China's current wide rural-urban gap and how PRC's peasants, especially female peasants, arrived at their current backward socioeconomic situation.

- 2) Gain a clear idea of rural women's common and regional characteristics and their challenges. More attention is to be drawn to improving their efficiency in farming productivity, overcoming their barriers to off-farm economic participation and paving a way for gender equality. Having such information could make contribution to reducing China's rural-urban, regional and gender gaps.

It is important to note that the research is done under China's fast pace of rural reform, especially its land reform and urbanization. Therefore, the research will be largely concerned with local land situation changes and their impact on rural women.

1.4. Chapter Outline

This thesis consists of seven chapters as follows:

Chapter 1 – The Introduction includes the statement of the problem, research questions, and objectives of the study.

Chapter 2 – This chapter has background information, the theoretical base and a literature review. Background information is to help readers gain knowledge about the institutional reasons leading to China's dual economy and gender inequality. The theoretical base of the study is mainly development economics. The literature review covers specific descriptions of PRC's serious rural-urban gap, regional gap and gender gap, studies on gender in economics and development, and then narrows down to women, rural women and land in PRC to ensure readers have enough relevant information about the origin and evolution of the rural women's situation in China.

Chapter 3 – This methodology and data chapter explains the research methods utilized in the thesis, including qualitative and quantitative methods; the procedures for collecting data and

the two types of data collection used, namely, questionnaires and in-depth interviews. This chapter also has a section on how to deal with the missing data.

Chapter 4 – This chapter presents and discusses the results of the descriptive analysis of the survey. Rural women, in farming or off-farm employment, and their regional barriers to economic involvement are compared, discussed and conclusion reached. Results derived from interviews with professional women farmers are also further applied to validate the findings.

Chapter 5 – This chapter deals with the econometric model. By using logistic regression, predictors of rural women's off-farm employment, including the impact of land transfer will be investigated.

Chapter 6 – With Sen's Capability Approach as a theoretical base, the common traits and challenges of professional women farmers are explored using thematic analysis.

Chapter 7 – The overall results of Chapters four, five, and six are summarized and the political implications noted; the limitations of this study and ideas for further research are also given.

Chapter 2. Background, Theoretical Base and Literature Review

2.1 Background Information

After putting forward the research questions of this study in Chapter one, this chapter present the study's theoretical base and developmental economics and literature review. Scholars (Wen, 2013; Young, 2013) studying contemporary China mostly agree that China's glaring rural–urban income disparity is a result of its long delay of a thorough reform of the *hukou* system and China's land system. In essence, both of these systems are artificial discriminatory institutional arrangements. The formation of both the *hukou* system and PRC's rural land property system has strong Chinese characteristics. At their inception, the systems worked well, and assured the nation's safety and stimulated farmers' enthusiasm for production. However, as time passed, each of them has become institutional barriers to further the PRC's development of the rural sector and, therefore, are undergoing some radical reforms.

2.1.1. *Hukou* System

Early in the 1950s, to protect the bearing capacity of urban areas from rural–urban migration and to prevent urban industries from organizing their own rural labour, the Minister of the Public Security Bureau, Luo Ruiqing developed a nationalized system for the newly founded PRC. Officially instituted in 1958 (Cheng & Mark, 1994) in the planning period when materials were scarce, *hukou*, household registration system, functioned as a locality residence license, divided rural and urban populations and allowed the urban *hukou* holder to access geographically-confined social welfare and local public goods and crops at subsidized prices (Ding, 2002). Meanwhile, it also prevented unsanctioned migration through strict

controls on access to the urban rationing regime. The urban–rural proportion at that time was roughly 20:80.

The 20 percent that held ‘urban *hukou*’ were assured employment in state-owned work units and granted legal rights of residency, urban employment, and job-related benefits, such as housing, medical care, and pensions (see Table 2-1). Urban people were given sole entitlement to rations of basic essentials such as grain and kerosene. The remaining 80 percent, categorized as ‘rural *hukou*’ had to rely on land and themselves to make a living (Chan & Zhang, 1999). Through spatially creating a hierarchy of urban places and prioritizing the city over the countryside, China's collectivist socialism was shaped. For example, urban residents had a higher standard of living than rural residents, with the residents of larger cities having higher standards of living than smaller city residents. Meanwhile, through controlling people’s mobility, preventing population flow to the large cities, and binding people to the village or city of their birth, a distorted dual society was formed, which not only greatly limited labour mobility, but also channelled state resources primarily to the cities (Bao, Bodvarsson, Hou, & Zhao, 2011). Within a decade, the system, as a demographic strategy that restricted urbanization and the redefinition of city–countryside and state–society relations, served to facilitate the collective transformation of the countryside (Cheng & Mark, 1994).

Hukou conversion from rural to urban status is an important path to upward social mobility in China under its planned economy, and even in the first two to three decades of its post-economic reform era. The difference in terms of the standard of living between heaven and earth (Matej Buzinkai & František Škvrnda, 2014), and the conversion of the rural *hukou* to urban one is considered more difficult than climbing to heaven (Wu & Treiman, 2004). Anyone seeking a change in residence under the system needed to obtain permission from the

Public Security Bureau, but this proved almost impossible. *Hukou* ties people not just to either rural or urban areas, but to particular geographical locations as well (Wang & Weaver, 2013). It is also based on heredity so that even though rural residents may work and live in the cities, their rural *hukou* that they were born into still determines that they are farmers (Yang, 2013).

This characteristic of *hukou* in the post-economic reform era brought lots of bitterness and discrimination to migrant workers (Cheng & Mark, 1994). The only positive side of the *hukou* system is that it has largely avoided social issues accompanying rapid urbanization, such as widespread urban unemployment and poverty (Buzinkai & Škvrnda, 2014; World Bank, 2014).

Table 2-1. Rights and Privileges Tied to Hukou Statuses

City residents	Rural residents
Have rationed grain and everyday products	To be self sufficient
The state constructed and allocated housing at subsidized rates	Construct their own houses
The state has provided medical treatment for the elderly and workplace injury.	The vast majority was shouldered by rural people through the ‘cooperative medical system’
The state invested heavily in education in urban areas	People were expected to invest their own resources
Full employment was arranged by the labour bureau in urban areas	Was confined to limited opportunities of the local production team
After retirement from military service, urban residents were eligible for employment schemes or pension	Not eligible as urban residents

Source: organized by the author based on (Young, 2013)

Nevertheless, due to the PRC’s open door policy and economic reform, surplus rural labour began to shift from rural areas to off-farm work to form a massive floating population, primarily engaged in temporary low-end urban jobs, such as street cleaning, retail services, housekeeping services, and construction (Chan & Zhang, 1999). Because access to urban

health and education services and social safety nets is linked to urban *hukou*, severe obstacles to switching one's rural *hukou* to an urban one prevent entire rural families from moving to cities (World Bank, 2009), which latter led to a series of issues, like left behind women, children and the elder in the rural areas, and the feminization of agriculture in China.

The strict *hukou* policy loosened up since the 1980s, and migration from rural to urban has accelerated and a more flexible *hukou* policy has been adopted (Cheng & Mark, 1994). Food rationing was abolished in 1994. Urban *hukou* is slowly becoming easier to obtain for rural migrants with some strict criteria. A potentially important change in 1998 is that children born from mothers with rural registrations living in urban areas can be given urban *hukou* (Mu & de Walle, 2011). Individuals with rural *hukou* status can now purchase urban *hukou* status from urban governments; yet, in many cases, the system continues to work against more permanent migration flows (Chan & Buckingham, 2008). Holders of urban and rural *hukou* can still feel its strong impact on public services, such as retirement insurance, basic medical insurance, compulsory education, public housing, and training for jobs. Attached to the *hukou* system and various discriminatory regimes, migrant workers have to, like migratory birds, travel back and forth restlessly between the urban and rural areas and are treated as second class citizens (Yang, 2013).

In recent years, China has issued a variety of reforms to its *hukou* system. The latest round of reform initiatives suggests that the *hukou* is set to be abolished and that rural residents will soon be granted urban rights. Chan and Buckingham (2008) tested the validity of the claims and stated that the *hukou* system remains potent and intact. Given China's enormously large area and its huge regional differences, it will not only take some time to abolish the system,

but will also take a much longer time to completely eradicate *hukou*'s impact on the whole nation.

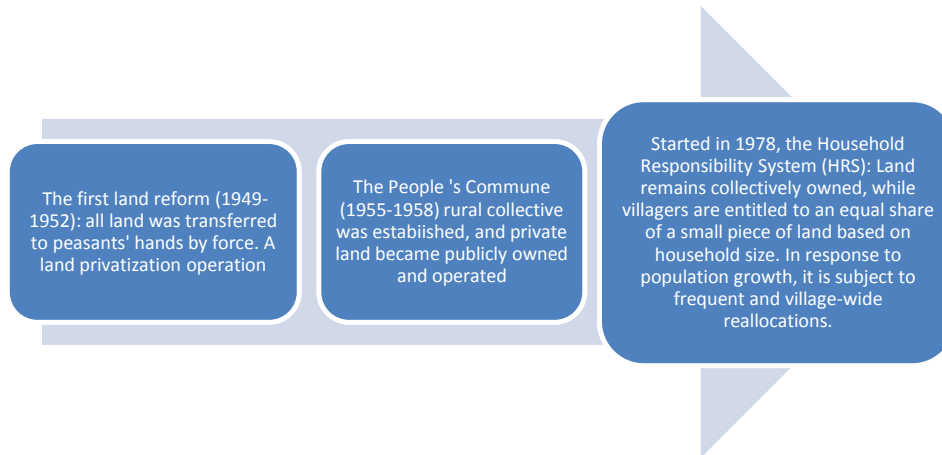
Hukou has fixed people to their birthplace, in the case of women, their husbands' residence. Although it has not been specifically studied, the impact of *hukou* system on rural women is severer than rural men. Of the three best known predictors of *hukou* mobility, namely having more education, possessing Communist Party membership, and military service experience, attaining these at the time to rural men was very competitive, let alone rural women, who obviously have less advantage. However, J. Xiang (2015) found that for rural women, marriage could play a favourable role in their *hukou* conversion and pointed out a gender-specific pathway in the rural women's *hukou* conversion process. But generally speaking, *hukou* put rural men as Chinese second class citizens, while it led Chinese rural women to be attached firmly either to her father, or her husband, thus become the sub-second class citizens.

2.1.2. The Evolution of the Rural Land Property System in the PRC

Up until the end of the last century, peasants in the PRC experienced three major land reforms (see Figure 2-1). The first one took place from 1949 to 1952 during the initial foundation of the PRC. It was a radical land reform process of privatization of land ownership. By forcing all property owners to transfer their land, livestock, farm tools, and other production materials to peasants' hands, peasants owned productive materials themselves (Ding, 2002). Meanwhile, income distribution was based on both peasants work and the amount of land, animals, and productive materials that they owned. Peasants' enthusiasm for production was greatly stimulated and, thus, resulted in an 'economic miracle'. In a very short time, peasants' incomes increased by 48 percent and food production by 36

percent from 1949–1952 (Zhou & Camille, 2009). In essence, the first land reform in the PRC was to maximize the CPC’s political support (Zhou & Camille, 2009).

Figure 2-1. Three Major Land Reforms in the PRC



The second land reform took place in the era of the People’s Commune through the cooperative movement and the People's Commune movement when the Government of the PRC shifted its focus from agriculture to industry and from rural to urban areas (Chai, 2011; Zhou & Camille, 2009). Beginning in the summer of 1955 and aiming at collectivization, the PRC government launched a movement from a primary rural cooperative to a senior rural cooperative. In the process, the cooperative members’ private land was changed to collective ownership. By 1958, peasants’ rights to land ownership, possession, and operation had removed, so rural households were not the basic production units and rural land ownership was totally shifted to the People's Communes. Due to a lack of ownership and land user rights, peasants’ enthusiasm for production was seriously affected, and China’s economy at that period began to lag. In summary, the impact of the second land reform in PRC for nearly three decades was for maximization of its industrialization (Zhou & Camille, 2009).

Started in 1978, the gradual adoption of the Household Responsibility System (HRS) can be viewed as the third major land reform in the PRC. Under HRS, land in rural China remains collectively owned, while peasants are entitled to an equal share of a small piece of land based on the household size. In the early days, by bringing family farming back, HRS endowed rural households with land use rights and, thus, once again greatly aroused Chinese peasants' enthusiasm for production, liberated the productive forces, and promoted the development of agriculture together with a dramatic fall in poverty and a significant improvement in the amount and quality of food available (Lin, 1992; Wu & Treiman, 2004).

By keeping rural land collective ownership through equal distribution of land use rights, China avoided having large numbers of rural, landless workers vulnerable to famine or other economic shocks. It has also ensured that the vast majority of rural households are, at minimum, food self-sufficient ("Agricultural Policy Reform in China," 2005). According to the China Statistical Yearbook in 1989, from 1979 to 1984, the gross value of agricultural output increased in real terms at an annual rate of 7.6 per cent, and grain production rose by 4.9 per cent annually (Lin, 1992).

Coupled with the ambiguous land property rights between collectives and individual households, one of the obvious side effects of the system was that it encouraged farmers' short-sighted decisions and irresponsible use of land resources. According to Hu (1997), with the implementation of HRS, capital investment in farmland and maintenance of irrigation facilities were neglected. Caused by the egalitarian land distribution, small-scale over-

fragmented land with increased ridges and ditches has hampered the function of irrigation and drainage and aggravated the impact of natural disasters¹.

Lanchih (2008) claims the PRC has a binary rural/urban land arrangement. Under the Constitution (revised in 1982), urban land is owned by the state and rural land by the rural collectives. In urban areas, land use rights can be traded in the market under a leasehold system. In rural areas, they are limited to the exchange of contract rights among farmers within their land tenure.

Since the new millennium, the CCP has issued a series of rural land-related policies reforms. One example is the *Rural Land Contract Law* (2002), which states that farmland tenure security must be maintained for at least 30 years since the last nationwide reallocation in 1998. The *Property Law of 2007* clarifies the policies to narrow the scope of land acquisition, regulate land expropriation procedures, enlarge the area for lease of State-owned land, and reduce land allocations not conducive to public welfare (Wang, 2013).

The No.1 Central Document of 2013 stressed carrying on HRS and promised to finish the work of the registration and certification of land-use rights within five years. The No.1 Central Document of 2014 stated that China would deepen rural land system reform and improve rural governance, which aims at protecting farmers' interests through legalizing land management rights and, in the long term, coordinating a unified rural–urban property market.

¹ As to the specific impact of HRS on rural women, please see paragraph 4, Page 34-35.

Table 2-2. Evolution to Land Tenure through Time since the Implementation of HRS

Time	Name of Law	Main contents
2002	Rural Land Contract Law	Farmland tenure security must be maintained for at least 30 years since the last nationwide reallocation in 1998.
2004	Decision on Deepening Reforms and Strengthening Land Management	The right to use rural construction land can be transferred according to the law if all planning requirements are met. But the regulation on the transfer of land-use rights has not been implemented because of the lack of an applicable law.
2007	Property Law	The purpose is to narrow the scope of land acquisition, regulate land expropriation procedures, enlarge the area of the state-owned land for lease and reduce land allocations not conducive to public welfare.
October, 2008	“Resolution on a few Important Issues for Promoting Reforms and Development of Agricultural Communities”	“Develop a market for the circulation of the rights to land contractual management. The forms of such rights circulation includes subcontract, leasing, exchanging, transfer, and sale. Based on the principles of compliance, free will, and fair payment form a joint-stock cooperatives to develop appropriate, large-scale farming in various forms.”
November, 2013	“Resolution on a few Important Issues for Promoting Full-scale Reform”	Allow the sale, leasing and demutualization of rural, collectively owned land under the premise that it conforms to planning. Reduce land allocation that does not promote public welfare. Upgrade the secondary market for land lease, transfer and mortgage, etc. Encouraging rural land circulation was put forward as one of the central government's major tasks.
December, 2013	"Promoting collective ownership, stabilizing farmers' contracting rights, and revitalizing land management rights."	In place of the "separation of two rights" (land ownership rights and land contractual management rights), China has presented the concept of the "separation of three rights" (ownership rights, contractual rights, and management rights). The policy made it clear that the government would encourage the circulation of land management rights.

Source: organized by the author.

In brief, the macroeconomic environment of the PRC is encouraging land transfer/circulation to further its modern agriculture, and the rural land transfer policy has currently been the dominating voice of macroeconomics. Meanwhile, Chinese local governments in experimental areas are empowered to make policy decisions according to their own

conditions (Wang, 2010). Under the background of the state's calling of rural land transfer and urbanization, this research is concerned with rural women's situation and challenges with impact of regional differences in the implementation of rural land transfer rates.

2.1.3. On Agricultural Extension Home and Abroad

The rural economy is closely related to agricultural production and the agricultural extension system. The advances of agricultural technology depend not only on technological innovation, but rather on effective agricultural extension; without effective extension, agricultural technology cannot really work in the production area, nor can it be converted to practical productive forces.

Published in 1988, "*Guide on Alternative Extension Approaches*", authored by George Axinn, is still a valid reference work and provides a basic examination of the various extension approaches. Altogether eight different extension approaches were given, namely (1) the general agricultural extension approach; (2) the commodity specialized approach; (3) the training and visit approach; (4) the agricultural extension participatory approach; (5) the project approach; (6) the farming systems development approach; (7) the cost sharing approach; (8) the educational institution approach; (Rivera, M. Kalim Qamar, & Crowder, 2001). Actually, when it comes to agriculture extension, approach and methodology are often used interchangeably.

The diffusion of agricultural technology is an important force of sustainable development in modern agriculture. Foreign scholars have carried out a large amount of research from the angle of multiple disciplines, which was extremely scarce in China (Zheng, 2004). Table 2-3 shows characteristics of centralized and decentralized diffusion systems ((Rogers, 1983). The PRC's previously planned economy and the one party political system easily makes it

resulted in a centralized diffusion system, which is easy and carried out in a top-down pattern.

Table 2-3. Characteristics of Centralized and Decentralized Diffusion Systems

Characteristics of diffusion	Centralized diffusion systems	Decentralized diffusion systems
The degree of centralization in decision making and power	Overall central of decisions by national government administrators and technical subject-matter experts	Wide sharing of power and control among the members of the diffusion system; client control by local officials/leaders
Direction of diffusion	Top-down diffusion from experts to local users of innovations	Peer diffusion of innovations; innovation through horizontal networks
Source of innovations	Innovations come from formal R&D conducted by technical experts	Innovations come from local experimentation by non-experts, who often are users
Who decides which innovations to diffuse?	Decisions about which innovations should be diffused are made by top administrators and technical subject-matter specialists	Local units decide innovations should be the basis of their evaluations of the innovations
How important are clients' needs in driving the diffusion process?	An innovation-centred approach: technology push, emphasizing needs created by the availability of the innovation	A problem-centred approach: technology pull, created by locally perceived needs and problems
Amount of re-invention?	A low degree of local adaptation and re-invention of the innovations as they diffuse among adopters	A high degree of local adaptation and re-invention of the innovations as they diffuse among adopters

Source: (Rogers, 1983)

Apart from the training pattern in terms of centralized and decentralized diffusion, according to the FAO's State of Food and Agriculture Report 2011-2012, as long as women have the same access to productive resources and training as men, they could increase yields on their farms by 20–30 percent. This would raise the total agricultural output in developing countries by 2.5–4 percent, and consequently reduce the number of malnourished people worldwide by 12–17 percent.

Founded on respect and flexibility, client- and process-orientated participatory rural appraisal (PRA) is known for its active involvement of farmers in problem identification, development

planning, research, dissemination of information, and evaluation (Percy, 1999; Robert, 1997). Percy (1999) analysed how participatory rural appraisal (PRA) can be used with gender analysis in rural development and outlined the development and convergence of both as well as analysing their combined use in an Ethiopian case. It is argued that the use of PRA and gender analysis is complementary in that they put the clients first, engender respect, provide equal opportunities and were flexible.

The PRA has had successes, but its shortcomings have also been exposed. The development projects using the PRA approach requires frequent written reports relating to budgets, measurement and evaluation in various forms of tables and graphs, local people and women obviously could not do it by themselves. So instead of reflecting local people and women's true thoughts of the diffusion, the reports written by the development 'expert' can only reflect their view (Cornwall, 2003; Jacka, 2006), and still has big space to improve.

Evidence from Ghana suggests that gender-linked differences in the adoption of modern maize varieties and chemical fertilizer result from gender-linked differences in access to complementary inputs. The finding has important policy implications for it suggests that ensuring more widespread and equitable adoption of improved technologies may not require changes in the research system, but rather introduction of measures that ensure better access for women to complementary inputs, especially land, labour, and extension services (Doss & Morris, 2001).

Taking gender inequality and agricultural extension as their theme, with a special issue of the *Journal of Agricultural Education and Extension*, Jafry and Sulaiman (2013)'s discussion on the topic covered gender differences in technology adoption, designing gender-sensitive and demand-led programs for women, farm mechanization and women, and gender in the

innovation process. Similarly, Manfre et al. (2013) explored ways to reduce the gender gap in agricultural extension, while Quisumbing et al. (2014) pointed out closing the gender gap in agriculture would generate significant gains for the agricultural sector and for society.

There are also attempts at gender-sensitive agriculture extension using a participatory approach which has been mainly initiated and pushed by UN and some charitable foundations, such as Hong Kong Oxfam, International Plan, and The International Fund for Agricultural Development (IFAD). In developing countries, especially in Africa (Percy, 1999), it has been shown that the mode is flexible, effective and efficient. However, even in the second decade of 21st century, most developing governments remain focused on how to improve their economy and keep ignoring the importance of gender issues in national comprehensive development, so does China. Table 2.4 retrieved from Reach Rural Women Gender-Sensitive Agricultural Extension, reflected the key shifts while operationalizing gender-sensitive agricultural extension, we can see it is more inclusive and flexible compared to the past.

In China, there is also a growing emphasis on engaging women's participation in rural extension, environmental protection, and sustainable development programs, including a number of programs under the ACWF, but bottom-up participatory approaches are relatively new (A. Hu, Hu, & Chang, 2003). China's Ministry of Agriculture (2012) claimed that China's agricultural mechanization had greatly improved and agricultural social services had become more convenient, but one of the major gaps in agricultural science and technology was underdevelopment of extension services and insufficient human resources.

Table 2-4. Operationalizing Gender-Sensitive Agricultural Extension: Key Shifts

	From	To
Objective	Increasing production /productivity	Improved income and more productive employment opportunities
Activities	Training on technologies	Training on managing value chains, enterprise management
	Forming SHGs	Forming common activity groups
	Distribution of inputs	Development of local capacity for sustained availability of inputs and services
Selection of interventions	Selection of interventions based on PRA	Demand-led and based on analysis of client data, matched with opportunities and availability of complementary support and services
	Centrally designed ideas	Client aspirations carefully analyzed with local and external knowledge and support
Approaches	Fixed/uniform	Evolving/diverse
Working with	Women	Working in partnership with all actors who could support rural women
Monitoring and evaluation	Input and output targets	Behavioural and livelihood changes in clients and related organizations
	Subjective evaluations	Objective evaluations on a scientifically validated benchmark data
Targeting the poor	Inclusion by accident	Inclusion by design

Retrieved from: <http://www.reachingruralwomen.org/gendersens.htm> on 07/09/2014

Specifically, when it comes to gender issue in Chinese agriculture extension, although the Chinese government, in 1995, hosted the Fourth World Conference on Women in Beijing, and publicly promised gender mainstreaming, set out in the Program for the Development of Chinese Women of 1995–2000 and 2001–2010. And in years to come, it is to be hoped they will work toward providing an environment in which rural women nationally can participate equally in, and enjoy the benefits of, individual development projects, but there is no sign of it in the near future (Jacka, 2006). However, facing the fact that the populace in China’s countryside is mainly composed of women, the elderly and children, and those women, by

taking care of the elderly and the children as well as farming currently are the main contributors to the countryside and agricultural sector of the nation, how to improve their potential in agricultural production through agriculture extension is also worth consideration. Hu et al. (2009), using a nationally representative survey, measured the impact of China's institutional reforms in public agricultural extension on the time allocation of its one million agricultural extension agents, found that Chinese agents spent much less time than their titles would suggest on providing agricultural extension services, and that agents whose base salaries were funded fully or partially by commercial activities spent substantially less time serving farmers. The institutional incentives associated with the source of funding have a much larger effect on agent time allocation than do the levels of funding. They conclude that the recent government policy to separate commercial activities from extension services is a step in the right direction and should be expanded.

H. Zhao, Yu, Hu, and Yang (2009) points out the problems reflected in China's agricultural extension system including the governmental agricultural technology extension system lagging behind while the current operating system is incompatible with market requirements; no efficient co-ordination and communication between the agriculture extension supply and application systems which weakened farmers' enthusiasm and initiative for using technology; thinking highly of products while ignoring the relevant industry cultivation. As to Chinese agriculture extension, for a long time, it has been product and technology oriented by simply increasing production, focusing on agricultural technology dissemination while neglecting industry fostering and farmers as the main body. Last but not least, focus on research instead of extension.

Meanwhile, Led by Huiyan Zhao, the Science and Technique Service Centre for Rural Women in Shaanxi Province (STSCRW) have done significant practical work on agriculture extension and have accumulated some valuable experience over the last twenty years, with which, two monographs on agriculture extension, three training manuals respectively on cooperative, gender and leadership and considerable papers were published and spread. In addition, as to no official response towards feminization of agriculture in China, over twenty poverty-alleviation projects they implemented with the funding come from national and international charity sources all have gender awareness and using participatory approach, and received good results. However, given China is so big, it takes far more than a few NGOs to enlarge the role of training with gender awareness and participatory approach.

2.2.Theoretical Base: Development Economics

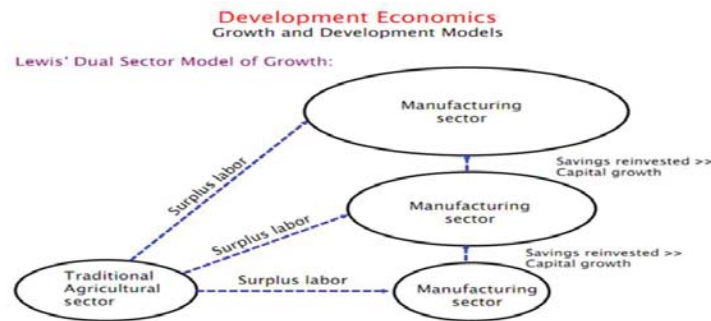
Theories of development economics state that a nation's agricultural sector and industrial sector must be developed in a coordinated way. In the following section, some of these important development economics theories affecting China are now discussed.

2.2.1 Lewis's Dual Sector Model and Todaro's Development Model

In his seminal work, Lewis (1954) proposed a dual sector model (see Figure 2-1), which became the general theory of the development process for nations with surplus labour during the 1960s and early 1970s. He noted that in developing countries there are two economic sectors, the modern urban sector and an overpopulated traditional sector. The latter is completely different from the former in such areas as scale of production, production, capital utilization, and income level. Being overpopulated means their marginal productivity is zero and the withdrawing of the surplus labour from the agricultural sector will not affect its level of output. Lewis (1954) believes that to expand production, wages in the modern urban

industrial sector should be consistent and better, approximately 30 percent higher than the prevailing wage in the agricultural sector. Thus, the surplus agricultural sector labour is attracted by the comparatively high profits and transfers to the modern industrial sector (see Figure 2-2). Due to the decreasing number of farmers, agricultural labour productivity increases, accompanied by the same rising tendency of farmers' income until wage levels in the modern urban industrial sector are consistent with the agricultural sector. As time passes, urban and rural differences will gradually disappear. Therefore, in developing countries, the transition from a dual economy to a unitary economy is an inevitable path of economic development.

Figure 2-2. Lewis' Dual Sector Model of Growth



Source: Welker (2012).

Lewis's model and the experiences of post-industrial countries do show that the modernization of agriculture and the development of rural areas are central to creating a balanced development model and maintaining urban growth (Young, 2013). However, it does not provide a rigorous framework to analyse labour migration and urban unemployment, and no developing countries have shown any evidence to prove it. Meanwhile, it disregards balanced growth between the agricultural sector and industrial sector by ignoring the development of the agricultural sector, so the process of industrialization would be

jeopardized. What is more, in the long-term, urban development must complement rural development through an array of supporting measures.

After Lewis' Dual Sector Model, Ranis and Fei formalised his theory and define three 'phases' of dualistic economic development by sub-dividing the first stage in the Lewis model into two phases, and the second labour-scarce stage of the Lewis model becomes phases three of the Ranis-Fei (1961) model. The Lewis-Ranis-Fei theory of dualistic economic development therefore provides a suitable theoretical framework for studying the growth path of labour-surplus developing economies such as China (Ercolani & Wei, January, 2010; Islam & Yokota, 2008).

Todaro (1969) argued that inter-sectorial labour reallocation was affected not only by the inter-sectorial wage gap, but also by the probability of obtaining jobs in the modern sector. Todaro believes that the creation of one extra job opportunity in cities will cause migration of rural labour. In other words, the industrial expansion policies, by increasing employment in the industrial sector, cannot increase the welfare in the industrial sector. In contrast, however, it will intensify urban unemployment. So Todaro gives more attention to the problem of excessive urbanization in developing countries and emphasizes that more effort should be given to the development of the agricultural economy.

Todaro (1969) stressed institutional interventions, such as increasing investment in agriculture and improving agricultural production conditions and living conditions in rural areas, thereby increasing farmers' income. Effort should be made to reduce government subsidies and the number of public sector workers in the industrial sector employment, thereby decreasing the anticipated income gap in the urban sector and ultimately balancing the development between industry and agriculture (Hosseini, 2012). Todaro believes that

increasing investment in the industrial sector can result in intensified urban unemployment and, thus, should be avoided. Contrary to Lewis (1954), who focused solely on the positive side of rural–urban transfer on economic development while ignoring the effect a blind, floating population may have on the exacerbation of a city's unemployment and other economic and social problems, Todaro's theory tends to inspire China's economic development.

2.2.2 Likonomics

Pronounced as 'lee-economics', Likonomics refers to the emerging doctrine of Li Keqiang, China's prime minister. The term was coined on June 27, 2013 by three economists at Barclay's Capital: Yiping Huang, Jian Chang, and Joey Chew (S.C., 2013, July 1). From 1988-1994, China's present Premier, Li Keqiang, studied for his master's and doctorate degrees in economics at Peking University. His paper 'On the ternary structure of our economy', published in *China Social Sciences* in 1991, won the 1996 (Seventh) Sun Yefang Prize Paper Award. Although written more than twenty years ago, the thinking pattern of the Chinese Premier's current national economic development can still be traced.

In the paper, Li (1991) claimed that China, unlike other developing countries, cannot directly evolve from a dual to a unitary structure, but it has to go through a transition phase that is a ternary structure. As the employment growth in the urban industrial sector is far below the labour force growth, the modern industrial sector has limited ability to absorb additional rural labour. The Chinese urban industrial employment absorptive capacity is small. Instead of moving into the modern industrial sector, a large number of rural surplus labours may shift into urban traditional sectors, which has serious contemporary urban problems, such as traffic

jams, pollution, and a rise in the crime rate. Therefore, the realization of the transfer of rural surplus labour should be within the rural areas if possible.

With the rise of town- and village-owned enterprises (TVEs) in China, the rural industrial sector gradually became an emerging sector between the modern industrial sector and the traditional agricultural sector. In China, the rapid growth in output value of TVEs in the 1980s was much higher than the average growth of the output value of the whole society, having gradually replaced the rural economy and agricultural production to become the most important source of output. It has driven the development of villages and towns, and promoted the transfer of agricultural surplus labour. Practice shows that only by entering the rural industrial sector can large numbers of farmers directly become involved in the process of industrialization. China can only shift from the agricultural sector to the rural industrial sector, and then transfer the rural industrial sector to the urban industrial sector.

China has had a ternary economic structure for a long time, but it will eventually transit into a unitary structure. The fundamental problem is that rural residents account for 80 percent of China's population (in 1990s). To deal with the problem, urbanization was seen as the realization of ternary structures into the unitary structure. Therefore, according to the characteristics of the rural industry sector which tends to have the characteristics of concentrated distribution, make the rural populations gather in small towns, gradually developing them into medium towns and small cities, and continue to shift the rural population already in the rural industrial sector to their current city of dwelling. Meanwhile, to fully realize this situation, the rural–urban split social system must be gradually broken by loosening the *hukou* policy.

Looking at China's development route, it is clear that it follows current Primer's blueprint drawing decades ago in his thesis. Over the last three decades, China's urbanization has developed at an unprecedented scale. The National Bureau of Statistics of China indicated that the urbanization rate in China was 51.3 percent at the end of 2011, compared to 17.92 percent in 1978, and is expected to reach 60 percent by 2030 (Qiu, 2013). China's huge population requires that urbanization cannot only be a physical movement of rural people to be established in urban areas, but also involves the development of existing towns and villages, known as urbanization from below (Zhu & Li, 2006).

2.2.3 Summary

Lewis's (1954) two-sector development model of unlimited supply of labour is classic and general, but it only conforms to historical growth in the West and most of its assumptions do not fit the institutional and economic realities of less developed countries (LDCs). However, Lewis's dual economy model and the experience of post-industrial countries show that the modernization of agriculture and development of rural areas is central to creating a balanced development model and, thus, maintaining urban growth. Rural-urban integration can stimulate rural development and balance domestic growth (Young, 2013). Todaro's (1969) model points out a way of harmonious development between the agricultural sector and industrial sector, which is very important in today's world, which overstressed the importance of industrialization. Based on a deep understanding of PRC's economic situation, Primer Li Keqiang's thesis has actually already pointed out the route for PRC to implement comprehensively both urban and rural industrialization by urbanizing rural people locally. To overcome its rural-urban inequality, the PRC must work on modernizing agriculture to catch up and integrate rural-urban development.

China's 12th Five Year Plan (2011-2015) puts forward the goal of modernizing China's agriculture industry, improving food security, and developing rural people's livelihoods, and these goals are a signal of the CCP's economic transition from the previous investment- and exportation-oriented economic pattern to promote domestic consumption and investment in agriculture("China to deepen rural reforms ", 2013, December 24).

Currently, promoting urbanization is an important strategy for the Chinese government to overcome its rural-urban income gap and regional gap (Li, 2012). However, past urbanization in China has been inefficient, non-inclusive, and unsustainable (Chau & Zhang, 2011; World Bank, 2014). The new pattern of urbanization should be able to promote balanced regional development. It includes expanding domestic demand, improving labour productivity, breaking the rural-urban dual structure, promoting social justice and common prosperity, encouraging industrial upgrading to build a moderately prosperous society, and accelerating the socialist modernization (Yu & Li, 2014).

Early in 1990, PRC's late reform designer, Deng Xiaoping, had clearly pointed out the route for China's socialist agriculture. In the long term, there should be two leaps: one was to eliminate the People's Commune and implement HRS, which is a big social progress; this has been adhered to and has been done. The second is to meet the needs of scientific farming and the socialization of production, and develop a moderate scale of operation and a collective economy, which would be a long process (Deng, 1990). Over more than thirty years of fast yet unbalanced economic development, it is time for the PRC to catch up and work on its agricultural modernization.

In essence, urbanization and rural economic development are actually intertwined. While urbanization does not necessarily cause development, and sustained economic development

does not occur without urbanization (Henderson, 2010). Furthermore, the modernization of agriculture should be seen as a growth industry in the Chinese domestic market that can be strengthened through more efficient economies of scale, such as a mixture of corporate and cooperative models (Tacoli, 1998; Young, 2013). Having learnt from China's past unsustainable development mode which led to its current severe inequality, the PRC now is working on coordinating rural–urban development.

2.3 Literature Review

2.3.1 Urban– rural gap, Regional gap, and Gender gap in China

Over the last three decades, China's industrialization and urbanization have been of an unprecedented scale (World Bank, 2014). China has moved up four places, surpassing France, the United Kingdom, Germany, and Japan and become the world's second largest economy, only behind the United States (Censky, 2012) (see Figure 2-3 for China's fast annual GDP growth within the last ten years).

Figure 2-3. China's Annual GDP Growth 2007-2016



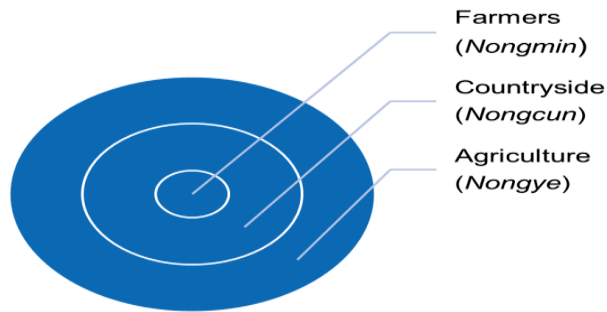
Source: <https://tradingeconomics.com/>

Although development economists, such as Lewis's (1954) dual economy model and Todaro (1969) relevant theory, have illustrated that the modernization of agriculture and development of rural areas are central to creating a balanced economy and maintaining urban growth (Lewis, 1954). The Chinese countryside lags far behind and has become a major challenge for China to build a prosperous society ("China to deepen rural reforms ", 2013, December 24). Of the four pursuits of Chinese industrialization, information, urbanization, and agricultural modernization, the fourth one, agricultural modernization, is the weakest in the People's Republic of China (Li, 2012) .

The PRC's agricultural production since its economic reform has been experiencing some variations in its success, which keep affecting rural people's enthusiasm. From 1978 to 1984, with the implementation of the Household Responsibility System (HRS) policy, Chinese agricultural output increased by more than 61 percent (Lin, 1992). Accompanying the massive land expropriation in 1990s, hundreds of millions of farmers migrated to cities in search of employment. Meanwhile, capital was also sucked out of rural communities (Yu, 2011).

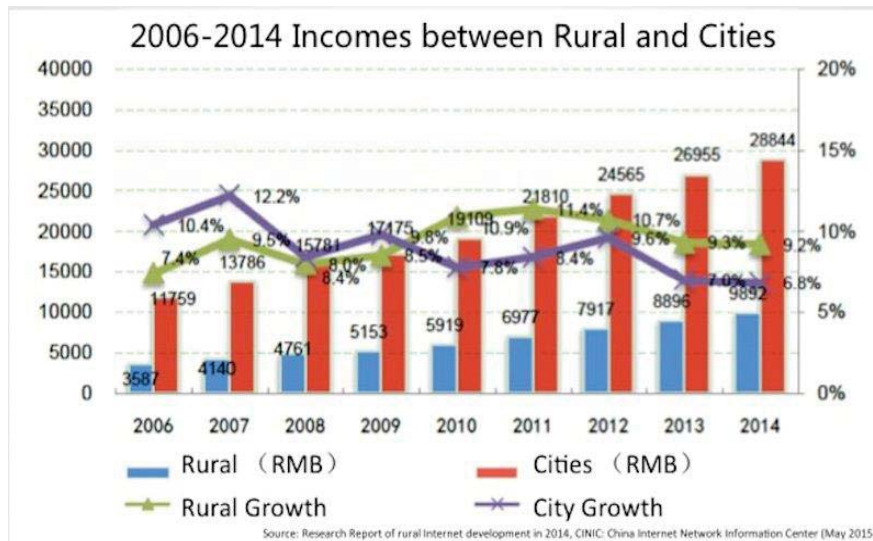
'Three Agrarian Issues' (three rural issues) or *San Nong*, first exposed in 2000, is a specific term referring to the backwardness of Chinese agriculture (*Nongye*), countryside (*Nongcun*), and farmers (*Nongmin*) (Wen, 2013) (see Figure 2-4). Of these three rural issues, the farmers' issue is the most important one as agriculture and the countryside can both be improved through the development of the farmers' economic situation. The farmers' issue is mainly about their low income. According to Chinese Minister of Agriculture Han (2012), farmers' income in the PRC has two characteristics: the overall low level of farmers' income and large regional disparities.

Figure 2-4. 'Three Agrarian Issues' in China



According to China's National Bureau of Statistics, China's Gini Coefficient for 2012 was 0.474, exceeding the United Nation's warning figure of 0.4, above which social unrest is considered a danger (Lum, 2006). The 2012 Gini Coefficient was just a conservative estimate as, according to the Survey and Research Centre for China Household Finance (set up by the Finance Research Institute of the People's Bank of China and South-Western University of Finance and Economics), the Chinese Gini Coefficient in 2010 was 0.61 (Cary, 2013). This makes China one of the most unequal countries in the world in terms of rural–urban income inequality (see Figure 2-5).

Figure 2-5. Incomes between Rural and Cities (RMB)



Source: Research Report of rural internet development in 2014, CINIC: China internet Network Information Centre (May, 2015)

Although rural-urban and regional income gap is acknowledged in PRC, little attention has been given to the widening of gender income gap. In 2013, the All China Women's Federation (ACWF) released the gender pay gap showing that, in 2012, American women earned 77¢ for every \$1 men earned. China had a similar pay gap two decades ago: in 1990, urban Chinese women earned 78¢ of what their male peers earned, and rural women earned 79¢ for every \$1 rural men earned. However, the pay gap in China has grown much wider since then: in 2010, urban Chinese women earned 67¢ of what their male peers earned, and rural women earned 56¢ (Larson, 2013, May 20).

Conducted in 2010, the second phase of the Chinese women's social status survey shows that between 1990 and 2000, the income gap with men has widened significantly. In 1999, women's average annual income in agriculture, forestry, animal husbandry, and fisheries was 2,368.7 yuan, only 59.6 percent of men's income. The gender difference rose 19.4 percentage points. It also revealed the incomes of women aged between 18 to 64 years were more concentrated in low- and middle-income groups. Meanwhile, women accounted for 65.7 percent of the low-income group which was 31.4 percent higher than that of men. In contrast, women accounted for only 24.4 percent of the high-income group, which was 51.2 percentage points lower than men. Furthermore, rural women's average annual labour income at work, either in urban or rural areas, was 67.3 percent and 56.0 percent, respectively, of men. All these figures have shown that the rural women's situation does not naturally go well with China's economic growth (Yang, 2011, November 3).

Apart from the gender income gap, rural women also experience more spiritual stresses compared to rural men. Fish (2013, May 17) found that, between 1995 and 1999, Chinese women suicide rate was 25 percent higher rate than Chinese men, and those rural suicides

happened three times the rate of those in urban areas. More than a decade later, suicide rates among rural women have dropped, but the rural rate is still twice the urban rate.

Wang, Wan, and Yang (2014) claimed that inequality can both dampen domestic consumption and undermine social cohesion and political stability, and is closely related to crimes. Milanovic (2005) argued that there were many historical lessons to illustrate the fact that unequal distribution can lead to civil unrest and the demise of governments, thus inequality trends in the PRC, to a large extent, determined the profile and changes of global inequality and poverty.

Realizing the risks of rural–urban and regional inequality, the Chinese government has been putting considerable effort into narrowing the gaps and increasing farmers’ income. Sicular, Yue, Gustafsson, and Li (2008) studied the PRC government’s measures at fighting against inequality, including *Great Western Development Strategy* in 2000 to narrow its regional disparity, *Constructing Socialist New Countryside* in the mid-2000s to reduce the rural–urban gap, and *Building a Harmonious Society* in its 11th Five-Year Plan (2006–2010). Meanwhile, official interventions, such as abolishing the agricultural tax, strengthening the subsidies to farmers, improving the living conditions of migrant workers, and increasing public funding for education and health services, were all carried out. In addition, from 2004 to 2014, for eleven consecutive years, the PRC has put ‘Three Rural Issues’ as its top priority in the government working agenda in the No.1 Central Document².

The PRC government’s anti-inequality measures have achieved great accomplishments. Till 2014, there was a rapid increase in Chinese rural households’ income over the previous

² The "No. 1 central document" is the name traditionally given to the first policy statement released by the Chinese central authorities in the year and is seen as an indicator of policy priorities(Xinhua, 2017-02-05). For eleven consecutive years, the Chinese central government has been putting ‘Three Rural Issues’ in its No.1 Document, which not only shows the importance of the issue, but also reflects its toughness.

consecutive years. However, these increases are far from enough as the inequality gap is still large and remains consistent. Table 2-4 illustrates China’s urban- rural income ratio changes over the last fourteen years. It is easily to see that since 2002, it started to expand further to 3.33:1 in 2007 and 2009, the highest in contemporary history. After that, it has narrowed to 3.13:1 in 2011, and further dropped to 3.03:1 in 2013, and then in 2014, it dropped to the lowest point to 2.92:1, but this ratio is still much higher than the world urban-rural income ratio level.

Table 2-5. Changes of Urban -rural Residents Income Ratio from 2001 to 2014(RMB)

Year	Net income of rural residents	Net income of urban residents	Urban and rural absolute gap	Urban and rural income ratio
2001	2366	6860	4494	2.90:1
2002	2476	7703	5227	3.11:1
2003	2600	8472	5872	3.26:1
2004	2936	9422	6486	3.21:1
2005	3255	10493	7238	3.22:1
2006	3587	11759	8172	3.28:1
2007	4140	13786	9646	3.33:1
2008	4761	15781	11020	3.31:1
2009	5153	17175	12022	3.33:1
2010	5919	19109	13190	3.23:1
2011	6977	21810	14833	3.13:1
2012	7917	24562	16648	3.10:1
2013	8896	26955	15059	3.03:1
2014	9892	28844	18952	2.92:1

Source: (Chinese urban-rural income rate, 2015)

With all PRC’s efforts on narrowing down the rural–urban and regional gaps, the gender income gap in China has not yet been formally touched, and rural women’s barriers to economic participation is also a field being mostly ignored. ‘Mostly ignored’ does not mean it is not important; on the contrary, given rural women’s large numbers in China, their key role in society and in a household as a mother (even grandmother), wife, or daughter, a study on Chinese rural women is of strategic importance. Such a study could help to improve their

productivity, smooth their way in labour participation, update the concept of modern Chinese rural women, and accelerate gender equality in China.

2.3.2 Studies on Gender, Economics, and Development

Gender refers to the social differentiation of women and men through processes which are learned, changeable over time, and vary within and between cultures (Elson, 1993). In the economic sense, gender appears as a sexual division of labour in which some types of work are strongly associated with women and some with men.

Since the 1930s, economists have started to explore the reasons for wage determination between women and men. The controversy mainly focused on wage determination under imperfect competition in neoclassical models, which is assumed to have been replaced by perfect competition, post Second World War. In the 1950s, under the assumptions of utility maximization and a harmonious household, through individual choices, the New Household Economics applied market-oriented concepts and models to household production and time allocation, and explained the asymmetries in the division of labour and inequalities in the distribution of domestic work (Benería, 1995).

In the 1960s and early 1970s, labour economics based on gender also analysed labour market discrimination, segregation, and segmentation, resulting in a differential labour market. Accompanying the emergence of the women's movement, economists continued using existing neoclassical models in microeconomic analysis to analyse women's issues. However, trapped within the constraints set up by the analytical framework and basic assumptions of the neoclassical models, it followed what Harding (1987) called the 'add women and stir' approach, which is not conducive. Meanwhile, New Household Economics is questioned for its simple assumptions of a harmonious household without consideration of conflicting

interests and power relations among family members (Bruce & Dwyer, 1988), and joint utility maximization requiring the aggregation of individual tastes and preferences among family members (Folbre, 1988).

In the 1970s, women economists found ways to use Marxian (which focuses on exploitation, inequality, and the market's systemic tendency to generate social hierarchies) and interdisciplinary approaches to analyse gendered social relations and power inequalities. The domestic labour debate focused on the nature of domestic labour and its function as the source of maintenance and reproduction of the labour force, and how unpaid domestic work contributes to lowering the costs of maintenance and reproduction of the labour force (Himmelweit & Mohun, 1977).

The role of rural women's work in subsistence economies with male labour in the 'modern' capitalist sector of developing countries was also analysed. Deere (1976) emphasized women's concentration in domestic unpaid productive and reproductive activities, while men were engaged in wage labour, either locally or as migrants. To understand the dynamics of gender relations and of the complexity of cooperative conflicts within the household and in subsistence economics, feminists pointed out the shortcoming of orthodox Marxism and integrated Marxian categories within a feminist framework (Folbre, 1982; Hartmann, 1979, Summer, 1981). Meanwhile, a Marxist-feminist debated more systemic issues, such as the connection between capitalism and patriarchy, and between patriarchy, the household, and the labour market (Hartmann, 1976).

Focused on the labour market, institutional economics studies women's issues from another perspective. Reich, Gordon, and Edwards (1973) put forward a labour market of segmentation theory with many implications for an analysis of gender inequality. Although

the segmentation theory did not incorporate gender as an integral part, feminists drew the connections between labour market segmentation and sex segregation and emphasized how segregation is linked with the socialization process outside of the workplace (Hartmann, 1976).

Meanwhile, women economists also questioned the narrowness of the neoclassical models and their assumptions about preferences, ability to make choices, and the role for the market in preventing optimal solutions for everyone. Sen's (1990) bargaining model and cooperative conflicts was an important critique by capturing household dynamics in a much more realistic way. According to him, women and men gain from cooperating with one another in joint living arrangements to increase the capabilities of the household as a whole, but the division of the fruits of cooperation is a source of conflict. Sen's application of game theory to the household and treating family as a site of cooperative conflicts was an innovative contribution and a step ahead from the harmonious rational choice model (Benería, 1995; Amartya Sen, 1990).

In the development arena, prior to 1970, it was believed that development affected men and women in the same way, and no gendered perspective existed for development studies. However, the 1970s saw a transformation in development theory that sought to incorporate women into existing development paradigms. Boserup (1970), with her seminal, *Woman's role in economic development*, shows people that development affected women and men differently. From then on, the UN Decade for Women between 1975 and 1985 was inspired, and there are more studies having a focus on women and development and the hierarchical structures generated under capitalist institutions (Benería & Sen, 1981).

Jacka (2006) claimed two different approaches to women and development in development studies literature: Women in Development (WID) and Gender and Development (GAD). According to Jacka, the WID approach blamed patriarchy for ignoring women's productive and reproductive work. Yet, some feminists argued it should be subordination in the context of new capitalist forms of insecure and hierarchical job structures, so that women's economic marginalization was linked to the development model itself. However, WID failed to sufficiently address the differential power relations between women and men, and tended to overemphasize women's productive as opposed to reproductive roles; meanwhile, it also raised criticism for its exclusion of men.

GAD theorists combine the social relations of production with the social relations of reproduction. GAD also puts greater emphasis on promoting the role of the state in maintaining and improving social services on which women and families depend, and also on the strengthening of women's legal rights, mainly in the areas of property ownership and inheritance. Jacka (2006) drew on two central concepts GAD emphasized, which are 'empowerment' and 'gender mainstreaming', respectively.

Gender equality is gradually being taken seriously globally. The Fourth World Conference on Women was held in Beijing in 1995, and the Chinese government made a solemn commitment to work on gender equality. In 2007, the World Bank launched a Gender Action Plan, *Gender Equality as Smart Economics*, to give women better access to land, labour, agriculture, and financial markets and help raise their productivity and incomes, which would benefit their families and the economy as a whole (World Bank, September, 2006). Scholars also claim that tackling gender inequality and the various barriers that rural women face would increase efficiency and productivity in the agricultural sector, which would, in turn,

contribute to agricultural growth, poverty reduction, better nutrition, and food security (Quisumbing et al., 2014). International organizations, the Food and Agriculture Organization (FAO) of the United Nations, and UNDP have also incorporated advocacy and empowerment for women into their work.

2.3.3 Women, Rural Women, and Land in China

Chinese women in traditional society are governed by a patriarchal discourse. This discourse took its legitimacy from Confucianism, with its emphatic privileging of the male or the discourse of '*Zhong nan qing nv*' (give importance to men and look down upon women) (Thakur, 2006). Patriarchy, one of the defining features of Chinese society, imposed profound oppression on Chinese women and deprived them of their rights in politics, the economy, and in social and family life. 'Women with bound feet' forced from childhood was a synonym for the female gender in China for centuries under the feudal patriarchal system (A.D. 960 –A.D. 1911). Only until the 16th century were upper class women first allowed to receive some education. As time passed by, girls throughout society started to receive it too.

The Reform Movement of 1898 advocated and ignited the wave to ban feet binding and establish schools for women. The 1911 Revolution kindled a feminist movement, which focused on equal rights for women and men and participation by women in political affairs (Du & Nazneen, 2003). Mao's famous Hunan Report (Mao, 1927) listed four oppressions of Chinese people, with the fourth one being patriarchy. According to him, a man in rural China was usually subject to political authority, clan authority and religious authority. As to women, apart from subjected to the three above maintained authorities, they were also dominated by the authority of the husbands.

The Chinese Communist Party (CCP) has made women's emancipation one of its goals and motivated women into its course of revolution ever since its birth. Attracted by the calling for gender equality, many Chinese women joined the revolutionary cause and tied their liberation movements closely to national or class liberation in the hope of gaining their rights. By the 1940s, the CCP clearly advocated women's emancipation from the abuses of Confucian patriarchy, following the orthodox Marxist position. By joining the public labour force, women were to liberate themselves (Margery, 1985).

Since its foundation, the Chinese government has employed legal, administrative, and educational means to eliminate all kinds of discrimination against women, thus protecting their special rights and interests. However, this mainly applies to urban women. Davin (1975) argued that, by the time of liberation, though still unsatisfactory, the conditions for urban women in China were getting better. By contrast, the countryside presents a more static picture. Despite the greater and more profound transformations that occurred in rural China, research output on those in urban areas is richer than that on rural China (Bian, 2002). Split by the *hukou* system, Chinese rural women experience more discrimination than their urban sisters do. Rural women have not won equality in the affairs of rural society.

Fighting against the previously prevalent arranged marriages, the Marriage Law, issued in 1950 advocating free choice of marriage and divorce, its implementation in 1953 was sidestepped due to rural resistance and official blind to the strength of patriarchy in rural areas. By allowing the existence of the custom living the husband's residence, patrilineal kin groups were reinforced as the basis for community and male control over the household economy. The CCP's blind to the strength of traditional kinship structures prevented it from overthrowing patriarchy (Andors, 1983; Johnson, 1983).

The Great Leap Forward in 1958 allowed women's full participation in the labour force, but

the rural collectivization built on patrilineal kin groups was already in place, it only strengthened the perpetuation of patriarchal institutions (Stacey, 1983). As Johnson (1983) claimed that the Great Leap Forward strategies relied on the assimilation of women into the male workplace but placed a low value on domestic labour and excluded males from the realm of domestic labour. Therefore, the Chinese revolution set up a socialist patriarchy to replace Confucian patriarchy

During the Cultural Revolution, the Chinese nation was in a state of anarchy, and society stagnated. Sociology was banned in the 1950s, anthropology reduced to the study of China's minorities, and economics was solely a study of Marxian models dominated by the state (Thakur, 2006). The slogan 'Women Hold up Half the Sky' and the images of the women from the *Dazhai* oil fields and 'iron girls' all symbolize that women and men were simply treated the same, and women were to be seen to be able to perform all the tasks that men could.

In the late 1970s, on the eve of the reform era, women played an essential but subordinate role in production and the principal role in domestic work. The prevailing ideology was technically gender blind: women were the same as men in everything but biology, therefore not in need of special consideration apart from protective legislation as, for example, being on maternity leave. Women's issues were, as always, subordinated to larger political movements.

Margery (1985) claimed that, compared to more pressing needs of land reform, production, and economic reform, the liberation of Chinese women has been continuously set aside as less important. While embracing sexual equality in principle, the CCP leadership failed to recognize their cultural blind, thus seeing revolution through patriarchy. The marital custom

of women marrying into the husband's household and village remained unchanged, which greatly compromises women's inheritance of land rights (Du & Nazneen, 2003). Du and Nazneen (2003) also claimed that the socialized and institutionalized beliefs and attitudes were especially prevalent in rural areas. Women usually do not have a strong voice in community and public affairs, yet they have a continuing responsibility for household duties, childcare, and care of elderly people.

A stronger driving force behind China's gender gap expansion in the early 1980s might have been the national land reform known as HRS (Almond, Li, & Zhang, 2013). The system utilized the male head of the household system to distribute resources, including land, and assigned women to a subordinate position. Thus, gender-based land ownership disparities exist throughout China, with men typically holding the land rights. Women have superficial equal rights under the law, but these rights is often limited as women's access to land is through relations to men as wives, mothers, or daughters (Behrman, Meinzen-Dick, & Quisumbing, 2012).

To address the gendered social impacts, HRS has also failed to allow a coordinated action to build social organizations, such as farmers' associations or cooperatives and village women's groups, which greatly weakened the power of farmers and especially rural women (Chen, 2014). Since the mid-1990s, explicit gender bias in China has reduced, and policies have stressed market incentives more, reflecting China's modernization goals and accession to the World Trade Organization (WTO). Yet the policies are not gender neutral in their implementation, effects, and interactions. Women remain the target of the eased population policy, and they are more likely to become 'landless' at marriage, divorce, and widowhood (Liaw, 2008). As part of its path toward liberalization, China undertook agricultural land

management policy reforms aims at increasing the security of land tenure rights. However, rural women's access to land is characterized by even greater ambiguity than that of their male counterparts (Hare, Yang, & Englander, 2007).

From an empirical perspective, by utilizing sample survey data collected from 412 rural households in Shaanxi and Hunan provinces in 2002, Judd (2007) claimed a growing number of women experience loss of contract land coincident with marrying, and this trend might be expected to increase. Hare et al. (2007) had similar findings and suggested that a growing number of women experience loss of contract land coincident with marrying.

The policies work together to reinforce traditional and emerging forms of gender bias, though at times they offset each other. They impact women's bargaining power within the home, status in the community, and social security (Agarwal, 1997). As previous HRS terms (usually fifteen-year) expired, the new political regime, authorized an adjustment in land allocation, which was then extended to another thirty years. Currently, the land tenure policy has further extended to 'No Change for Long and Ever', which not only excludes young people from direct access to land for long and ever from birth, but separates the majority of women who marry or remarry from allocated land.

Seeing things from macro and micro perspectives, Hu (2007) holds the idea that the household job division resulted from differences in educational level. The traditional concept for women during the process of rural labour migration led women to lag behind men in the process of shifting from agricultural to non-agricultural industries. According to Hu, after decades of hard development, with the comparatively low status of agricultural income in rural household income and heavier labour working burden and low return, farming is no longer the main source of family income, but rather the security attribute for the households.

The state, coupled with the market economy, simultaneously intensified economic stratification and inequalities between men and women.

Based on a survey of 100 female peasants, key informant interviews, six biographical recordings, and participatory observation in Yang Village in northern Jiangsu, Meng (2014) discussed the intra-household gender relations and women's well-being in rural China. She argued that Chinese rural gender studies were not on the right track. It represented in aspects like, the views of the involved women themselves were absent, decision-making aspects in agriculture were ignored, rural women were commonly negatively judged and always taken as passive victims; and there was no updated concept of rural women within the framework of modernization and urbanization ideology.

From a feminist political economy perspective, Chen (2014) argued that, since the 1980s' economic reforms, two trends in agricultural production in China are exacerbating growing gender inequalities. First, men are engaging in trade, marketing agricultural products, and/or employment in cities, while rural women are looking after land contracted to the family to grow food for the family. Second, under the encouragement of the government's land transfer policy, some men have found opportunities to create agricultural farms by contracting land from other villagers, and women work for these farms as wage labourers. All these trends reinforce male-dominated systems.

2.4 Summary

In this section, through the illustration of the rural-urban gap, regional gap and gender gap existing in PRC, it can be seen that the gender gap is the most ignored gap of the three. Further it can be argued that, Chinese rural women, compared to their urban sisters and rural male brothers, again, are the most ignored subject in research. With PRC's fast economic

development, there is an urgent need to carry out a study on Chinese rural women, and that comes the researcher’s thinking route of the research (See Figure 2-6).

Figure 2-6. The Thinking Trace of the Study



Internationally, gender issues, such as wage discrimination and labour segmentation, have been studied for long from an economic perspective. Gender and development is also an important topic for some international organizations, especially the UN. Till now, within the relevant research, interventions, and policies on the ‘Three Rural Issues’, gender has seldom been thought as a concern for the state development (Hu, 2009) . Since it was first exposed to the public in 2000, considerable progress has already been made in China’s agriculture, countryside, and farmers in recent years, but the concept of gender and gender analysis is still a field barely touched. Studies on Chinese rural women in economic participation are few.

There have been a handful of English language studies examining Chinese rural women (Chang, MacPhail, & Dong, 2011; Jacka, 2012; Jacka & Arianne, 2004; Meng, 2014; Murphy, 2004), but few has managed to study it under the impact of the state’s on-going land transfer policy with different geographical locations at different development stages.

Moreover, the relevant discussion is also filled with a variety of gender ‘blindness’, ‘misunderstandings’, and even prejudices (Hu, 2009) . In empirical studies on Chinese rural women, either the data is too old (Jacka, 1997) or the research question is too broad and rural women are only treated as a subsection, thus there is a lack of in-depth empirical investigation.

Furthermore, the common characteristics of literature on rural women mainly consider rural women’s passive side or focus only on what they lost in the process of Chinese economic reform, and few have attempted to explore their initiative and innovative spirit and their personal characteristics inspired in the process (Hare et al., 2007; Honig, 1985; Meng, 2014). Knowledge gaps, such as a disregard of the rural women’s perspective (Honig, 1985) a tendency to only focus on left-behind farm women, and a lack of in-depth empirical studies (Meng, 2014) provide the starting point for the current research.

Accompanying China’s economic reforms, unprecedented migration, fast urbanization, gradual *hukou* reform and ongoing rural land reform, great changes are taking place in PRC almost everywhere and every year. Given the vastness of PRC, even in one province, rural women are undergoing quite different development stages due to their geographic location and local government executive capabilities. Rural women, especially middle-aged rural women’s updated economic situations and challenges have not been seen in academic empirical research. However, it is this specific group of people who are experiencing the nation’s fast structural transition and rural development, and a study of their barriers to economic involvement are of importance for the state’s smooth transition.

This study takes rural women as research subjects, through the collection of primary data, combines rural women’s issues with the state’s ongoing land reform, by using mixed research

methods (qualitative and quantitative), from three angles, explores the rural women's current situation and challenges in economic participation. The study covers rural women's changes' in farming performance, non-farm employment, predictors of their participation in non-farm work, and investigates professional women farmers' shared traits, initiative and innovative spirit, and challenges (see Figure 2-7).

Figure 2-7. Rural Women Studied in This Thesis



Chapter 3. Methodology and Data

3.1 Introduction

After providing background information, a theoretical base, and a literature review relevant to the study, this chapter focuses on the study's methodology and data gathering. It is arranged in the following way: Section 3.2 explains the research design and framework to picture the flow and structure of the study. Section 3.3 introduces the general research site, Shaanxi province, and the reasons for choosing the three subareas: Ningqiang, Mei County, and Yangling in Shaanxi. Section 3.4 outlines the data collection methods, and Section 3.5 deals with the data collection process in the farming sector, off-farming sector, and some of the characteristics of the whole sample. Section 3.6 analyses the reasons of the occurrence of missing data in the survey. Section 3.7 gives the data analysis methods.

3.2 Research Design and Framework

The whole research design and the framework of the thesis can be shown from the figures below. Figure 3-1 summarizes the technical processes of the study. After putting forward the research questions and literature review, data are collected through surveys, and in-depth interviews. To get to know rural women's situations and challenges fully, the data collection sites are specifically chosen from three representative regions at different development stages and different economic patterns in Shaanxi to represent the complexity of rural women's current economic challenges. Then, when it comes to data analysis, both quantitative (logistic regression) and qualitative (thematic analysis) methods are used. The last research step is the conclusion of the findings, discussion, and policy implications of the study.

Figure 3-1. Research Design

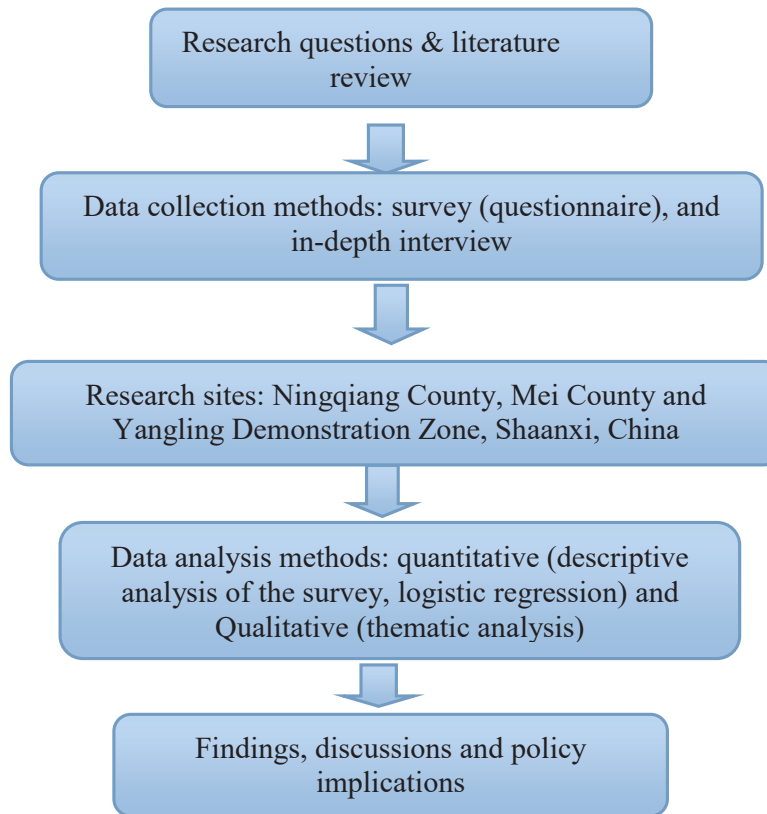
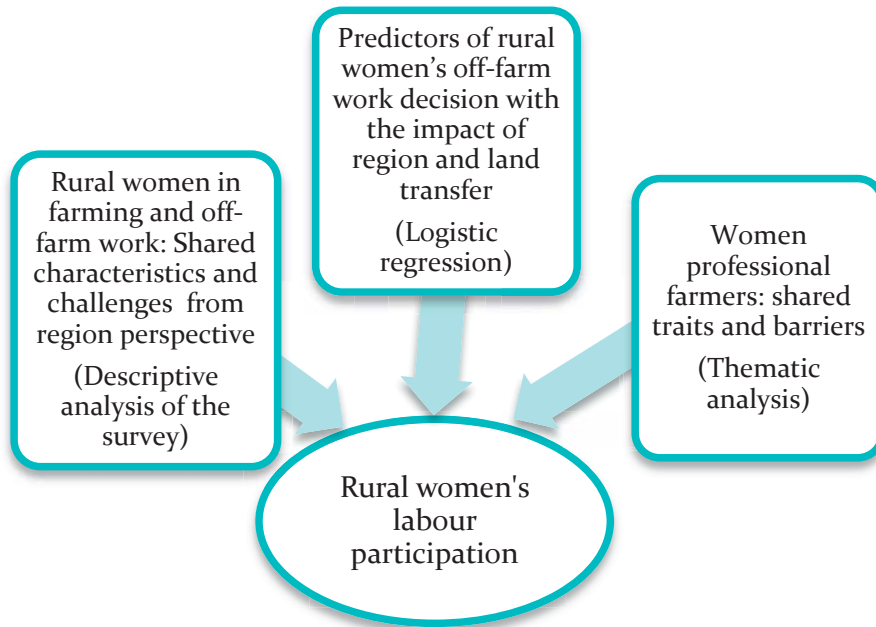


Figure 3-2 summarizes the framework of the thesis. Centred on middle-aged rural women’s labour participation, the study investigates it from three angles. Firstly, from a regional perspective, the shared characteristics and different challenges facing rural women in farming are investigated; meanwhile the characteristics and trends of rural women in off-farm activities are also studied. Secondly, with the state’s strategy of developing urbanization and agricultural modernization, with rural households’ land transfer situation as the primary independent variable, the predictors of rural women’s off-farm work choices with regional differences are explored through logistical regression. Thirdly, by using Sen’s capability as

the theoretical base, professional women farmers' shared traits and barriers are studied through thematic analysis.

Figure 3-2. Framework of the Thesis



3.3 Choice of Research Sites

The primary data source of this research is from Shaanxi province. Shaanxi consisted of 10 sub-provincial cities and one Yangling High-tech Industry Demonstration Zone (see Figure3-3). By the end of 2015, the resident population of Shaanxi province was 37.92 million. The urban population accounted for 53.92 percent and the rural population for 46.08 percent, and the women –men sex ratio is 100:106.73(Comprehensive introduction of Shaanxi Province).

Figure 3-3. Map of Shaanxi and Prefecture-level Cities and Sub-provincial Cities³



Source: ("Map of Shaanxi," 2017)

Administrated belonging to the northwest the country, geographically almost located right in the centre of China. In ancient time, Xi'an, the capital of Shaanxi province, has been the origin of the famous Silk Road, and it is also the capital of 13 dynasties in Chinese history, together with another city, Xianyang, the direct distance between the two is only 25 kilometres. So Shaanxi province actually connects not only the east and west, but also the north and south of the PRC. Given its strategic location, a study of rural women in Shaanxi have meanings as specimen for both the east and the west rural women in China.

In this study, rural women's data are taken from three areas in Shaanxi. The first research area is Ningqiang, located in the remote southern mountainous area of Hanzhong prefecture,

³ This section mainly introduces the rational of the general research area chosen. As to the characteristics of the specific research sites, please see 4.1.2.1, 4.1.2. 2. and 4.1.2.3 of this study.

is a national-level poor county. In addition, Ningqiqang is also covered within the area of the state's land-related policy, 'Returning farmland to forest programme'⁴. Rural women's economic situation there can be representative of rural women in the least developed area.

The second research area is Mei County. As one of 'China's top ten counties for the standardization of fruit and vegetables', 'Chinese Kiwi Technology Demonstration County', and 'the provincial level advanced fruit industry county', Mei County is under the jurisdiction of the Baoji prefecture. On August 9, 2014, the Shaanxi Provincial People's Government agreed to set up a provincial Economic Development Zone at Mei County, entitling it to enjoy related preferential treatment. Rural women's circumstances in Mei County can be representative of those with a leading industry. As developing local leading industries is one of the goals for many county level governments, rural women's experiences and challenges in Mei County can throw insight to counties wanting to developing leading industries.

The third research area, Yangling Agricultural High-tech Demonstration Zone was nominated by the state to develop modern agriculture since 1997 and is 82 km from Xi'an in the east and 86 km from Baoji (the second largest city in Shaanxi) in the west. It has predominantly flat lands. Since 2009, the Ministry of Construction Management is piloting a non-profit Yangling Land Bank in response to the state calling for a moderated scale of farming (Khantachavana, Yurvey, Kong, & Xia, 2013)⁵. Till 2016, the land transfer rate in Yangling has reached 61%, not only higher than the provincial level, the national level, but almost match the highest level of Shanghai suburb. Therefore, the economic situation of rural

⁴ 'Returning farmland to forest programme' is a policy issued by the PRC to expanding forestland, aims to reduce soil erosion and alleviate poverty (Trac, Schmidt, Harrell, & Hinckley, 2013).

⁵ The land bank serves as a mechanism for the smooth transition of land transfer. The bank negotiates with individual farm households to create an inventory of land to match the land needs of those farmers, enterprises, or other commercial interests that seek to expand and modernize. Meanwhile, with the fast pace of urbanization, a large portion of land is also expropriated by local government.

women in Yangling can be a reflection of rural women's under the impact of the state's on-going land transfer policy and the fast pace of urbanization, thus can have the effect of a forward looking of the policy's implementation, thus giving further policy implications.

The combination of the three specific research sites is relevant to a study of rural women's economic participation. It covers rural women in a remote hilly area in a state-level poor county (Ningqiang), an area with a well-developed fruit leading industry in Mei County and an area with national high rate of land transfer for developing modern agriculture. Thus, the research covers and reflects a relatively complete picture of rural women's economic involvement, and can give important guidance to the vast western area of China, and even Asian countries with similar situations.

As rural women in Mei County and Yangling represent the direction of modern agriculture, more attention is given to them to throw light to various local governments for policy implications and researchers interested for further research. In addition, the researcher wants to examine the relationship between land transfer and rural women's off-farm work decisions, but compared to the developed regions in the eastern area of China, the land transfer rate in Shaanxi province is still low. Till 2014, the rural land transfer rate in Shaanxi Province was 11.8 percent, not only lower than the 40 percent transfer rate in the eastern coastal regions, but also lower than the national average of 21.7 percent (Wang, 2014, October 20). However, the land transfer rate in Yangling reached 61.9 percent and is the highest in Shaanxi (Liang & Liu, 2016, December 17), so a study on rural women's reaction to land transfer in Yangling is of profound importance to the policy's implication and modification in the western area of the PRC.

3.4 Data Collection Methods

Two approaches were used to collect data: in-depth interviews and questionnaire surveys. The survey on 257 rural women in farming carried on three times in Yangling, Mei County and Ningqiang respectively with the same questionnaire in the form of face-to-face and group interviews (Ruel, Wagner, & Gillespie, 2016). In Ningqiang, in-depth interviewees come from village committee members and a professional farmers' training class. In Mei County, interviews only took place with village committee members. While in Yangling, they were carried out on three groups of people: women cadres from Women's Federation, village committee heads, and professional women farmers operating family farms or cooperatives. Most of the interviews were done face to face, with a few followed up by phone communication for clarification. All participants of the interviewee were encouraged to talk freely. Each interview took around 40 minutes. Another survey on 101 rural women engaged in off-farm employment within Shaanxi province.

The survey instrument used in this study is a questionnaire. This was designed by consulting with experts to assist comprehension and clarity. The first draft was made after consulting many times with supervisors and then with the approval of the Human Ethics Committee of Massey University, the questionnaires were translated into Chinese and sent to four Chinese scholars (two Chinese visiting scholars in economics at Massey University and two lecturers at Northwest A&F University in Shaanxi, China) for feedback.

Research assistants in Yangling did ten-trial survey firstly, and the feedback was not that satisfactory. The answers to questions related to household land size, household labour force and farming hours were either broken sentences, missing or left there blank due to local complicate situations. It was depressing at the first sight, but with more reading and reflection,

the researcher strengthened the faith to investigate land transfer and its relation with rural women's off-farm work choice, which is an issues could not avoid as the deep implementation of land transfer policy.

There are five questionnaires in this research (See Appendices 1 to 5). Appendices 1 and 2 are the base of the other three appendices. Appendix 1 is an interview outline with women cadres. The purpose of the interview with women cadres from local women's federations is to get a general idea about local women's general situation and development, the training local government offers, and a list of professional women farmers' and local officials' work on land transfer. Appendix 2 is done with village cadres, parallel to the survey on women in farming in different area. It seeks information on the target villages regarding demographics, training availability, per capita income, and the land situation.

The Appendix 3 and Appendix 4 are aimed at rural women in farming and in off-farm employment, respectively. Altogether, both Appendices 3 and 4 have three sections, with the same contents of Section 1 and Section 3. Section 1 includes 25 questions, ranging from rural households' demographics, land situation, and household income. Demographics include such things as respondent's and one's husband's age, educational attainment, number of children, children's ages, each child's marital status and occupation, and whether anyone in the household works in an official branch. Land situation includes questions about the original land size, actual farming land size at the time of interview, if the household has had its land transferred or not and, if transferred, in what form, but if not, why. Household income relates to that in 2015 and income proportion between farming and off-farm.

Appendix 3 and Appendix 4 have a shared Section 3. It investigates rural women's attitudes towards land, the land transfer policy, and farming income to their household; their attitude

towards farming and local off-farm work and migrant work; their views about their current life; their plans for the future; and their choice of a list of support from government pro-agricultural policies, agricultural technology, agricultural information, and funding support. Apart from those shared items in section one and three, section two of Appendix 3 wants to explore rural women's challenges in farming. Section two of Appendix 3 includes the number of people from the household in the labour force, and men's and women's working hours in busy times and slack times, respectively. There are also production-oriented questions, such as crop area and number of livestock. Data concerning rural women's challenges in farming, their reactions to the challenges and the attendance of agricultural extension were all collected.

In contrast, section two of Appendix 4 especially asks the relationship of rural women's off-farm work with their land situation: does their land transfer stimulate their off-farm work or vice versa? Or is there no relationship? Rural women's working experiences are the focus, including how many off-farm jobs they have taken, the average time span taken for each job, the working site changes (local or foreign place), and professional training received during the process. Rural women's plan for the coming year as to whether she will do any off-farm work or not; if no, would it be temporarily no or permanently no? If permanently no, why would this be so? Then, questions about the respondents' first working experience, including in which year, at what age, how she got it, what the job entailed, the job site, and if there were any written work contracts, the salary, how long the job lasted, why she left, and so on. Same questions are asked about the respondents' current working experience. The questionnaire on rural women's off-farm work includes forty-four variables.

Appendix 5 is an interview with professional women farmers. It targets professional women farmers, including those currently running successful family farms or cooperatives, as well as those still in the initial stages. Their basic information, developing traits, current operational scale, and challenges are to be explored. Later, the information is analysed from three perspectives: political empowerment and social networks, agency and self-direction, and challenges.

3.5 Data Collection Process

The researcher and volunteers undertook the data collection. Data from the farming sector and the off-farm sector were assured to be collected randomly in the three different research areas. In Ningqiang, the researchers randomly walking into rural houses got it. In Mei County, it was got from whoever at the village at that time and attended the gathering. As to the data from Yangling, the women cadres were firstly chosen randomly after a women conference from those who left late. Then they just went back to their village respectively, interviewed rural women in their village. The 20 student volunteers for the off-farm sector data collection were chosen in the club as long as he/she was from Shaanxi and willing to participate the research. Then they went back respectively to interview their family relative or folk people.

The raw data was firstly transcribed and typed into Microsoft Word in Chinese and then translated into English. All transcripts were cleared of any potentially identifying information. All hard copies of transcripts were stored in locked filing cabinets, and digital copies are stored on a password-protected hard drive and external disk. The database is firstly transferred to Excel and then to SPSS Software for analysis.

As the research aims to explore rural women's labour participation in farming and off-farm employment, and rural women's initiative in rural reform, data included three sources: farming sector and off-farm sector and professional women farmers respectively. All the data of the three sources were randomly collected and could reflect local rural women's real situation. However, different from Ningqiang and Mei sample, to illustrate its real complicated land situation caused by its fast pace of urbanization, the data of Yangling sample almost covers the whole demonstration Zone, and the study used a specific section to explain and analyse its impact on local people, especially rural women.

3.5.1 Survey on Rural Women in Farming Sector

As to data collection of rural women in farming sector, together with the Director of Science and Technique Service Centre for Rural Women in Shaanxi, and part by the volunteers from STSCRW⁶, apart from face to face interviews to get qualitative data, relative large scale of survey was done on the three research areas through three fieldtrips.

Ningqiang is the most remote county in the study. The survey carried out at Luoquanyan village from the January 13th – 17th, 2016, about 20 days before the Chinese Spring Festival. The second day after arrival there, the researcher and assistants walked to scattered rural households to do one hundred questionnaires face to face. However, it turned out to be hard to achieve. For one thing, people live in scattered mountainous areas, and it took a long time to walk to an individual rural household. Even worse, when finally arriving at a rural household, quite a few times, the door was locked and no one was there. Even if there was

⁶ Set up in 1997, STSCRW is a non-governmental organization (NGO), consisting of women professors and research members in Northwest A&F University. Through cooperation with international charitable foundations, (Oxfam, International Plan), STSCRW has been engaging in more than ten agricultural extensions through a participatory approach with gender sensitiveness. Volunteers in the organization have accumulated rich experience in communication with rural women.

someone in the house, he/she was most likely to be either disabled or too old to be the research subjects. In short, it took eight of the survey team three days to get 85 valid respondents, of which twenty-five were migrant workers. So, for data collected from Ningqiang, rural women in the farming and off-farming sectors were collected together and separated later.

In Mei County, the survey was done in Huaixi village, Huaiya town. Although there is an individual-invested, individually-owned agricultural company in the village, Baoji Huaixiang Fruit Industry Company, registered in August, 2013, only 28 households joined the company. Headed by a few village elites, it does not do much good for ordinary rural women. Farming in Huaixi village at the fieldtrip time was still in small scale, mainly done by rural women.

It took two trips for the researchers to get the data in Mei County. For the first time, after contacting the village committee, the researchers arrived at the village, interviewed the village cadres about the village's information; and randomly gathered ten rural women from the field to answer the questionnaire. It turned out that they were too busy with their farming work to finish the questionnaire. So, following local farming seasons, another survey time was arranged. The village committee was responsible to notified rural women in the village the day before and asked them to gather in the village committee meeting room. Participated rural women were asked to fill in the questionnaire on the spot with research assistants' help. Rural women showed up in the meeting room randomly, and with the researchers prepared rewards, seventy-six valid questionnaires were collected in the end.

In Yangling, data is not from a single village. Based on the data of 2012 (Wang & Xia, 2012), of the 87 administrative villages, 36 have land banks and land acquisition at different levels. To avoid bias, after a women cadre's conference hosted by the local women federation,

twelve women cadres were randomly chosen. It turned out the twelve women cadres came from twelve villages covering all the five townships in Yangling, of which five villages have land bank operations. As to the other seven villages, land is either all or partially expropriated by the government. This made sure the data was collected randomly and could reflect the complicated land situations and rural women’s real circumstances. After training assistants, the purpose of the survey and the requirements of how to fill out the questionnaire, 100 questionnaires were distributed to them to take back their villages, and 95 valid questionnaires were eventually collected back.

Table 3-1. Coverage and Distribution of Data Collected from Farming Sector

Area	Coverage and Subjects
Yangling Agricultural Hi-tech Demonstration Zone	<p>To have a clear understanding of its land transfer situation, and its impact on local people, specifically local women, relatively more data was collected here. The data has two sets from interviewees and survey and covers the five towns of the whole district.</p> <p>Interviewees included women cadres from women federation, women representatives and professional women farmers, altogether 32 people; 3 field trips to randomly chosen three villages for different land situations;</p> <p>95 questionnaires for women in farming were collected here. 54 questionnaires for women in off-farm sector were collected here.</p>
Mei County	<p>Data was collected from Huaixi village at Huaiya Town.</p> <p>Interviewees included village secretary; woman representative; 76 questionnaires for women in farming sector were collected here.</p>
Ningqiang County	<p>Data was collected from Luoquanyan Village at Bashan Town</p> <p>Interviewees included village secretary; woman representative & women professional farmer;</p> <p>85 questionnaires were collected, of which, 60 were from women in farming sector and 25 were from off-farm sector;</p>

3.5.2 Survey on Rural Women Engaging in Off-farm Activities

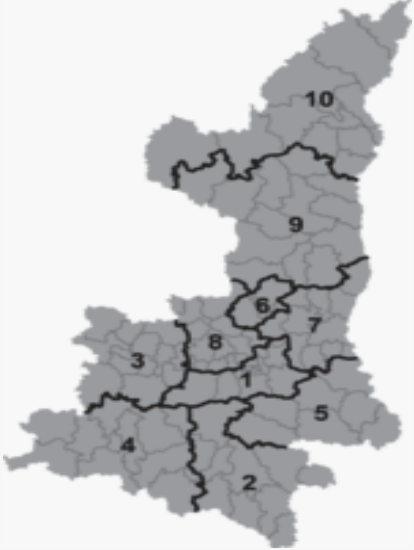
Apart from the survey carried out among rural women in farming, another survey of 101 rural women in off-farm work was also undertaken. The off-farm women's survey was assisted by ten undergraduate volunteers from the Hongfeng Club⁷ at Northwest Agriculture and Forestry University (NWAUFU) and was completed in one-on-one, interviewer-administered surveys. To make it clear, because rural women have few opportunities to engage in off-farm activities, a broad concept is taken, which literally includes migrant work, local off-farm employment, and self-employment as well. One of the requirements of the twenty volunteer interviewers is each must originate from Shaanxi Province to make sure they know the local dialect, and can communicate well with rural women.

To ensure interviewers ask questions and respond to participants queries consistently, all of the interviewers were gathered together twice to clarify the purpose of the research, and the meaning of every item in the questionnaire, and things they need to take care while doing the survey. Interviewers reached agreement that they are facilitators, and the participants are the main body of the study and their role is to help the interviewees to fully understand the purpose of the questionnaire and then make their own best answers or choices in the survey. Then 110 questionnaires were distributed to the volunteers to do the interview respectively and 101 questionnaires were collected back. Of the 101 off-farm sector women data, except 54 from Yangling, the rest 19 were from Fufeng County and Fuping County, which belongs

⁷ Hongfeng Club is a student club in NWAUFU. It was set up in 2006 and currently has more than 200 members. From 2008 to 2013, it was jointly awarded as 'Outstanding volunteer group' by Shaanxi Provincial Women's Federation and Shaanxi Hongfeng Project Volunteers' Association. In June, 2011 and June, 2012, it has twice been awarded as an advanced collective for outstanding work on publicity, and from 2013 to 2015 for three consecutive years by the school Communist Youth League as a four-star association or outstanding League branch.

to Xianyang prefecture.10 from Mei County, 20, like those from Ningqiang, were from Hanzhong prefecture.

Figure 3-4. The Sub-provincial and Prefecture-level Cities in Shaanxi

Map	#	Name	Administrative Seat
	— Sub-provincial city —		
	1	Xi'an	Weiyang District
	— Prefecture-level city —		
	2	Ankang	Hanbin District
	3	Baoji	Weibin District
	4	Hanzhong	Hantai District
	5	Shangluo	Shangzhou District
	6	Tongchuan	Yaozhou District
	7	Weinan	Linwei District
	8	Xianyang	Qindu District
	9	Yan'an	Baota District
10	Yulin	Yuyang District	

Of those 101 questionnaires, 71 came from Xianyang prefecture, Shaanxi province. Among them 52 respondents are from Yangling, and 19 from other counties including Fufeng County and Fuping County. 20 respondents, like respondents from Ningqiang, came from Hanzhong prefecture, and thus were put together with the data from Ningqiang. Ten were from other counties like respondents from Mei County, under Baoji prefecture, so they are organized with the data from Mei County. Although 21 of the 101 respondents were not doing off-farm activities during the time span of the interviews, every one of them had previous off-farm experience. Therefore, their current status does not affect their answers by whether their land

change has any impact on the choice of off-farm work (See Figure 3-4 for the prefecture cities in Shaanxi).

3.5.3 Characteristics of the Whole Sample

Of all the respondents in the total sample, two are single, one divorced, fourteen are widowed, and the rest, three hundred and thirty-eight, are married. With the information from their family members (the average household size is four), there is relevant information from a total of about 1,500 rural people collected and analysed in the study, together with information from village leaders and women cadres. Rural women in these three sub-provincial prefectures reflect the diverse patterns of rural development in Shaanxi.

Table 3-1 shows the comparative variable means of rural women in the farming and off-farm sectors. It clearly shows that family size for rural women in farming and off-farm sectors is similar. Household heads' ages and respondents' ages (rural women) in the farming sector are generally older than those in off-farm employment. Household head education and rural women's education in the farming sector are also generally lower than those in the off-farm sector. It agrees with the literature: rural people who take off-farm employment are normally younger and better educated compared to those staying in the farming sector (Hare et al., 2007; Song, Zheng, & Qian, 2009).

The average age of off-farm employment respondents in the survey was 42.58 years, while that of those in the farming sector was 46.80. The latter is 4.22 years older than the former. This shows this research extends its subject to a relatively older age cohort compared to Song et al. (2009), who found that the average age of migrant respondents in the survey was 33.24 years, while that of non-migrant respondents was 39.35.

Table 3-2. Variable Means in Farming and Off-farm

Off-farm	Family size	Household head age	Household head education	Respondent age	Respondent education.
Valid	125	125	125	125	125
Missing	0	0	0	0	0
Mean	4.46	44.87	9.51	42.58	8.45
In farming	Family size	Household head age	Household head education	Respondent age	Respondent education
Valid	228	228	226	226	230
Missing	3	5	5	1	1
Mean	4.44	48.91	8.71	46.80	7.18

3.6 Missing Data and What Can Be Learnt from It

The data of this study was collected via questionnaire, so missing data became an issue that cannot be avoided. From Table 3-2, variables like ‘Household income in 2015’, ‘Original farm size (mu)’, ‘Actual land size (mu)’, and ‘Has your land been transferred’, the missing values accounted for more than eight percent of the total sample.

There are multiple reasons for the occurrence of relatively high missing values in the survey. For one thing, based on the prevalent social customs, ‘Men take care of the social events, women, inside the household’, rural women, especially those living in the remote areas, generally do not care about what is going on nationwide and are widely known for their slowness in accepting new events, such as land transfer. They have left school more than twenty years ago. Their low literacy made answering the questionnaire difficult. Some of them do not know the answers, and some do not want to answer. With regard to the question concerning the on-going land reform, which, in reality, is very complicated, some of them just do not know their land situation (see Chapter 4).

Table 3-3. Missing Value Distribution of the Key Variables in Econometric Model

		Number	Missing	Mean	Minimum	Maximum
1	Family size	308	3	4.38	2	9
2	Household head age	307	4	45.15	25	60
3	Household head education	307	4	9.34	0	16
4	Respondent age	311	0	42.91	23	55
5	Respondent education	310	1	8.14	0	16
6	Household income in 2015	300	11			
7	Who does farming	306	5			
8	Original farm size (mu)	279	32	4.989	0	30.0
9	Actual land size (mu)	284	27	2.896	0	22.0
10	Has your land been transferred land?	272	39	.56	0	1

Labour hours in the three areas also vary greatly and are hard to collect because of the differences of farming patterns and complicated land situations. Data about income from farming and income proportions are not answered fully because around half of the households in Yangling have no farming now. Due to the policy of converting farmland to forest programme, the government gave rural people in Ningqiang some compensation based on the land size they returned to growing trees. So, although the land is still under farmer's name, most of them usually do not have much land left. The land situation in Yangling is also very complicated (see Section 4.1.2.3).

However, until now, this is the first data directly collected from rural women in Shaanxi and, to the best extent, reflects their situation. The research is based on rural women's understanding and answering of the questionnaire and makes the best out of it. Technically, SPSS does not have to do anything with missing values; that is, it leaves missing values as they are. They were omitted from all analysis.

3.7 Data Analysis Methods

To have a well-round understanding of Chinese rural women's situations and challenges, the researcher used both qualitative and quantitative analysis to investigate the same issue from different perspective. Semi-structured questionnaires were used to obtain a deeper understanding of rural women's barriers in farming and off-farm employment. In-depth interview was used to collected data about professional women farmers and their view on ordinary rural women.

Through analysis of numerical details, the purpose of quantitative research is to explain, predict and investigate relationship, examine possible impacts. It is objective, unemotional. This is mainly done in in Chapter Four to report the descriptive results of the survey, and Chapter Five to estimate the predictors of middle-aged rural women's off-farm work choices and the relationship between rural household lands transferred to predict the outcome of middle-aged rural women's off-farm work choices. Relevant data from the survey are to be used in a logit model to predict rural women's off-farm work choices impacted by relevant land policies and other variables.

With the characteristic of small data, the aim of qualitative research is to get an in-depth understanding of a specific phenomenon rather than a more general description of the population (Wahyuni, 2012). A qualitative case study is an approach that investigates a phenomenon within its real-life context (Baxter & Jack, 2008). Yin (2014) argues that a qualitative case study is used if: (1) the researcher's focus of the study is to answer 'why' and 'how'; and (2) to examine contemporary events without manipulating the behaviour of the subject. In-depth interviews were conducted to collect qualitative data, and Chapter Six to draw the common traits and challenges faced by professional women farmers.

Chapter 4. Getting to Know Rural Women in China⁸

This chapter focuses on getting to know rural women in China. Based on the content and the survey subjects, it has three sections: rural women in farming, rural women in off-farm employment and results and discussions.

Section 4.1 focused on rural women in farming sector. Interview results are analysed by the three specific research sites and descriptive analysis of the survey. In the interview results of the three specific research sites with village committee members of the three regions, special attention was given to Yangling's complicated land transfer situation and local landless rural women, local rural women's indifferent attitude towards the training offered by local government and the reasons behind it. In addition, the problems of rural women in farming were also seen from professional women farmers and women cadres' perspective. The descriptive analysis of the survey investigated rural women's different situations and challenges in the three regions. The key issues included rural women's attitude towards land, their understanding of the state's current land policy, what they really want in China's economic transition, their perception of their current life and their sustainability of development.

Section 4.2 was on survey results of rural women in off-farm employment. It covered the general characteristics of rural women's off-farm activities and the comparison between rural women's first off-farm jobs with their current ones. The general characteristic of rural women's off-farm employment included the change tendency of rural women's off-farm working sites, whether they have ever attended any vocational training and the relationship

⁸ Part of this Chapter has been published at the 2016 Annual Conference of the New Zealand Association of Economics in Auckland, New Zealand, 29 June – 1 July, 2016. (The paper can be found at: <https://www.google.co.nz/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=NZAE+Mei+Yang>).

between rural women's off-farm work with their households' land situation. The comparison of rural women's first job and current one covered the comparison of how they got their first jobs and current jobs; change of job types, change of job locations, and whether a contract signed or not. Section 4.3 is the results and discussion.

4.1 Rural Women in Farming

In this section, the research presented the results of the interviewees done in the specific three research sites and the descriptive results of the survey done in three respective areas. It included rural women's marital situation, age distribution, educational attainment, left-behind women ratio, social connection, rural women's attitude towards the state's land policy, and the impact of the land situation on rural women's living patterns at three different developing stages in Shaanxi Province. Meanwhile, rural women's farming challenges and access to agricultural extension were also studied.

4.1.1 Descriptive Results from the Survey

4.1.1.1 Marital Status, Age, Educational Attainment and Social Connection

The rural women's marital status shows consistency in the three regions in Shaanxi (see Table4-1). Of all the 256 respondents of rural women engaged in farming, 92.5 percent were married, 5 percent were widowed, 1 percent was single, and 0.3 percent divorced. These statistics once again confirmed the literature: that the Chinese rural area was currently mainly occupied by married, old women (Fan, 2003; Hare, 2007). The consistency of rural women's married status is reflected in old customs that constrain rural women and is worth exploring.

Table 4-1. Respondents' Marital Status

Marital status	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Single	2	2.4	0	0	1	1.1
Married	75	88.2	71	93.4	91	95.8
Divorced	1	1.2	0	0	0	0
Widowed	7	8.2	5	6.6	3	3.2
Total	85	100.0	76	100	95	100
Missing	1		0		1	

Fei (2006), through his well-read book on Chinese peasants published more than a half century ago in 1948, has illustrated the invisible rule prevalent in rural China and which still exists even today. In the book, Fei expressed one of the characteristics of Chinese rural communities as a fixed relationship of people and places through being born there and dying there. He also summarized two ways for an individual to blend into a village: the first is that as long as one has land in the village, he/she is locally rooted; and the second is through marriage to get into local relatives' circles. The blood and geopolitical unity is the original state of a rural community in China.

Many decades have passed, and the PRC has issued various land policies since its foundation, but rural women's attachment to land has not strengthened, but has worsened. After 1998, following the national policy, rural farmland was not reallocated for 30 years. With the traditional marital custom, the bride is to move into and live in the bridegroom's household, and most Chinese rural women lose their access to land after marriage, as it is impossible for her to take the land under her name in her parents' village to her husband's village, meanwhile she has no opportunity to be distributed land in her husband's village. Thus, once she gets married, the rural woman has to work on her husband's household contract land to

make a living; in doing so, she, of course, needs to work harder to prove her right in the household.

Thus, once a rural woman gets divorced, she becomes a nobody to local villagers. Villagers tend to interpret that she will remarry at any time and move to her new husband's place (village), so they will never treat her as their peer villager any more. Not only do villagers treat her as an outsider, but even those who were once her in-laws would suddenly turn into strangers and cut off all connection with and act against her. She is excluded from both the household and the community. That is the key reason that both the divorce rate and widowed rates are very low in rural areas in China. Many rural women have to work hard on land to justify their right and existence in the household (Jacka, 2006). Even today, unless the situation is too much to endure, rural women will not divorce because the cost is too high.

Table 4-2. Respondents' Age Distribution

Respondents' age range	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
=<30	3	3.7	3	3.9	3	3.7
31-40	9	11.1	6	7.9	9	11.1
41-50	38	46.9	43	56.6	38	46.9
51-60	16	19.8	16	21.1	16	19.8
=>61	15	18.5	8	10.5	15	18.5
Total	81	100.0	76	100.0	81	100.0
Missing	5				5	
Total	86		76		86	

The age distribution of respondents (see Table 4-2) also shows similarities. In both Ningqiang and Yangling, respondents in the 41 to 50 years' age group made up 46.9 percent, while in Mei County, the percentage is even higher. The second largest age group in the sample is from 51 to 60 years old. With a closer look at the data, it can be easily seen that aging

farming in Ningqiang is serious. As maintained in the data collection process, in completing the research in Ningqiang, the rural women encountered were mostly older in their seventies or disabled, so not suitable to be included in the survey.

Of the 25 migrant rural women respondents in Ningqiang, two are under 30 years of age, three are between 30 to 40 years old, and the other 20 are all in the 41 to 50-year age group. The actual age ranges for the respondents engaged in farming in Ningqiang are shown in Table 4-3. In this adjusted Table, rural women in farming aged above 51 years took up more than half of the whole sample and are the major group engaged in farming. The 41 to 50-year age group dropped to the second largest group, and those under 40 only took up 12.5 percent.

Table 4-3. Age Range for the Respondents' in Ningqiang

Age range for the respondents' engaged in farming	Ningqiang	
	Frequency	Percent
=<30	1	1.8
31-40	6	10.7
41-50	18	32.1
51-60	16	28.6
=>61	15	26.8
Total	56	100.0
Missing	5	
Total	61	

Furthermore, the oldest respondents in Mei County and in Yangling are 69 and 65 years old, respectively, while the respondents in Ningqiang are much older. Eight of the respondents in Ningqiang are older than 66 years old, and the oldest one among them is 78 years old and her husband is 83 years old, yet they still do some farming to make a living. Looking at it from another perspective, more than 85 percent of rural women in the three areas in the sample are above 40 years old. Among them, more than half (55 percent) in Ningqiang are over 51 years

old, with 38 percent that age in Yangling and 31 percent in Mei County, respectively. In Ningqiang, as much as 26.8 percent of the respondents are above 60 years old. The poorer the region, the more serious the aging farming situation is. With less opportunity for making money locally and the low returns for farming, rural women in their 40s and even in their 50s in Ningqiang still go out of their hometown to find some off-farm employment to support their families.

Based on interviews with the local people, the elderly in farming in Ningqiang work on their farms during the day and go to bed early. For the very few relatively young people in their thirties and forties, apart from watching TV, there is no entertainment and they go to bed around 10pm. Before, every household had a relatively large piece of land, planting corn, potatoes, and beans. Since 1999, in response to the state's 'Returning farmland to forest' program, each household follows the policy and they now have just a small piece of land left for the elder to do some farming.

Of the three research areas, rural women's educational attainment also shows distinctive difference (see Table 4-4). Rural women in Ningqiang have the lowest educational attainment, those in Mei County rank second, and Yangling is the best of the three. The illiteracy rate among rural women in Ningqiang is more than one fifth of the respondents. Half of them only have primary education or even less, and only 26.5 percent have middle school education. However, for respondents in Mei County, compared to those in Ningqiang, the illiteracy rate is ten percent less, with around one fifth (17.1 percent) who only had one to three years of primary schooling. Altogether, 35.5 percent of respondents in Mei County are illiterate or have less than primary schooling, while nearly half of the women have had middle school education. In contrast, only one respondent is illiterate in Yangling, and no

respondent in Yangling has less than one to three years of education. The majority of the respondents in Ningqiang only have four to six years of primary school education, while in Mei County, the majority of the rural women have a middle school education, and 18.4 percent received high school education; one person has higher education.

Rural women in Yangling either have middle school education or high school education, with the same 39.1 percent. Furthermore, 3.3 percent of rural women in Yangling received higher education. The reason for rural women’s higher educational attainment in Yangling is most likely due to Yangling’s specific location: within a small area of 94 square kilometres and also being the birthplace of Chinese agriculture, there are seven teaching and scientific research institutions in Yangling⁹ which, for decades, have had a strong impact on local people’s notions about education.

Table 4-4. Comparison of Rural Women’s Educational Attainment

Years of education	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
0	17	20.5	6	7.9	1	1.1
1-3 years	6	7.2	13	17.1	0	0
4-6 years	35	42.2	8	10.5	16	17.4
7-9 years	22	26.5	34	44.7	36	39.1
10-12 years	3	3.6	14	18.4	36	39.1
=>13 years	0	0	1	1.3	3	3.3
Total	83	100	76	100.0	92	100.0
Missing	3		0		3	
Total	86		76		95	

Apart from aging farming and low educational attainment, rural women in Ningqiang normally have some serious economic issues in their daily life. Of the 86 respondents in

⁹ The seven teaching and scientific research institutions in Yangling are Northwest Agricultural University, Northwest Forestry College, the Institute of Soil and Water Conservation, Northwest Institute of Water Resources’ Science, Shaanxi Academy of Agricultural Sciences, Shaanxi Provincial Academy of Forestry, and Northwest Institute of Botany. In 1997, the seven merged and became today’s Northwest A&F University.

Ningqiang, 14 percent of the respondents maintained in the questionnaire that they were too old to do anything else but farming. Eight percent said they were not in good health. NFW 17 wrote she had lost ability to work due to an injury in migrant work. With a debt of RMB 120,000, her husband and two daughters all went out of the province to do migrant work. NFW45 wrote she had a disabled adult child at home who she needed to care for. NFW33 has two children who are students (one in university and the other in high school, but both need her to supply high tuition fees), plus she has an elderly mother to look after. Having had a harsh life already, she planted cabbages in 2015 following the local government's calling, but could not sell them when it was time to harvest, which made her situation worse. NFW 57 wrote her husband was injured in an accident while doing migrant work and could not work, and she has two children (one 16 years old and one nine years old) in the household to support.

The ratio of left-behind women in the three regions can be seen in Table 4-5. Ningqiang and Yangling are two research sites in sharp contrast regarding their natural condition and rural economy, but the left-behind women rate is very similar. This can be interpreted by the state's different land policies: in Ningqiang, the policy is 'Returning farmland to forest', while in Yangling, it is 'land circulation', either in the form of a land bank or land expropriation pushed by local government. However, they all have the same effect on local people's choice of off-farm employment. With little or even no land left to farm, local male labour in the two research sites all choose to go out of their rural hometown for off-farm employment, mainly on construction sites.

Meanwhile, the left behind rural women ratio in the research site Mei County is about sixteen percent lower than the other two regions. This is because local farmers can make money in

the strawberry industry there, thus reducing some of the necessity for men in the villages to leave their land and hometowns to find off-farm work to make money. However, due to the comparatively high economic return from migrant work, 20 percent of respondents in Mei County are still left behind women.

Table 4-5. Ratio of Rural Women as Left-behind in Three Research Sites

Are you a left behind woman?	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Yes	22	36.1	13	20.3	36	37.9
No	39	63.9	51	79.7	59	62.1
Total	61	100.0	64	100.0	95	100.0
Missing	11		21		1	
Total	86		86		96	

Social connection can reflect a rural household's social capital. In China, a society puts a great weight on *Guanxi*. Having household members working in official branches has many implications, such as they may have a special channel to get key information and, thus, take advantage of it. As seen in Table 4-6, 85.5 percent of households in Ningqiang have no one working in an official working unit, but the rest of the households have one member working in an official work branch. In Mei County, although the majority of households still have no one working in the official branch, the figure drops and the situation tends to be better. Of them, 17.2 percent has one person working in the official branch, and there are even 6.3 percent of households in Mei County having two or more members working in the official branch.

Table 4-6. The Social Connection of Rural Households in the Three Research Sites

Any person in the household working in the government unit?	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
No one	65	85.5	49	76.6	28	29.5
One person	11	14.5	11	17.2	49	51.6
Two persons	0	0	1	1.6	16	16.8
More than two	0	0	3	4.7	2	2.1
Total	76		85		95	
Missing	10				1	

Unlike those in Ningqiang and Mei County, the majority of households in Yangling have at least one member working in the official branch, and 18.8 percent of households have one or more than two household members working in the official branch; no one in the household working in an official branch is the minority. In short, the social connections in Ningqiang are the worst; Mei County ranks in the middle, and Yangling is the best.

The reason for n 20 percent of respondents in Yangling and Mei County having family members working in an official branch are because of their location: for one thing, both regions are not far away from the capital or large cities in Shaanxi Province, like Xi'an, Baoji, and Xian Yang, and the transportation is convenient for mobility. Meanwhile, the two regions on their own are relatively well developed, thus it is easier for them to have these kinds of social capital. In contrast, respondents in Ningqiang are living in a mountainous area within a relative close community; they do not have much access to the outside world, so most of them show no social connection with it.

4.1.1.2 Understanding State's Land Policy and Attitudes towards Farming

Currently working at the forefront of agriculture, rural women's understanding and support is critical to evaluate how the state policy is spread. Meanwhile, their attitudes towards farming can reflect the status of farming in society. Table 4-7 shows that 57.3 percent of rural women in Ningqiang do not understand or do not know much about the state's land policy, and 24 percent even disapprove of it. This is mainly because of its remoteness, low literacy, and aging issues of the sample exposed in the study.

In contrast, more than half of the rural women both in Mei County and Yangling express that they support the state's land reform policies. Some of them even said that they are good for moderate-scale farming and release surplus labour from the land. This again proves the higher literacy rate of the rural women in the two regions as the good location with advanced transportation allows them to have a better understanding of the national land policy and, thus, it was relatively easier to keep pace with the times.

Table 4-7. Understanding of the State's Land Policy in the Three Research Sites

Rural women's attitude toward state's land policy	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Don't understand	43	57.3	12	15.8	10	11.2
Don't care	3	4.0	10	13.2	13	14.6
Support	11	14.7	43	56.6	50	56.2
Disapprove	18	24.0	11	14.5	16	18.0
Total	75	100.0	76	100.0	89	100.0
Missing	11		29		7	
Total	86		105		96	

With their income mainly from farming, rural women's attitudes towards it can, to some extent, reflect farming's status in society (see Table 4-8). In Ningqiang, about 70 percent of

the respondents think highly of the household's farming status. This is mainly because of the aging farmers there and farming being the only source of income for this group of people. In contrast, in Mei County and Yangling, only slightly more than 20 percent think farming is important, and around 10 percent choose farming as being very important. This shows that even in rural areas, the more economically developed the place, the less the people value farming. It is even more surprising that those respondents with a leading industry, strawberry farming in Mei County, value farming less than those in Yangling, where around half of the land has been transferred or expropriated.

Table 4-8. Rural Women's Attitude towards Farming

Rural Women's Attitude Toward Farming	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Not important at all.	4	4.9	10	14.3	11	12.0
Not important.	8	9.8	12	17.1	18	19.6
No opinion	12	14.6	25	35.7	28	30.4
Important	41	50.0	14	20.0	21	22.8
Very important	17	20.7	9	12.9	14	15.2
Total	82	100.0	70	100.0	92	100.0
Missing	3		26		4	
Total	85		96		96	

Although there is a general depreciation of farming among farmers in China (Yang, 2013), it is still unexpected that rural women for whom farming is the leading industry from which they derive their primary income do not think highly of it. Farming is known for being time consuming and energy demanding compared to the efforts rural people put in and the money people make from off-farm employment. Therefore, it turns out that rural women do not value farming much even though it takes up almost all of their time and energy. Meanwhile, the heavy workload makes their life almost unbearable. According to a woman cadre there: if

a little baby girl cries much or is annoying, the adults in the family may scare her with words like ‘if you keep being like this, we will give you to a rural household in Huaixi village’, which implies that the rural women’s workload in the village is too heavy to endure.

Furthermore, as to whether she encountered challenges in farming and attendance at agricultural technical training experience (see Table 4-9 and Table 4-10), 74.7 percent of rural women stated they have challenges in farming in Ningqiang, but only 10.3 percent said they attended some agricultural technical training. The same thing happened in Mei County: as little as 15.9 percent of rural women claimed that they attended agricultural technical training, yet a high 82.9 percent said they encountered difficulties in farming.

Table 4-9. Rural Women’s Challenges in Farming

Any challenge in farming?	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Yes	59	74.7	58	82.9	39	41.9
No	20	25.3	12	17.1	54	58.1
Total	79	100.0	70	100.0	93	100.0
Missing	7		35		3	
Total	86		105		96	

In contrast, 58.1 percent of rural women in Yangling chose that they do not have challenges in farming, and 44 percent did attend some technical training. The reason for more than half of the respondents saying they had no challenge in farming is mainly because they have become landless and have no farming due to the land bank and land expropriation. Farming is not the primary living pattern for local people. While 44 percent still attended some technical training, this is because the advantage that Yangling has as the only national Agricultural Hi-tech Demonstration Zone to access technical agricultural resources.

Table 4-10. Attendance of Agricultural Technical Training

Have you ever attended any agricultural extension?	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Percent	Frequency
Yes	8	10.3	11	15.9	37	44.0
No	70	89.7	58	84.1	47	56.0
Total	78	100.0	69	100.0	84	
Missing	8		7		12	
Total	86		76		96	

4.1.1.3 Rural Women's future plan

Rural women's plans for the near future are studied to determine if there are sustainable development differences in the three sample sites (see Table4-11). 41.9 percent of rural women in Ningqiang said they did not have plans for their future. This is most likely because of their remote mountainous conditions, and their old age and health issues. In addition, 32.3 percent of rural women in Ningqiang chose farming as their plan, which equates to keep on doing what they are doing now. Although 24.2 percent of the rural women in Ningqiang showed interest in being self-employed one day to make money, most of them added that they lacked funds and, thus, found these dreams hard to fulfil. In short, rural women in Ningqiang has a passive attitude and were stuck in their economic debt unless there was some outside intervention.

As to rural women in Mei County, they showed consistent enthusiasm (53.5 percent) for farming. This is not surprising as strawberry and kiwifruit have been their leading industries with relatively good profits, and rural women there are willing to rely on them. However, 23.9 percent of rural women said they have no plan, which means they will keep moving on

with their current life because of age and low literacy. One third of them are satisfied with their current life.

Table 4-11. Comparison of Rural Women’s Life Plan in the Three Research Sites

Plan for future	Ningqiang		Mei County		Yangling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
No specific plan.	26	41.9	17	23.9	15	15.7
Farming	20	32.3	38	53.5	20	21.0
Off-farm work	1	1.6	4	5.6	34	35.7
Start and run a business.	15	24.2	12	11.4	26	27.3
Total	62	100.0	73	100	95	100.0
Missing System	24		3		1	
Total	86		76		96	

The same question answered by rural women in Yangling illustrates that as many as 72.6 percent preferred to engage in local off-farm employment, and 15.5 percent selected no plan. The high percentage for rural women choosing off-farm employment in Yangling is because of their fast pace of urbanization. Being landless, they have to find some off-farm employment to make a living. However, due to their middle-aged realism and gender division of labour, mainly as care providers, their choice is restricted to local off-farm employment. Choosing no plan for the future implied they were at a loss in the transitional stage.

In short, of the three regions, rural women in Mei County have a relatively clear plan in life. They want to keep on engaging in farming, earning money, and making life better. Rural women in Ningqiang are comparatively old and trapped in the mountainous area, and have no other choice but to do farming. Yangling women showed little interest in farming due to their current landless situation and wanting to make money from non-farm work.

4.1.2 Interview Results from the Three Specific Research Sites

4.1.2.1 Luoquanyan Village in Ningqiang

Located in the southwest of the county bordering Sichuan, Luoquanyan village is one of the poorest villages there. It is 26 kilometers away from the town government and 68 kilometers from the county capital at an altitude of 1,200 meters. The village consists of five groups with 247 households and 938 people. Among them, women make up 44 percent of the population, and 56 percent of women are engaged in agricultural production. There are 38 bachelors who cannot get married and one third of the populace is under 16 years old. The elderly makes up 40 percent of the total population. Fifty percent of the villagers go outside the village to other provinces as migrant workers, leaving the village labour force generally illiterate or with just primary school education.

The ratio of wage income to agricultural operation is 4.037; indicating that the main income of the villagers is from wages, with villagers' net farm income at 3,550 yuan / person. Most of the arable land is on the hillsides, so that mechanized farming methods are unable to be implemented. Per capita arable land there is 1 mu/person, and the land is terraced slopes. The irrigation there is dependent on the weather, and excessive rains always cause floods. Farmers rarely use agricultural science and technology in farming production, but sales of agricultural products to market are difficult as no merchants come to collect them. There are grain seed subsidies, agricultural subsidies, and subsidies for household appliances, household subsistence allowances, cooperative medical care, and the new rural cooperative medical care. Micro loans are available, but the procedures are too complicated for locals to get them. Villagers sometimes get climate information through television, but there is a lack of initiative and they find it hard to obtain market and technical information. The types of

crops grown there are corn, potatoes, beans, herbs, and mountain-type vegetables. The main animals are pigs and chickens. Villagers mainly get assistance from relatives and friends. In addition to a village committee, there is a mountain vegetable cooperative, but the villagers' participation is low, thus there is no actual operation.

The village was also severely affected by the earthquake in 2008. Although the government offered some funds to local people for post-earthquake reconstruction, it was far from enough. Most of the households took out loans, and some cannot pay back the interest in time and their names are now on the banks' black lists. Although there are many newly-built two-storey houses, beautifully scattered in the rural area, the story behind them is that they are literally empty houses as most of the owners mainly rely on going out as migrant workers to make a living and repaying their loans.

The reason that local people spend almost all their money on house building is due to traditional ideas. Clothing, food, accommodation, and mobility are customarily considered as the four basic needs for ordinary Chinese. Accommodation is the one often valued by peers, the neighborhood, colleagues and, unknowingly, oneself. It is such a common and unconscious idea that most Chinese take it for granted. Whether in rural or urban areas, if a young man wants to marry a girl, the first condition he or his family must meet is that they should have a newly-built house or buy an apartment for the young couple. Therefore, having a well-built house, that is equal to or better than other houses in the neighborhood, can reflect a family's economic status. It is the economic identity of the household, so it is important that the other rural households in the neighborhood do not look down upon the family.

In addition, in recent years, with the implementation of the 'Return farmland to forest' policy, local ecology has been restored a lot. However, one resulting side effect is that there are more

wild animals, which always appear in peasants’ fields and do harm to the crops and make local people’s economic situation worse. These disasters add to the vulnerability of local agricultural production, and ordinary villagers do not have effective ways to respond. To reduce the loss, they have to use frequent inspections and firecrackers to scare away the animals.

The biggest farming challenge in Ningqiang (see Table 4-12) is the shortage of hands to do the work. Clearly, this is because the young and middle-aged people all leave the province to find work, and aging farming is severe. Its mountainous farmland has made it impossible to do mechanized farming there, and most of the rural households still use cattle to plough the land. Selling becomes the second big challenge for rural women in Ningqiang. This is mainly because of its remote location: it is difficult for local women to sell their products, such as edible fungi and herbs, to the outside world, although they are organic and environmentally friendly and of a high quality. Constrained by their remoteness, selling is a big issue that has become the norm.

Table 4-12. Ranking of Challenges in Farming in Ningqiang

Challenges in farming	No.1.	No.2	No.3	No.4	No.5
Ningqiang	Shortage of hands	Selling	Lack of technique and knowledge	Lack of marketing channel	Impractical policy

4.1.2.2 Huaixi Village in Mei County

Huaixi village is located five kilometres east of Huaiya town in Mei County, in the Baoji prefecture. The southern line of the Xi-Bao Route naturally separates the village into two parts. The village has 620 rural households and 2,388 people, of whom 1,106 are women. The

per capita annual income of the village was 12,000 yuan in 2015, and the per capita income of strawberry and peach orchard farmers is 1,816 yuan, accounting for 75 percent of their total income.

Women are the main farming labour force there, and the yield is mainly subject to the weather. The remaining land area is planted with wheat and corn crops. The animal breeding industry at Huaixi village is done by individual households and is based mainly on pigs and cattle. It is also regulated by the market, and the income is not stable. Due to the low agricultural income, 20 percent of the men work outside the village, and the whole process of strawberries from seed planting to fruit collection is mainly operated by the female villagers.

What is more interesting is that the survey results of rural women's agricultural technical training attendance in Mei County went against the outcome of interviews with the village cadres. Through interviews with the village leaders at Huaixi, plenty of technical training was held in 2015. Furthermore, the contents of the training were rich: in spring, training was given on the introduction of new varieties, usage of fertilizer, and ways of irrigation. In winter, it was on soil treatment, handling virus damage, and organic fertilizers and manure. Villagers know very well the benefits of scientific farming and show great interest in participating in training. Each time, when there was training, villagers would sit crowded in the training venue, and it always turned out there were not enough seats for attendants. However, the survey shows only 15.9 percent of rural women attended the training, so what happened to all the training? It can only have one explanation: there are various trainings offered, but rural women working at the front line of farming have not received much training. In addition, although only 15.9 percent of rural women attended training, 82.9 percent of respondents in Mei County said they encountered some challenges in farming. As to why

rural women do not participate in technical training, Mei County’s respondents’ answers are more representative. There, 63.1 percent of rural women said no one organized training or they did not know where the training was. When asked how they solved their farming problems, 42 percent of rural women respondents in Mei County said they had no way out but were stuck with the status. However, 33.3 percent of respondents said they would solve the problem through working longer hours or seeking advice from others with more experience, find answers on TV, or simply transfer land to others. Two of the respondents answered they would just take care of the household chores and the children, and let it be. Only one of the respondents has the awareness to ask the government or relevant official branch for help. Their answers, to some degree, show rural women are passive and in a desperate situation. Even in Mei County, farming is well-developed in the form of a mature, leading industry and technical training is carried out, but they still cannot really reach the ordinary, needy rural women, and they are left to rely on their own autonomous and passive way to solve the problem or simply let it be and leave the land idle.

Table 4-13. Ranking of Challenges in Farming in Mei County

Challenges in farming	No.1.	No.2	No.3	No.4	No.5
Mei County	impractical policy	selling	lack of marketing channel	lack of technique and knowledge	shortage of hands

To rural women in Mei County, the No.1 challenge in farming is impractical policies (see Table4-13). Rural women say they do not know much about relevant national agricultural policies and how they are implemented by local officials. Selling is the second major challenge. This is because strawberries have a very short storage time. When strawberries

ripen, they need to be sold as soon as possible because even one day later may mean they are no longer fresh. Strawberries can also quickly rot after being picked, so farmers' work might have been in vain if they cannot sell them quickly, thus bringing them great loss.

4.1.2.3 Yangling: Complicated Land Situation

Respondents in Yangling were not from one village, but randomly chosen from the whole region. Of the 95 respondents in farming in Yangling, sixteen say their households have already no farming at all and eight respondents say their parents do the farming for the households, so one fifth of the sample is not involved in farming at all. 27 said they do farming by themselves and thirty-nine with their husbands, but only five hired extra help. While there were 59 rural women surveyed as off-farm workers from Yangling, 22 of them have no one doing farming in the household due to no land, and 15 said their parents are doing the farming now. In other words, 62 percent of the respondents in Yangling do not do farming anymore. To sum up, of the rural women involved in farming and off-farm activities, one third of the rural households surveyed in Yangling have no farming now, plus 15 percent of the respondents replied that farming was done by their parents. Therefore, nearly half of the rural women in Yangling are detached from the land, and aging farming is also seen there.

In the survey, there are twelve respondents in their late 40s and 50s who work at the same jobs in the Northwest A&F University, as Dormitory managers of the Students' Residential Building. Their main duties are to make sure the students in the building use the facilities in their dormitories safely, make sure the outside visitors sign in and out, lock the building's main door before 11:30 pm, and unlock the door after 6:30 am. Work like this does not require much skill and literacy; thus, jobs like these are mainly taken by local rural women. Like the results found in the other two survey areas, there are no significant correlations of

women who do farming or off-farm work with their marital situation and family size in Yangling.

The household head's education makes a significant difference on women's choice of farming or off-farm work in Yangling. If he is reasonably educated, with seven large institutes in relatively small Yangling, it is easy for the husband to find a job in one of them, also allowing him to find off-farm work for his wife or other family members. Meanwhile, any family members working in the official branch make a significant difference for rural women's choice of working area (*Guanxi*).

For one third of the rural women in farming in Yangling, their households' income in 2015 had averaged RMB 45,000, in contrast, the income of those engaged in off-farm work were much lower. This is probably because if they are employed in off-farm work, most of them take some local, easy jobs with no technological requirements and a salary of around 1,500 yuan per month. In addition, their husbands' income in an institute is normally up to 50,000 yuan per year. However, those who have small businesses are in a better situation.

For those engaged in farming and leased in some land, they not only have income from farming, but most of them also have income from migrant work which, although demanding, they still manage it well and have a relatively higher income. Meanwhile, if they do moderate scale farming of kiwifruit, one of the local prevailing cash crops, the income is also quite good. By doing this, they cannot only make some money to improve the households' economic situation, but they can also take care of family members in need and their households. It also has some emotional benefit: they feel less lonely or isolated by staying close to family members.

For Yangling, as the state's only agricultural hi-technology demonstration zone, there is a widespread slogan which says: 'To know what modern agriculture is, go and have a look at Yangling'. One of the major characteristics of modern agriculture is to change previous small-scale farming to moderate scale operations. Therefore, the speed of land transfer in Yangling is fastest in Shaanxi. Based on the sample in this study, about 40 percent of farmers have their land either put in a land bank or expropriated, both of which are mainly implemented by local government.

However, during this research, it was found that land circumstances in Yangling were very complicated. It varied from village to village and even within a village. Based on interviews with local village cadres' (village secretary's descriptions and village women representatives), three more villages in different towns with different land circumstances were introduced here to illustrate the diversified land status in Yangling and its impact on local people, especially on rural women.

i) Shuaijia Village, Wuquan Town

The rural households at Shuaijia village all participated in government-pushed land banks. Since 2012, 940 mu of the total 1,500 mu of arable land in the village was gathered in the land bank and managed by a full-time director in the village. The land was rented out at a price of 700 yuan/mu/year, and every four years the rent would increase by 10 percent. Altogether, the land bank has three layers of administration: The Regional Industrial Office, the local Farming Management Station, and the village committee. Until 2015, altogether five enterprises — Kanglong Mushroom Industry, Huicheng Fruit Industry, Tianhe Mushroom Industry, Qinbao Breeding Industry, and the Luyuan Cleaning Company — have rented land from the land bank and set their factories near the village.

Due to being close to the enterprises' factory sites, villagers have more work opportunities. Young people in the village are usually employed to do some technical work in the factories, and the elders do some odd work and are paid by work ticket every day. Farm work in the enterprise is not that demanding as traditional farming. Therefore, the populace in the village is relatively stable with no unemployment, and the villagers live a busy peaceful life.

The village still has around 400 mu of sloping land, which is within the regional plan of 1,000 mu of the kiwifruit demonstration garden. The village collected the land and erected the timber stakes with unified standard for planting kiwifruit then gave it back to relevant villagers to manage. Meanwhile, the village committee dug three wells with underground pipes for villagers to solve the local drought problem. There were more than ten sessions of agricultural training on kiwifruit, pesticides, and the use of fertilizers arranged by the village cadres in 2015.

As to the operation of the land banks, the village director of Shuaijia village said, in terms of the management of land banks, it was the No. 1 in Yangling. Assuming the rent is due in March, they will remind the companies in February, so the villagers could always get the rent paid in time. However, in other villages with land banks, villagers are not that lucky. During an interview with the secretary of Jiangzhouli village, he said the one responsible for the land bank in their village with 1,000 yuan a year as remuneration could not do the job satisfactorily. According to Le Wang and Xia (2012), from farmers' awareness of land banks and their satisfaction with the land banks' design, implementation, and land bank service, the authors found that rural households' satisfaction with the operation of the land bank in Yangling is generally at a level lower than middle.

ii) Bailong Village, Rougu Town

Bailong village has put its total arable land of 2,045 mu in a land bank with a rent of 700 yuan/mu for twenty years, with an extra 500 yuan as a complement from the township government. Altogether, peasants receive a rent of 1,200 yuan/mu/year. The villagers are given an account number and can claim their rent at the end of the year. The original land size distributed by the village for one person was 1.1 mu, but now one person only has 0.1mu of land left, which can only harvest two bags of wheat and two bags of corn. The villagers have no other income except the rent. The land is assumed to be leased out by some external investors; however, three years have passed, and the land is still idle (at the time of the researcher's field trip). Villagers do not know what the land is going to be used for.

Currently, 40 percent of the labour force in the village goes out as migrant workers, and the remaining 60 percent can only occasionally find some part-time or temporary jobs. In a sense, they are unemployed and idle. Compared to the year of 2014, the state's real estate market has had a downturn, and the economy was not good. Many rural men could not find a stable migrant job, usually at the construction sites, so they came home earlier in November in the winter of 2015. At noon, when the winter sunshine was good, villagers all came out, sat in the warm sunshine 'like a swarm of thick cloud' (borrowing the woman representative's words) to kill time. They were waiting and expecting the spring (March) of 2016 to come. When the weather got warmer, they could go out and find some off-farm work again. Women, as usual, do some needlework and household chores. The young women in the village might find a job, either at the local market or in a service industry.

When asked what villagers think about the land bank, the director of Bailong village in Yangling said the following words:

To those villagers originally engaging in small-scale farming, land bank is a good thing as their income increases now through both rent and wages. But to those who previously did farming well and engaged in a variety of farming business and who accounted for one third of the farmers in the village, they are dissatisfied. As they can only get the rent from the land now, their income is much less than before. In addition, this group of farmers, they know well about farming, yet do not have any other skills, so they don't want to leave their land to do off-farm employment. However, now if they want to lease land back from the land bank, the rent is 1500 yuan/mu, 300 yuan more than the rent they get from their land.

Meanwhile, they need to prepare a series of documents, including filling in various kinds of forms, meet some requirements such as having facilities planning. Furthermore, they need to pass experts' and professors' assessment. So it is impossible for them to meet the high ritual criteria, therefore impossible to get their land back.

In short, land in Bailong village, on one side, has been idle for three years; on the other side, villagers have neither land nor wage income, and the unemployment is severe. The whole village is at a state of waiting and does not know what to do next.

iii) Nanyang Village, Yangling Jiedaoban

Nanyang village has 408 households with 1,100 mu of arable land. The land situation in Nanyang village is different because of the division of the Yang Fu Road. To the west of the road, all the land was expropriated, but to the east, no land was expropriated. Altogether, 300 mu of land was expropriated, and the village now has about 800 mu of land left.

Land was expropriated three times in Nanyang. The first time, 60 mu of land was expropriated by two industries with a price of 40,000 yuan/mu. The village committee kept 3,000 yuan as the village's public fund, and every villager in the end only got an average of 3,000 yuan. Looking back, villagers realized the compensation was too low, and it was not worth much at all. The second time, 130 mu of land was taken away at the price of 17,000 yuan/mu. Meanwhile, farmers' also get relevant 'double eight hundred' (eight hundred jin¹⁰ of corn and eight hundred jin of wheat) as a subsidy every year. There have been three years of regular subsidy distribution so, now, villagers there do not need to farm.

As to the third time, 70 mu was taken away for infrastructure construction. Now, it is the fourth time. The village and the enterprise are currently negotiating, with a few village representatives to participate in the negotiation. As both parties cannot reach an agreement on the price, the contract has not been signed yet.

The impact of household land change on female villagers varies. Those who are relatively young in their 20s have more chance to go out and find a job. For those between 30-40 years old, when their children grow a little bit older and become harder to discipline by the grandparents, they would come back to take care of their children. In the meantime, they would either find a job at one of the local supermarkets, institutes, or just some local temporary jobs, such as a local service team to give assistance to rural households at weddings or funerals. For those close to their 50s and above, usually their husbands do the farming and the women cook at home and take care of the households and grandchildren if they have any.

¹⁰ 1 jin = 0.5 kilogram.

A 55-year-old woman professional farmer (PWF) described the rural women's situation in the village:

The villagers already have no farming land left for seven to eight years, and rural women in the village of my age, only I work now. All the other women do nothing, and do not want to do anything.

The PWE 1 was in charge of a cooperative worthy of 800,000 RMB in assets with 8 rural households in. The cooperative has been running for ten years. However, because the village land is to be sold at any time to a power plant and has been discussed with the village committee¹¹ many times, the whole village is soon moving to apartments. PWF1 said her cooperative might close at any time, and it was beyond her control. As an individual, she can do nothing, but accept her loss.

I initially contracted 30 mu of land for 15 years at the price of 500 yuan/mu for my cooperative. In 2014, when the contract was to expire, the village committee gave me two options: either they keep the contract fee as 500 yuan/mu, but later they will extract 10 percent of my relocation compensation fee¹² for all of my cooperative property after they sell the land. Or, they simply increase my contract fee to 2000 yuan/mu now, and will not charge extra from my compensation fee. I later chose the former. Meanwhile, I reduced my contracted land size to 10 mu, which is only one third of my previous scale.

¹¹ Chinese farmers only have the user right of land. Village collective is the legal owner of rural land and is the major agent in the transformation of rural land institutions. The compensation fees are directed to village collectives, not individuals (Lanchih, 2008).

¹² According to Constitution Article 9, 1982, *The Status of Land Requisitioned for the State Reconstruction*, compensation fees for land requisitioned include land compensation fees, resettlement fees, and compensation for attachments to or green crops on the land. In particular, the land compensation fees shall be 3-6 times the average output value of the three years preceding the requisition of the cultivated land (Lanchih, 2008).

It is clear a woman professional farmer cannot have her rights protected in the process of land expropriation, not to mention the ordinary villagers. Similar circumstances are happening in other villages in Yangling. For example, the government in 2013 expropriated all the land in the Caoxinzhuang village. Now, there is no land left, and most of the young people have left the village to find off-farm employment. Women in the village usually do not have any off-farm activities. For those husbands who are migrant workers, the wives take care of the children and the elderly. If they have someone to look after the children, women usually find some temporary work locally, such as in local supermarkets and factories, with unstable incomes.

To sum up, land banks and land expropriation are carried out quickly yet also at different scales and paces within Yangling. These have different impacts on local farmers. For the individual villages, like Shuaijia village, due to the village committee leader's strong sense of responsibility, farmers were satisfied with the operation of land bank and could get their rent on time. Actually, the director of Shuaijia village committee is so good that she had been rewarded as one of the best village secretaries in the area. Lanchih (2008) also claims that at grassroots level, public officials are often important economic actors. However, for villages like Bailong and Jiangzhouli, are not satisfied with operations of land bank, which agrees with the results of Le Wang and Xia (2012) on the operation of land banks in Yangling.

Meanwhile, the inconsistencies of the land expropriation policy in Nanyang village show the villagers' land deprivation process. For one thing, no one really cares about ordinary farmers' interests. For another, only a handful of village committee members and very few village representatives who participated in the negotiations. Farmers normally do not know well the land value. Neither do they have the ability to assess the market value of their land. When an

outside purchaser with some resources or from a large corporate background or even a government background comes and offers a price to them, an imbalance between the two parties will arise, and farmers, needless to say, are always the ones to give in. The compensation standard is normally low, irrational, and inconsistent, and farmers' rights could not be assured.

When it comes to the impact on individual farmers, the speed of the land banks and land expropriation made local rural unemployment serious. Farmers' interests could not be well protected in the transfer process, and landless farmers, especially women, cannot be properly placed. Similar reports can be seen in Wang (2013). Even one ordinary rural woman in Yangling expressed her concern in the survey:

Without land, can farmers still be called farmers? Without land, solely relying on the income from off-farm work, peasants' needs for food, kids' education and medical care cannot be met. Now farming is not important because the grain price is low. But if one day the grain price increased, then it is a serious problem for peasants have no land. As no land, no income, how can peasants feed their family?

On Training

Accompanying the fast pace of land expropriation and land transfers in the form of land banks, it must be admitted that the Yangling government has provided training to local landless women to assist them to transition smoothly to non-farm sectors. Sponsored by the local government, the trainings were operated by local vocational schools. However, the results of the training were far from satisfactory. What was the local rural women's response to the training? According to the Director of Shuaijia village committee:

In 2015, training carried out in my village added up to two months. The content was on embroidery, cooking, and knitting. However, women showed little interest in them. As the trainers were young and energetic, they often played with the women villagers during the training breaks, such as teaching them some popular folk dance. So for locals, the training was more like something fun to kill time.

One of the cadres from Yangling Women's Federation in charge of organizing training said that the government had very good policies, but farmers were lazy. Based on her statement, farmers sometimes said they wanted some kinds of training, but when the training was really held, farmers just did not attend. She said it was because rural people prefer to do some temporary work and make money instead of spending their time on training, as they wanted some quick cash. In her words:

Farmers are short-sighted. Currently, there are various kinds of training in rural areas, but rural people are busy and have no time to attend. What is worse, some of them attending training even asked to make up their loss due to attending the training.

However, one of the professional women farmers in Jiangzhouli rural community, PWF2, said some truth about the low attendance of rural women in training:

Vocational schools, like Jinbiao, Xinhua, and Zhihui, sponsored by the government, offered villagers training ranging from handicrafts, paper cutting, knitting slippers, making tissue boxes, etc., but not many women interested. As if they do some local off-farm work a day, they can earn 50 yuan, but with that

training skill they learned, and do it a whole daylong, they can only make 30 yuan/day. In addition, some of the skills (like embroidery) hurt rural women's eyes.

It turned out that only the technical school carrying out the training made some money. The female farmers got very little benefit from the training, and most of them still idle around and have nothing to do. The local government, except wasting lots of money, did not accomplish their training purpose.

The cold welcome of training offered by the local government in Yangling reinforces the importance of gender sensitivity in the design of training projects. Rural women's technology needs, knowledge and labour division within family and community are significantly different from men. Training that does not acknowledge these differences or is not sensitive to the differences will certainly lead to common problems like 'farmers are short sighted', and women's low participation. Designing and developing gender-sensitive and demand-led programs requires specific objectives and careful assessment before the implementation of the training project.

Rural Women in Professional Women Farmers' and Cadres' Eyes

The Chinese central government is advocating a new type of farmer for modern agriculture, professional farmers are the new agricultural operators who are working family farms or cooperatives. Professional women farmers are a very small, elite group of rural women that is currently growing in China. As professional women farmers are living among the rural women, issues related to the vast numbers of rural women and the training the government offered from their perspective could provide great insight into understanding the rural women's current situation. PWF1 said something like the following:

Their children normally have already grown up engaging in migrant work. Their grandchildren go to school, and not always at home, plus there are no social activities for them to attend, so they always say they have no need to buy clothes. However, when it comes to buy something, they always feel expensive.

They prefer to stay idle. When they see I am busy, they tease me: 'Why do you want that much money? You see how much we are enjoying life now!' It sounds like how severely I am suffering by working. In fact, the more I work, the healthier I feel.

Her peer sisters in the village seem, on the surface, to envy what PWF1 is doing, the money she is making, and her satisfaction with what life has presented to her. However, in a deep sense, their attitudes also reflect rural women's passive situation as most of them, being in a landless situation, can do nothing but accept reality and get along with it. Just as PWF3 said:

Currently, rural young people all step into society and find some off-farm work in the city. To those left behind in countryside, most of them are around fifties and above. The characteristics of this group of women are that they have low levels of literacy and have little exposure to the outside world. Their communication skills are poor, and most of them do not know much about how to speak properly, thus they are easily involved in quarrelling over trifles, sometimes even for one or two yuan.

To most of the rural women, taking care of the whole family is the top priority of their daily life. Evidence also shows that household income is not fully pooled and shared (Dwyer & Bruce, 1988), and it has been proved that declines in income of poorer households may affect

women and children more than men (Elson, 1993). A woman cadre in Mei County, Xi, said rural women normally were not clear about how much the household actually made. What they know is working, working, and working.

PWF3 put it in the following way:

Rural people have more feudal residue; middle-aged women do not have much say within household and community. They need to take care of the household as well as the farming, especially nowadays the state's economy is not that good, there is little demand for workers of their age; enterprises don't want to hire employees of their age. They have a hard life.

When asked what hope she has for ordinary rural women, she said:

Hope they step out of their households, learn more, and improve themselves.

According to the government's social security policy, villagers, rural people from 60 years old on, start to receive a pension¹³ monthly. Although the pension is not much, around NZ\$30/month, US\$20/month, or UK£10/month, ordinary rural women are happy to have that hope, as they will have it one day within around ten years, but, currently, they can only wait.

The village director of Shuaijia village said:

They (rural women) take money so seriously that even after they have to know they have health issue, they will not go to see doctors, unless it was too

¹³ According to the director of Shuaijia village, Yangling, rural people who are above 18 years old and under 60 years old, excluding those students in school, on a voluntary basis, pay 145 yuan every month for their pension. From sixty years old on, the person can start to receive 145 yuan per month and the annual income is 1,740 yuan. When the person reaches 70 years old, he/she starts to receive 195 yuan per month (50 yuan extra every month); the annual income becomes 2,340 yuan. Once more, when the person reaches 80 years old, he/she starts to receive 245 yuan per month (extra 100 yuan compared to the 60 years old base). Villagers reflect that the pension policy is very good and give them a sense of security: As long as they are not sick, they cannot spend it all, and it is more reliable than their children.

serious to endure. More than half of the rural women in my village have gynaecological diseases, but they are so thrifty even mean to themselves, and keep ignoring it.

Most of the ordinary middle-aged rural women in the countryside are the direct sacrifice of the government's ongoing land policy and can do nothing but passively wait in the farming sector until they reach 60 years old to be covered by the state's security net, which, to the research subjects, normally needs around ten years. Before that, they can do nothing. They are thrifty, mean to themselves, and have to endure a boring life.

4.2 Rural Women in Off-farm Work

To achieve the goal of narrowing down the rural–urban gap and increasing farmers' incomes, the Chinese central government has been trying, on one hand, to reduce farmers' numbers and, on the other hand, to foster a team of professional farmers. As to reducing farmer numbers, the internal migration or rural–urban migration has played a major role. So, with China's fast pace of agricultural modernization and its stress on urbanization, more and more rural women are facing a choice of off-farm work.

Based on a survey of 101 rural women from Shaanxi, their off-farm working experience, how they got their jobs, and their barriers to off-farm work are investigated. It must be pointed out that off-farm employment in this study is a broad term, which can be a migrant worker, local-off-farm worker, and being self-employed as well. Given Shaanxi province in China is an agricultural province, it does not have many opportunities for middle-aged rural women's off-farm employment, especially at county or village level, unless the local government is able to attract outside investors to build factories locally. However, this would only apply to places with better locations, like Shuaijia in Yangling.

4.2.1 General Characteristics of Rural Women in Off-farm Sector

Of the sample of 101 women, 29 already have no land, thus no farming at all. Of the 29 landless rural households, twenty-two are from Yangling and accounted for 42 percent of the fifty-nine Yangling respondents in the sample. This agrees with the reality that, of the three research sites, the Yangling government purposefully launched the land bank and developed urbanization at a fast pace.

Table 4-14 shows the means and standard deviations of the age and education¹⁴ of household heads and rural women of the sample for rural women in off-farm activities. It can be easily seen that the mean of women respondents, on average, are a little bit lower than the household heads', both in age or education. This is in accordance with Chinese social customs.

Table 4-14. Means from the Survey of Rural Women in Off-farm Work

	Household head age	Household head education	Respondent age	Respondent education
Number	101	101	97	97
Missing	0	0	4	4
Mean	44.03	11.09	42.82	9.41
Median	45.00	12.00	43.00	9.00
Mode	45	12	45	12
Std. Deviation	8.936	3.024	8.404	3.071
Minimum	24	4	27	0
Maximum	72	19	68	17

The choice of middle-aged rural women's non-farm working sites being 'always local' took up more than 50 percent which, from another perspective, once again reflects and strengthens rural women's care-provider role characteristic (see Table 4-15).

¹⁴ Household head education and respondent education in this thesis all refer to years of formal education.

Table 4-15. Rural Women’s Off-farm Work Location

The location of your off-farm work	Frequency	Percent
Always in foreign place	15	15.8
Always local	54	56.8
Firstly went to foreign place, later local	16	16.8
First local, later foreign place	9	9.5
Not fixed	1	1.1
Total	95	100.0
Missing	6	
Total	101	

Of the respondents, 73.2 percent answered that they had not received any professional training (see Table 4-16). As to the question of how many jobs they had taken till the time of the survey, No. 73, a 45-year-old respondent, had had 15 jobs over the past 20 years. No. 82, a 41-year-old respondent engaged in off-farm work for 10 years, had changed jobs eight times, and four respondents said they had been taking many temporary jobs. As to the average working span for each job, 23 percent chose one year as their average length for each job, and 24 percent chose two years. It is easy to conclude that rural women’s off-farm work seems to be unstable, changeable, and will not normally last long.

Table 4-16. Experiences of Vocational Training

Have you ever attended any vocational training?	Frequency	Percent
No	71	73.2
Yes	26	26.8
Total	97	100.0
Missing	4	

As to the relationship of one’s choice of off-farm work with one’s household land change situation (see Table 4-17), the choice is close to half-half. This means that for nearly half of

the respondents, they chose the answer that their off-farm activities have no relationship with their households' land transferred or not. An interesting coincidence is that of all the respondents in off-farm activities, respondents from Yangling took up half. Given that land transfer rate in Yangling reached 60% by the end of 2015 and became the No.1 in Shaanxi Province, while the provincial land transfer rate was only 11.8%, it can be inferred that the half of respondents choosing there is some relationship is mainly from Yangling. Therefore, it strongly suggests for rural women in the inland province of Shaanxi, their off-farm work choice till now has nothing to do with the household land transfer situation.

Table 4-17. Rural Women's Off-farm Work with Household Land Transfer

Of the following, which one do you agree with?		Frequency	Percent
Valid	My household land transfer stimulated my off-farm work.	15	16.0
	My off-farm work stimulated my household land transfer.	16	17.0
	Mutual stimulation	17	18.1
	No relationship	46	48.9
	Total	94	100.0
Missing		7	

Whether land transfer stimulates one's off-farm work employment, or vice versa, the response rate took almost the same percentage, of around 16%. So, for an inland province like Shaanxi, the relationship between one's household land transferred or not and rural women's off-farm activities is mixed and there was no unified relationship between the two.

4.2.2 Comparison of Rural Women's First Job and Current Job

Of the 101 rural women in non-farm work, 22 have currently stopped non-farm work activities, of which up to 73 percent of these are because they need to take care of their

households, the elderly, and the children. As to the other six respondents not working anymore, three said the job was too demanding while the wages were too low. Another two stopped working because their households' economic situation improved. One said having her husband's income was enough. From the data, middle-aged rural women's off-farm employment is unstable, and the role as care-provider is still the major reason interrupting their non-farm work. Meanwhile, household economic situations and husbands' human capital are also key reasons for rural women's choices of non-farm activities.

As to the answering rate of the first job and current job, all the 101 gave answers to the questions of their first job. However, when it comes to their questions concerning their current employment, only 69 are valid (see Table 4-18), which means that, as time goes by, about one third have left their off-farm employment. Why did they leave their first job? Forty-five percent said the work is hard and pay low, and 22 percent said that because they married or gave birth. Therefore, the main reasons for rural women to give up their first job are harsh working conditions, low pay, marriage, and giving birth.

Table 4-18. Comparison of Rural Women's First and Current Jobs

Change of the type of jobs	First job		Current job	
	Frequency	Percent	Frequency	Percent
Number	100		69	
Farming	0	0	6	8.6
Work with no skill requirement (cleaner, waitress, blue collar worker in factory)	81.0	81.0	37	53.6
Work requires knowledge and skills (such as a teacher, technician)	13.0	13.0	10	14.5
Runs a small business (street stall, shop, restaurant)	6.0	6.0	16	23.2
Total	100.0	100.0	69	100.0
Missing	1		32	

Over the years, only four respondents or three percent said they now have a permanent job

and, of the four, two are teachers. The other two have stayed in their first jobs until now, working as a cleaner and waiter at NWAUFU. This suggests that off-farm employment for rural women is mainly informal, and they do not know how to deal with the issues reflected in their employment. Meanwhile, most of the off-farm employment shows a lack of sustainability.

The first job with no skill requirement took up 81 percent; those requiring skills took up 13 percent; and those self-employed took up six percent. Among the 69 valid questionnaires, 8.6 percent answered that at the interview time, they were engaging in farming, although jobs with no skills requirement jobs still take up the majority (53.6%). Work requiring knowledge and skills (such as a teacher or technician) is relative stable, and there is only 1.5 percent increase comparing to the first job. A big increase for rural women as their age ascends is that the percentage ‘runs a small business (street stall, shop, and restaurant)’ from only 6% at first job to current 23.2%, namely self-employed rose to around 17 percent in the current job. This reflected a phenomenon that, at middle age, the previously young rural girl who relied on others to find an off-farm job for them ends up with self-reliance (in the form of self-employed) after years of financial accumulation. (see Table 4-19).

This is understandable: as time passes by, along with rural households’ economic improvement, fewer middle-aged rural women would like to work for others with poor pay. Although their education attainment is not easy to improve since they left school a long time ago plus there are very few professional training, their literacy level could even become worse. However, their experience and household economic situation can get better, so running one’s own small business becomes their primary choice.

Although self-employment was not thought to be the driver of development in Lewis’s (1954) model, for people in China, it is a sign of development and shares many of the features of the productive small-business sector. Most of the rural self-employed were operating extremely small family firms that were labour intensive and used very little capital. However, the hourly earnings were higher than that of wage earners. Although relying on simple technologies and low levels of capital utilization, people were still attracted by the ability to earn relatively higher levels of income than the low unskilled wage that labour markets were offering. As to the change of working sites, working locally from the first job to the current job increased 20 percent.

Table 4-19. Comparison of Ways of Getting Jobs and Contracts Signed or Not

Comparison of how rural women get their jobs	First job		Current job	
	Frequency	Percent	Frequency	Percent
Introduced by relatives, friends, and family members	71	71.7	46	63.9
By oneself (apply, take exam, run one's own business)	28	28.3	23	36.1
Total	99	100.0	72	100
Missing	2		29	
Any contract signed for first job and current job?	First job		Current job	
	Frequency	Percent	Frequency	Percent
Yes	44	44.0	61	84.7
No	56	56.0	11	15.3
Total	100	100.0	72	100.0
Missing	1		29	

As to how they got their first jobs and current jobs, with 71.7 percent chose first job introduced by others and 63.9 % current job introduced by others, it implicates that social networks play a major role for rural women finding off-farm their first jobs (See Table 4-19). First job found by oneself, either through application, taking exams, or run one's own business, take up 28.3%, while current job found by oneself has a less than 10% increase.

Compared to their first job, contracts signed for current jobs are increasing, which reflects a good tendency: The labour market environment is getting better, and rural women can get more protection. Table 4-20 illustrates rural women preferring to work locally. It partially reflects that as care providers at middle age, rural women have more responsibility within households.

Table 4-20. Comparison of Rural Women’s First and Current Job Locations

Change of working sites	First job		Current job	
	Frequency	Percent	Frequency	Percent
Local	70	70.7	65	90.3
Foreign province	29	29.3	7	9.7
Total	99	100.0	72	100.0
Missing	2		29	

The 25 migrant worker respondents in Ningqiang present the following characteristics. Twenty-one of them went out as couples, leaving their parents or relatives to take care of their land. They came back in early January, 2016, either because there was no work at the time due to the cold weather, some health issue, or for the spring festival. In two of the households, not only the couple, but also their elder child (in their late teenage years or early twenties) all left their home town for off-farm work, but the work destinations for the two generations are different. Middle-aged couples normally went to the adjunct provinces, such as Shanxi or Xinjiang, and found physical work on the construction sites, while the younger generation normally went to the south and east coastline provinces of China, either working in an electronics factory or in a shop as a waitress or clerk. The younger child of the household normally studies by themselves in a boarding high school in the county’s capital city, while the older generation, in their seventies, is left in their rural homes, taking care of

the household and the land. The last two examples of the migrant workers were the women in the household who left and their sick husbands are farming at home.

4.3 Results and Discussion

The rural–urban income gap, regional gap, the PRC’s man-made *hukou* system, and a series of policies issued since PRC’s economic reform have made an individual’s residential place one of the most important factors to determine their living condition. The three research sites in this study represent three levels of developmental stages in rural China. The rural area in Ningqiang, a poor county in a hilly area, is the least developed at the provincial and national level. The rural area in Mei County has well-developed industry and is an example of what the state is calling for in the direction of modern agriculture. It can set an example for those counties who are striving to build rural leading industries. Part of the rural area of Yangling, as the agricultural hi-tech demonstration zone with its specific strategic status, has developed quickly to match the state’s calling for land transfer and urbanization. What rural people in Yangling experiencing now is a good example for rural people in the western provinces of China.

The major findings for ‘rural women in farming’ is that the remoter and poorer the region (in terms of transportation, irrigation, and land fertility), the less literate rural women are, the fewer social networks the rural households possess, and the more serious is the issue of the aging farmers. Living in a remote hilly village, the challenges for rural women in Ningqiang are aging farming, including a lack of hands, and difficulty in selling their environmentally-friendly products. With leading industry, rural women in Mei County live a self-reliant and busy life. However, although they are the main body of farming, they did not get the attention they deserved.

Of the three research sites, rural women in Ningqiang generally have less than primary school education and more than ten percent of them are even illiterate. Rural women in Mei County mostly received middle school education or less. In contrast, rural women in Yangling received the highest educational attainment. However, given the large population, the split rural-urban *hukou* system, fierce labour market competition, the relatively well-educated rural women in Yangling did not experience advantages in their off-farm employment opportunities.

A common issue for rural women in farming, both in Ningqiang County or Mei County, is that the majority of them encounter difficulties in production, yet could not get training benefits due to local officials' gender blindness. For rural women in Ningqiang, agricultural technical extension is not only in short supply, but also does not reach rural women at all. While for rural women in Mei County, there was many male-dominated technical training, ordinary rural women still cannot enjoy the technical extension service. The results are the same: Although badly in need of agricultural technology, rural women in Ningqiang and Mei County have to rely on their own limited knowledge to solve problems, which is not only time-consuming, but also inefficient.

Rural women's economic participation is also greatly connected with their household land situation. Affected by the state's different land policies, yet with similar results of household shrinking land size, rural women in Ningqiang and Yangling, despite having sharp contrasts in location, social networks, and economic development, present some similarities: They all need to find some alternative activities outside farming to assist their family's survival and also acquire new economic status for them.

Affected by the policy of returning farmland to forest, rural women in Ningqiang seek migrant work to ensure their household income. However, their low literacy constrained them, and they could only find some harsh physical work on construction sites. When they are in their late forties or occasionally even fifties, they cannot work anymore and come back with health issues, which can easily make their economic situation worse.

Land transfer has been advocated by central government for around two decades, but in reality, rural people still have many concerns. Unlike residents in cities who have access to government-sponsored social security programs and payouts, land in rural area is both an important source of income and also the last resort. Millions of rural migrant workers choose to keep a piece of land in the countryside so that they can return to farming if they ever become unemployed or too old in the cities (Wang et. al., 2011).

From the interviews with some village leaders in Yangling, peasants react differently to land transfer in terms of their capabilities, and this finding agrees with Jin and Deininger (2009) claim of farmers' individual ability. Only a few capable peasants can find satisfactory migrant jobs or do business all year and are willing to transfer their land to obtain rent. Some still want to cultivate their own land, and some would like to lease just part of the land. Reflected from the survey, many rural women wrote they would do farming again years later with their husbands when they were getting older.

It was also found from the interviews that local leaders' sense of responsibility and leadership is crucial for the rural community's development. Shuaijia is a model in its implementation of a land bank and replacement of landless farmers. In contrast, in some other villages, land banks were not operated very well, and farmers' land transfer rental income could not be guaranteed. In addition, landless farmers, especially landless women, could not be placed

properly, and unemployment was serious. Although the local government (Yangling) carried out some training targeted at rural women for their adaptation to the off-farm transition, it turned out to be such a failure, and the result is disappointing.

The mismatch of the training between what rural women really need and what local governments offered reflects something wrong with relevant officials' working and thinking patterns. To dig deeper, something rooted in the system needs to be reformed. A prevalent rule among Chinese officials is that they are mainly responsible to the superior officials. Meanwhile, local governments at different levels have a tendency to report their work based on statistics (for instance, how many training programs they have held), instead of the real effects of the work. In the already poor Luoquanyan village in Ningqiang in 2015, local township-level government encouraged local people to plant cabbage. Although it was not a compulsory order, with no other options, most of the local folks followed the calling and did it. The cabbages grew very well. However, when it was time to sell the cabbage, with no back-up plan for selling and the remote location, local rural women could not sell their vegetables and had to watch them rotten in the field. Without vision and sustainable development strategies, local governments' actions, although might be out of goodwill to do good to local people, could turn out to make local rural households' economic situation worsen.

With regard to rural women: of the three regions, rural women in Yangling are the group greatly affected by the state's fast development. They are the first group experiencing landlessness caused by land transfer. The impact is profound and still unpredictable, but with some negative signs worth attention. The local government's implementation of a land bank and land expropriation from the outside takes rural people's contracted land away, and

peasants are passively plunged into a condition of landlessness. To survive, male peasants try to become migrant workers, while middle-aged rural women, constrained by gender roles and social responsibilities, discriminated by both age and gender in the labour market, have to idle around and can do nothing to get out of their trapped and dependent situation. They are the real sacrifice of the state's policy.

The challenge for middle-aged and older rural women in Yangling is that the majority of them live a passive life — neither young nor old, with no skills, and no employers want them. Their daily life consists of doing some necessary household chores and then eating and idling around. In the local fast pace of urbanization, it seems that they have nothing to rely on but the small sum of rents and their husbands' unstable migrant work income. Due to gender roles, they want to stay close to their family members and look after the elderly, the young, the household, or all of them.

Luke and Munshi (2011) point out that, with globalization, in many countries, women will have an unprecedented opportunity to gain access to steady and relatively remunerative employment. However, in PRC, middle-aged rural women's off-farm employment still presents characteristics like such as easily interrupted, temporary, frequently changed, lack of skill-content, concentrated in repeated service industry, and with labour intensive nature of distress-driven activities. Even so, there is little sign that professional training is available for middle-aged rural women. Most of these off-farm employment characteristics for rural women agree with the findings of Kabeer (2012, January 26). As age increases, they have less opportunities to be employed, which stimulate some of them to be self-employed if possible. But for most of them, returning to landless rural area, and wait passively is their

fate. So there is a strong need for the government to provide relevant training for them to improve their skills, as well as issuing various regulations to protect their rights.

Through the above research, through two angles, rural women in farming and off-farm employment, Chinese rural women's current situations and challenges have been illustrated. With China's fast paced urbanization and encouragement of agricultural modernization, the transitioning from traditional to modern agriculture means changing from labor-intensive agriculture to capital-intensive and technology-intensive agriculture (Wang et al., 2011). The farming sector can no longer absorb many small-scale family farming households, rural women are facing the reality of either staying in the farming sector to meet the state's calling and grow as professional farmers with appropriate scale farming in the form of cooperatives or family farms, or become a wage-earner. In the following two chapters, the determinants of rural women's off-farm employment choices and professional women farmers' shared characteristics were investigated.

Chapter 5. Predictors of Rural Women's Off-farm Activities

5.1 Introduction

In the previous chapter, rural women's current situations and challenges in both farming and off-farm employment were presented with regional characteristics. To reduce its rural–urban income gap, the Chinese central government wants to improve farmers' income by reducing the number of farmers and cultivating new agricultural operators who operate large family farms, enterprises and cooperatives, and a new type of professional farmer. All this is done through land circulation and urbanization (see Chapter 2).

Facing the macro environment of reducing farmer numbers, this chapter focuses on the factors that can predict rural women's off-farm work decisions. It starts with a literature review, focusing on migration and its gender implications in the PRC and studies of the land rental market in China. Then, by using logistic regression, the possible predictors of rural women's off-farm work choices are investigated with regional differences. The impact of government-pushed land transfers (mainly in Yangling) on rural women's off-farm work choice is also investigated.

Before Chinese economic reform it was almost impossible for rural women to engage in any off-farm activities under the planned economy and rigid *hukou* system. In other words, Chinese rural women's off-farm activities are associated with internal migration. Therefore, a main source for studying rural women's off-form work decisions is from the migration literature. Due to middle-aged rural women's inferior status in labour participation, their off-farm activities in this study are broad and refer to those employed locally for wages, self-employed (including all non-agricultural work that is organized within the household, or

jointly with a few households like family-run businesses), or doing migrant work.

5.2 Literature Review

5.2.1 Women and Migration in the PRC

More than thirty years after economic reform, the obstacles to internal migration from villages to cities in the PRC caused by *hukou* system have gradually loosened. In 2010, Chinese non-agricultural household registration accounted for 34.17 percent of the population of the country, while those living in urban areas for more than half a year accounted for 49.68 percent, a difference of 15.51 percent (Qiu, 2013). The National Bureau of Statistics reported 242 million migrants in 2010 and 253 million in 2011. The 2012 National Survey of Migrant Workers Supervision reported the total number of migrant workers in 2012 in the PRC reached 262.61 million people, with roughly 16 million migrant workers working outside their counties, of which only over three million (less than one fifth) left their county with their entire family (National Bureau of Statistics of China, 2013). The number of internal rural-urban migrants in China was 270 million in 2013 and higher than the 232 million international migrants.

Meng (2014) in her dissertation of *Feminization of Agricultural Production in Rural China*, had a relative well-round literature review on migration including the definition of migration, the reasons for the engagement of people in the labour migration at the macro and micro level. the strong impact of culture on migration. Migration as a reflection of dysfunctional social or institutional arrangement at the macro level, migration as a household strategy and it is not just an individual choice. The importance of understanding the reasons behind those stay behind. A gender difference in migration in China with women normally stay behind in the village.

Due to institutional reasons (see 2.1.), namely the *hukou* and HRS, Chinese migration remains temporary, with rural households retaining members and agricultural land in their ancestral villages (Mu & de Walle, 2011). With a large number of rural Chinese men working away from home for long periods until they reach late middle age, rural women, usually fresh out of middle school, also migrate. However, in their early twenties, they normally return to the countryside to get married (Fan,2003). After marriage and childbirth, some women may return to off-farm employment (Ministry of Agriculture, 2013).

Figure 5-1. The Left-behind Elderly and Children in Rural China



Source: (Chinadaily, 2011, September 2)

With no access to urban public service due to one's rural *hukou*, migrant workers' wives have to stay at home to raise their children and take care of their parents and in-laws. Starting in 2000, the number of left-behind rural women¹⁵, or using a specific Chinese term *Liushou*

¹⁵ Although lots of literature deal with the feminization of agriculture in China (Chang et al., 2011; Alan de

women keeps increasing. According to Liang, Tang, and Huo (2014), *Liushou women* has increased significantly and continues to increase each year. In 2000, the total number reached 13 million. By 2004, it increased to 43.1 million and, in 2005, it went over 47 million women. The estimated number of left-behind rural women in 2011 was over 50 million. The re-allocation of traditional farm labour among women and the elderly during China's rapid economic development has been substantial and appears to be a persistent effect. *Figure5-1* and *Figure 5-2* using empty stools to represent the family members who have gone out of rural hometowns and migrate to cities to find off-farm employment, show the impact of the unprecedented migration on PRC's rural area and its aging farming and feminization of agriculture.

Figure 5-2. Left-behind Rural Women in China



Source: (Chinadaily, 2011, September 2)

However, the feminizing and aging of farming in China also has two sides: on the positive

Brauw, Huang, Zhang, & Rozelle, 2012), Alan de Brauw, Li, Liu, Rozelle, and Zhang (2008) find no evidence that the proportion of hours put into farming by women is rising.

side, it has created a precondition for land transfer and a moderate scale of farming. On the negative side, Chinese rural women and the rural elderly tend to shoulder the agricultural production for this most populous country; however, their voices are seldom heard, and their productive potential remains low.

Lots of domestic study supports the view that most female migrants are very young. A study done in the typical migrant areas of Sichuan and Anhui showed that most migrant women were between 23.1 and 27.9 years old (Y. Jin, 2001). Li's research is similar to Jin's findings, claimed that over 60 percent of migrant women were under twenty-five years old (Shi, 2001). L. Zhang, de Brauw, and Rozelle (2004) claim both men and women in the 16- to 20-year-old age groups have similar off-farm participation rates (about 75%), specifically, the majority of young women who work off-farm in 2000 do not work on the farm (59%). Similarly, education figures as another significant factor in women's off-farm employment. Migrants are widely acknowledged as being generally better educated than the rural labour force (Jacka & Arianne, 2004; Song et al., 2009). It is said that more education usually means greater human capital and increased confidence as well as stronger bargaining power in society and the family (Song et al., 2009). Zhu (2002) finds that education only plays a positive role for males, but not for females.

For most rural women, marriage is synonymous with the termination of migrant work and a return to the village. Thus, older and married women continue to stay behind in rural areas (Fan, 2003). Su and Liu (2003) find that married rural women's migration possibilities were 23.76 percent lower than those for single ones. This could be explained as a consequence of greater family responsibilities, such as the presence of pre-school children or children in the primary or junior middle schools that reduced their likelihood of migration (Li & Zahniser,

2002), and more rigid social norms faced by married rural women.

However, the relationship between rural women's marital status and migration decisions can change over time (Jacka & Arianne, 2004; Song et al., 2009). Song, Zheng, and Qian (2009) argue that marriage does not have a significant negative effect on women's migration decisions, and Mu and de Walle (2011) also claim that, controlling for age, marital status is not a significant determinant. Split by the *Hukou* system, migrant workers as a whole were being discriminated against, segregated, and harassed (Jiang, 2003; Li, 2003), and were the most impoverished and vulnerable group in urban communities, yet the female migrant workers' situation is even worse (Song et al., 2009).

Most of the time, female migrant workers had to accept the urban residents' unwanted, dirty, difficult, and dangerous jobs. Meanwhile, they have to change their jobs frequently, with little advancement in their careers, income, and social status (Zhang, 1999). To keep their hard-earned jobs, they often have to work overtime without extra pay, which sometimes endangers their health and even their lives (Tan, 2005). When all other conditions are equal, female migrant workers still earn less than their male counterparts, and the majority of female migrants are under forty years old (Song et al., 2009).

Mu and de Walle (2011) analysed the reasons for lagging female migration. First, market and governmental failures cause various constraints on opportunities binding on women. Second, women are more likely than men to stay behind in rural areas with their families due to gender norms. Meanwhile, the induced migration patterns with women taking responsibility for cooking, looking after children, elderly parents and the farm produce a distorted gender division of labour and excessively gender-differentiated labour markets.

5.2.2 Land Transfer Market Studies in China

Wang (2010) defined rural land transfer as market behaviour to transfer or transact the right to use agricultural land, without changes in usage, within an effective contracting period. Meanwhile, those who have their land transferred go to cities for off-farm employment can also gain rent from land as well as wages. Thus the land transfer/circulation development will improve productivity and the PRC government also encourages its acceleration.

Chinese local governments in the experimental areas are empowered to make policy decisions according to their own conditions. China's rural land transfer, according to Wang, has undergone three developmental phases after the implementation of HRS: (1) the prohibited phase (1978–1984); (2) the permitted phase (1984–2002); and (3) the encouraged phase (2002–present).

The land lease market is regarded as an efficient way to bring about efficient resource allocation. For overall economic growth and development of the non-agricultural economy, land transfer has long been recognized as important, yet empirical evidence on factors that can promote or impede the operation of such markets, their productivity, and equity impacts are limited (Klaus Deininger & Jin, 2005). Especially in the PRC, where land is equally endowed, relevant studies on land rental are scarce. However, even with the current land system, early in 1999, Carter and Yao (1999) claimed that the property rights system with incomplete security of tenure but strong transfer rights can still make profits for farmers, even if they exit farming.

It has been argued that, in a dynamic environment that is characterized by increasing levels of off-farm employment and rural–urban migration, the ability to transfer land will gain greater importance (Carter & Yao, 2002). This is supported by evidence from Africa (Besley, 1995),

where greater transferability enhanced incentives for investment and participation in the off-farm economy. Zhang, de Brauw, and Rozelle (2004), through employing survey data collected in 2001 in Zhejiang province, investigated land market development and found that a growth in off-farm jobs allows rural households to transfer labour out of farming and prompts them to relinquish land rights, thus generating a supply of land. More recently, various news reports in the PRC all tell the story that land transfer/circulation development would improve productivity and farmers' income (Hong, 2015, January 7).

While more decentralized and market-based solutions may benefit participants from informational advantages, they were also likely be affected by the presence of transaction costs including standard elements such as the effort required to obtain information on rental rates and market participants, the negotiation of contractual terms, and contract enforcement and imperfections in other markets.

Similarly, Brandt, Rozelle, and Turner (2004) further claim that local governments sacrifice tenure security in the interests of efficiency and equity. Meanwhile, local rent seeking is a likely source of the under-development of land rental markets, thus suggesting that decreases in distortionary taxes and increases in the integrity of elections would lead to more secure tenure and an increased reliance on market land exchange.

By employing survey data collected in 2001 in Zhejiang province to investigate land market development, Zhang and Xu, (2004), similar to Klaus Deininger and Jin (2005) found growth in off-farm jobs allows rural households to transfer labour out of farming and prompt them to relinquish land rights, generating a supply of land. More recent data suggests that with the emergence of off-farm labour markets, land rental has become more active. Meanwhile, local institution building by lower transaction costs or secure property rights were crucial in

explaining cross-regional variations in rental-market development. The increased division of labour, with women typically holding down the low status, low farm and household production work in rural areas is posited to have reinforced gender segregation and women's low status (Fan, 2003).

Feng, Heerink, Ruben, and Qu (2010) found that the land households rent is relatively more productive. Klaus Deininger and Jin (2009) found factors affecting land transfer participation derived from a household model with transaction costs and individual ability, also illustrate the large contribution of land markets to occupational diversification, productivity of land use, and household welfare and concludes that land markets are critical not only for non-agricultural growth but, by allowing more effective use of potentially idle land can contribute to significant productivity gains.

In reality, the land rental market in China is still in its initial stages. Only 340 million mu of family contracted land has been transferred, and the transfer ratio is only 26 percent, which means a large amount of agricultural production in China is still in small-scale form (Ministry of Agriculture, 2013). Shaanxi, as an inland province in China, has been relatively stagnant in the growth of cultivated land rental markets (Klaus Deininger, Jin, Xia, & Huang, 2013).

Until the end of 2014, the rural land transfer rate in Shaanxi Province was 11.8 percent, not only lower than the 45.3 percent transfer rate in the eastern coastal regions, but also lower than the national average of 21.7 percent (Wang, 2014, October 20). In 2012, the province's land transfer rate for the proportion of household contract management area, compared to that in 2009, increased 4.3 percentage points (*Shaanxi Nongcun Tudi Liuzhuan*, 2013, October 18). In contrast to the provincial low land transfer rate, the land transfer rate at Yangling (one of the study area) reached 61.9 percent in 2016 (Liang & Liu, 2016, December 17).

5.2.3 Summary

Literature related to rural women's off-farm work in China is rare and concentrated on migration and its gender implications (Hare, 1999b; Patricia, Hou, & Wang, 1995; Rozelle, Guo, Shen, Hughart, & Giles, 1999). Migration consequences, such as the feminization of agriculture (de Brauw et al., 2012; de Brauw et al., 2008) or the time-use gender gap and its impact on labour reallocation and rural women's welfare (Chang et al., 2011; Mu & de Walle, 2011). Most of it deals with data that is over ten years old, some even twenty years old, with the latest data used from 2006 (Mu & de Walle, 2011), thus, it cannot reflect the change in China's economic development. Of all the literature, only one source is specific to rural women's migration decisions (Song et al., 2009) with data collected from the Yangtze delta in 2006. It was a case study focussing on a region in the south of the PRC.

Although changes in land tenure relationships have connections with off-farm activities, facing the existing family small-scale economy formed in PRC and a relatively low land transfer rate in the west area of PRC, yet the national high land transfer rate in Yangling and see the impact of land change on local women's off-farm work is totally a new try and would have far reaching policy implications on its successful carrying on and wide coverage.

It is the first one on rural women's off-farm work choices with an inland province of the PRC as its research site, combining geographical and developing pattern differences and the impact of ongoing land transfer. The women subjects of this study have a mean age of 45 years and the study involves innovative research compared to relevant literature. The question whether household land transfer can predict the outcome of rural women's off-farm work choices has become one of the main concerns of the study.

5.3 Methodology

Rural women's choice to whether taking off-farm work or not falls into a qualitative framework, which is discrete. Assuming the random term has a logistic distribution, and then the decision represents a standard binary logit model. Using a logit model can better describe this decision. The logit model is estimated by the maximum likelihood method used in the SPSS software. Models for determining discrete choice are known as qualitative choice models. To explain the predictors of participation in off-farm work in the sample villages, a fixed-effects conditional logit estimator developed by McFadden (1974) is used, and the same logit model was also utilized by Zhang et al. (2004) to test China's rural labour market development and its gender implications.

There are two different ways to obtain logistic regression results in SPSS, namely the 'forced enter' method and the 'stepwise' method (including forward method and backward method) (Field, 2005): this research employs the former approach with only one step from the constant model to the block containing predictors.

5.3.1 Independent Variables of the Empirical Model

This study explores possible predictors of Chinese rural women's choice of farm or off-farm employment. It was hypothesized that rural women who had household land transferred would be more likely to take up off-farm work because they needed to make a living and support the household. Logistic regressions were performed to test this hypothesis. It is asserted that if a vector of individual and household characteristics, X_{ir} , can predict whether a respondent (rural woman) from a research area (village), chooses to participate in off-farm work or not. An indicator variable, y_{ir} , is defined such that it is 1 when individual i participate in the off-farm labour market and is 0 otherwise. The effects of the predictor variables

contained in X on the individual's labour market participation decision can be estimated by

$$\text{Prob}(y_{ir} = 1) = \exp(X_{ir}\beta) / (1 + \exp(X_{ir}\beta))$$

$$\text{Prob}(y_{ir} = 0) = 1 / (1 + \exp(X_{ir}\beta))$$

where: β represents a vector of parameters to be estimated.

Based on the literature, personal characteristics, such as rural women's age, marital status, and educational attainment are three key factors affecting their off-farm employment decision (Brauw et al., 2012; Fan, 2004; Hu, 2007; Kung, 2002; Zhao, 2003; Song et al., 2009). The general characteristic for rural women to take migrant off-farm work are under forty years old (Song et al., 2009), this study take 45 years old as the cut-off and divided rural women's age into two levels: 45 years old or less and those above 45 years old, with the latter as the base category. Rural women under 45 years old are expected to have a positive sign in the regression results.

For the rural women in this survey, married was the dominant status (see 4.1.1), so marital status as default variable, was not included in the model. However, as husband is a rural woman's most important connection with the outside world, so husband's education level was included in the model. Both rural women's education and the household head's education in this study are divided into two levels. They were middle school and below, and high school and above respectively. Higher education attainment was expected to have a positive sign in the regression results. Besides personal characteristics maintained above, household characteristics (land, and labour endowments and demographic composition of families, are variables normally used in studying the model of migration (Hare, 1999; Zhao, 2003).

Household-level data provide the possibility for such a test (Y. Zhao, 2003). Household

income was put into the model to see its role in rural women's off-farm work decision in different areas in the inland Shaanxi province, China, and it is expected to have a positive sign in the regression results. Given the national family planning policy carried out in the 1980s(Almond et al., 2013), rural households are allowed to have two children under the precondition the first child is a girl. Therefore, this study does not include 'number of children' (Zhao, 2003). However, the variable 'family size' can, to some extent, reflect the labour force of rural households (Jolliffe, 2004), and it is expected to have a positive sign in the regression results.

Considering the local rural customs, most of the rural girls get married in their early twenties or even before. In most cases, the research participants- middle aged rural women children have already grown up and are also starting to do some non-farm work. Combining another Chinese rural custom that parents, usually the grandmothers, take care of the grandchildren, 'Who takes care of the children?' (Chen, 2004; Qiao, Rozelle, Zhang, Yao, & Zhang, 2015) is also included in the model with an expected negative sign in the regression results.

'Who does farming in the household?' is also put into the regression model because it complies with current complex rural situation. Rural women who continue in the farming sector (Mu & de Walle, 2011) and is expected to have a negative sign in the regression results. Unlike Qiao et al. (2015), the care of the elderly is not included in the model. Chinese rural people are known for their industriousness and enduring hardships. The subjects in this study have a mean age of 45 years so, normally, their parents would be around 65 years old. Unless they have some serious health issue, rural parents will normally keep working and looking after themselves for as long as they can, and aging farming could be of evidence.

Social networks (*Guanxi*) (Zhao, 2003) plays a key role in migration research, so this study

also gives attention to it, through the question: ‘Is there anyone in the household who works in the village committee, or at township or county level?’. A binary variable was constructed to indicate whether the rural women has *guanxi* or not (has *guanxi* =1, otherwise 0), and having *guanxi* is expected to have a positive sign in the regression too.

The household land situation is a primary predictor the researcher wants to investigate in terms of rural women’s off-farm work choices, and two related variables are taken into consideration: rural households’ original land size (expected negative effect) and whether or not any land has been transferred (expected a positive sign). To make it clear, the researcher also collected rural households’ actual land sizes in the survey. Rural households’ original land size refers to the land size distributed according to family size by the village committee, which took place in 1998. Accompanying China’s economic reform and the unprecedented large scale of migration in the 1990s and 2000s, if rural women chose to do migration work, they should have started around 10 or even 20 years ago when they were young; therefore, their original land size at that time, whether large or small, is a factor to consider.

Over time, rural women’s life patterns have gradually formed and fixed, while their actual cultivated land size has usually reduced to a smaller size or even left idle. Alternatively, in response to the state’s land policy, the land has been collected in a land bank, expropriated or returned to forest growing. For those who leased their land, their land area may get larger, but this only happens to a few capable farmers. Actual land size here is used to give complementary information, and together with original land size and land transferred, make sure the information, rural household contracted land size changes over the years, is consistent.

The variable ‘has your household land been transferred?’ is expected to have a positive sign.

Given the generally low rate of land transfer in Shaanxi province (with the exception of Yangling region), land transfer in this study also has a broad notion: it is assumed to be a farmer's voluntary choice, but farmers' voluntary land transfer behaviour is very limited. Land transfer in this study includes the local government's pushing behaviour, ranging from land bank and land expropriation as well as the policy results of 'converting farmland to forest'. So, to sum up, altogether ten independent variables were used in the logistic regression (see Table 5-1).

Table 5-1. Variables in the Model

No.	Variable name	Recoding and Expected signs of coefficients
1	Family size	Continuous (positive)
2	Respondent's age	Young: = 1 if ≤ 45 years, otherwise = 0 (positive) Aging: = 1 if > 45 years, otherwise = 0 (Base category)
3	Household income in 2015	Continuous (positive)
4	DHHE: dummy for household head education	DHHE1: = 1 if ≤ 9 years, otherwise = 0 (Base category) DHSPE2: =1 if > 9 years, otherwise =0 (positive)
5	DRSPE: dummy for respondent's education	DRSPE1:= 1 if ≤ 9 years, otherwise = 0 (Base category) DHSPE2: =1 if > 9 years, otherwise =0 (positive)
6	DWF: dummy for who does farming	DWF=1 if the respondent does farming, otherwise = 0 (negative)
7	DKC: Dummy for taking care of children	If the respondent takes care of the children, DKC =1, otherwise 0 (negative)
8	DGX: dummy for <i>guanxi</i> : any household member working in official branch	If household has at least one member working in the official branch, DMO= 1, otherwise = 0 (positive)
9	Original farm size (mu)	The land size distributed by the village committee (negative)
10	Dummy for 'Has your land transferred'	If Yes =1, otherwise = 0 (positive)

In logistic regression, highly correlated variables can cause higher standard errors of the coefficients. If there are some highly correlated independent variables, a solution is to choose

one variable and keep it in the model, meanwhile remove the other one. To check for multicollinearity, this study has used the Variance Inflation Factor (VIF) test. Wooldridge (2013) suggested the cut-off value is 10. If the VIF is above 10, then it can be assumed that serious multicollinearity exists in the data. Other scholars give a critical value of VIF of no more than 4 (Menard, 1995; O'Brien, 2007). This study takes the latter, a stricter one, as its criterion. Through collinearity diagnosis, it was found that household heads' age and respondent age showed signs of collinearity, with VIF= 9.145 and 8.808, and both are higher than 4. To adjust, household head age was excluded from the model, the VIF for all the remaining variables in the model are given in Appendix 7.

5.3.2 Goodness of Fit of Each Model and Results Report

Goodness of fit (GOF) tests are conducted as a part of the evaluation of logit regressions. There are some debates which GOF test is preferable over the other tests and there is still no conclusion which test is the best (Hosmer, Taber, & Lemeshow, 1991; Menard, 2010). An example is the reliability of the Hosmer Lemeshow Test. Hosmer Lemeshow Test is obtained by grouping the predicted values obtained from the logit regression model and ranks it into several groups of equal size from lowest values to highest values, and it is criticized for having lower power with small sample size (Bewick, Cheek, & Ball, 2005). This study presents not only the Hosmer and Lemeshow Test result, but also uses the results of Omnibus Test of Table, Classification Table, Cox & Snell R^2 and Nagelkerke R^2 to provide a more comprehensive testing procedure.

The Classification table is considered a simple way to assess GOF (Osborne, 2014). Classification table is the result of classifying the predicted value into dichotomous outcome (observed) variable (y) (0 or 1 value). The Cox & Snell R^2 (based on the deviance of the new

model and the deviance of the original of the original model (baseline), and the sample size, it never reaches its theoretical maximum of 1. Nagelkerke R^2 corrects for that. In terms of interpretation, they can be seen as similar to the R^2 , in linear regression in that they provide a gauge of the substantive goodness of fit of the model (Field, 2005).

The p -value is the probability of finding the observed result (estimated coefficient) in the chosen statistical model, or a more extreme result, when the null hypothesis is true (Hill, Griffiths, & Judge, 1997). A critical p -value at the ‘significance levels’ of 5%, which is often traditionally encountered in the scientific literature (Wonnacott & Wonnacott, 1984), is chosen in this study. Odds ratios, which are $\text{Exp}(\beta)$, are also reported in the regression results.

Odds ratios, which are $\text{Exp}(\beta)$, are also reported in the regression results. Odds ratios is interpreted as the additional probability of an event if there is an additional unit of the explanatory variable. While reporting the actual coefficient estimates for β , odds ratios can be explained more intuitively than raw logit coefficients, as they give the change in probability of engaging in the off-farm labour market due to a change in the corresponding right-hand side variable (Zhang et al., 2004).

5.4 Logistic Results

First, the entire sample is used to estimate the logistic model. This includes regional dummy variables to allow the constant term to differ between regions. Rather than include multiplicative terms in this model to test whether the slope coefficients vary across regions, the model is re-estimated using the Yangling and then the Ningqiang samples. A separate model was not estimated from the Mei data since Mei County has leading industries, and rural women there are busy with farming and normally do not participate in off-farm work,

and in fact the Mei County sample solely contains rural women in farming sector. It is chosen as the base category.

5.4.1 Full sample

First, all ten independent variables and regional dummies are specified in the model and results are shown as Model 1.0 in Table 5.2. It is clear that several variables are not significant at even the 10% level. The coefficient of the variable ‘Dummy for *guanxi*’ shows the expected positive sign but is not significant ($p = .751$). After observation, the researcher removed the ‘Dummy for *guanxi*’ variable with associated highest p -value of .751, and the regression was re-estimated, and with the results in Model 1.1. There is little change in the estimated coefficients of all remaining variables, compared with the results of Model 1.0 (see Table 5-3), thus Model 1.1 is the preferred Model.

As to the two regional dummies, compared with rural women in Mei County, the p -value .366 of Yangling indicates non-significance which implies no significant difference between the constant terms for this region and Mei County (the base). However, the Ningqiang estimate ($p = .047$) is significant. Both coefficients are positive. Rural women in Ningqiang show a significant difference from Mei County perhaps due to the land policy of converting farmland to forest.

The coefficient estimate for the variable ‘Family size’ is of the expected positive sign, with a p -value of .094. Therefore, this is weak evidence that the true value of that coefficient is different from zero. Based on HRS (household responsibility system), rural households’ original land size is distributed according to family size on an egalitarian basis. Large family size means an abundant labour force in the household. Abundant labour force in a rural

household generates diverse income, including income from off-farm work, this results agree with (Jolliffe, 2004).

The coefficient estimate for the variable 'Household income in 2015' is of the unexpected negative sign and is significant with a p -value of .021. It implies that the higher the rural household income, the less likely are rural women to take off-farm activity. This disagrees with the migration literature that the returns from off-farm employment are usually several times higher than staying in the farming sector (Song et al., 2009). A possible explanation is that Shaanxi as an inland agricultural province, and in recent years, the provincial government have been working hard to improve farming technology, developing professional farmers and modern agriculture. Yangling, the only national Agricultural Hi-tech Demonstration Zone can be an example. Many rural households have successfully shifted their farming production to cash crops, and modern agriculture including tourist agriculture. Farmers, who are industrious and utilize the right technology with some plantation scale, can find that remaining in farming sector can provide a good life.

Compared to rural women aged 45 years old and above, the coefficient estimate for rural women below 45 suggests they are more likely to engage in off-farm work. The estimated coefficient is positive and significant ($p = .004$). This result conforms to the observation that rural women engaging in non-farm work are normally relatively young. The younger they are, the more likely they are not constrained by family responsibilities, and thus are able to take some non-farm employment. This result is consistent with previous research (Jin, 2001; Shi, 2001; Zhang et al., 2004).

It is interesting to see that the result for respondent's educational attainment shows some contradiction with the literature on rural women's off-farm economic participation choice. In

the full sample, the coefficient estimate for rural women with high school education and above is negative but is non-significant ($p = .120$) It implies that, compared to rural women with primary schooling and below, they are less likely to take off-farm activities although it is stressed this is not a significant finding. As according to the migration literature, there is a higher education return to rural people engaging in off-farm activities (Jolliffe, 2004; Mu & de Walle, 2011; Song et al., 2009). Previous literature found a higher education return from off-farm activities, which does not match the regression results of this study. But in inland agricultural province Shaanxi, rural people take farming as their major living pattern, meanwhile modern farming is used in at least Yangling calls for more highly educated farmers can be another possible reason.

In contrast to the results regarding rural woman's high education attainment, the coefficient of 'household head's high education attainment' is not only positive as expected but also highly significant ($p = .000$). In other words, a rural woman whose husband has a high school education or above (>9 years), compared to those whose husband has a middle schooling or below, is 5.31 times more likely to engage in off-farm work. One rural woman, in answering the open question in the questionnaire even said, '*Having a capable husband is enough*'.

Thus the husband's high school education can strongly predict rural woman's off-farm work choice. Rural woman's non-farm work choice has a close connection with her husband's capability (human capital). Marriage plays a key role in middle-aged rural women's off-farm work choices, but in a different way than suggested in the literature on migration which says rural women's marriage is either a barrier to or not a significant determinant for them to continue their migrant work (Jacka, 2012; Song et al., 2009). It was found in this study that if a middle-aged rural woman married well in terms of her husband's higher education, it is a

strong predictor that she undertakes off-farm employment.

The coefficient of the variable ‘Dummy for taking care of children’ has the expected negative sign and indicates this variable can significantly ($p = .000$) predict rural women not taking off-farm work. Having children at home to look after is one of the major barriers for rural women to engage in off-farm employment which is not only reflected in the literature (Qiao et al., 2015), but also from this study’s interviews. A women cadre said,

“when the child is getting a little bit older, and reaching school age, grandparents have difficulties to discipline them, the mum would come back from off-farm work to take care of children.”

Another 26 –year-old rural woman had to quit her migrant off-farm work also because of her son. She said,

“At that time, my son was six years old and needed to go to school. My mum told me ‘Your son’s schooling is the most important thing compared to making money. You should come back and take care of him.’”

The coefficient of the variable ‘Dummy for who does farming’ shows the expected negative sign but is not significant ($p = .300$). If the rural woman needs to undertake farming work, she is less likely to engage in off farm work. The coefficient of the variable ‘original land size’ is negative but not significant ($p = .203$). It implies that there is not enough evidence to support original land size can predict rural women’s off-farm work choice. Due to the state’s series of land policies, actual farm sizes of rural households are shrinking (The average original farm size per household was 4.45mu, while the average actual farm size per household at the time of interview was only 1.87 mu). However, the negative sign of the

estimated coefficient for this variable still agrees with Joliffe (2004), who claimed that farm size had a negative impact on peasants' off-farm activity choice.

The predictor 'Dummy for land transfer' showed the expected positive impact on rural women's off-farm work choice, but is not significant ($p = .465$). This implies that there is no evidence that if rural household land has transferred, rural women are likely to engage in off-farm activity¹⁶. In addition, land transfer in an inland province like Shaanxi is still not on a large scale, and there are few off-farm employment opportunities available for landless rural women to take in an agricultural province like Shaanxi.

The model included intercept dummies for the regions, which allow for different constant terms for the regions. Some evidence is found that the constants for Ningqiang and Yangling (weaker evidence) were higher than for the base region. However, this model did not test whether or not the slope coefficients varied across regions. That would have involved the inclusion of a large number of multiplicative variables to the model thus substantially reducing the degrees of freedom. As an alternative, separate models are estimated for Yangling and Ningqiang regions. However, as Mei County has some agricultural leading industries, rural women there are normally busy with farming and do not participate in off-farm work, plus there are no off-farm rural women data in the Mei sample, so no specific model is estimated for the Mei County.

¹⁶ This result agrees with the descriptive analysis in Chapter 4 on Page 95, Line 10.

Table 5-2. Predictors of Rural Women’s Off-farm Work Choice for Full Sample

Explanatory Variables	Model 1.0			
	<i>B</i>	SE	<i>p-value</i>	<i>Exp(B)</i>
Yangling	.416	.440	.344	1.517
Ningqiang County	.956	.480	.047	2.603
Family Size	.197	.117	.093	1.218
Household income in 2015	-.242	.103	.019	.785
Respondent’s age				
Young (= < 45 yrs. old)	.909	.315	.004	2.481
The aging (> 45 yrs. old)	Base	Base	Base	Base
Respondent’s education				
Middle schooling &below(<=9yrs)	Base	Base	Base	Base
High schooling &above (> 9yrs)	-.677	.432	.117	.508
Household head’s education				
Middle schooling &below(<=9yrs)	Base	Base	Base	Base
High schooling &above (> 9yrs)	1.660	.416	.000	5.529
Dummy for <i>guanxi</i>	.125	.393	.751	1.133
Dummy for taking care of children	-1.081	.310	.000	.339
Dummy for who does farming	-.340	.322	.291	.712
Original land size	-.052	.042	.221	.949
Dummy for land transfer	.233	.339	.492	1.263
Constant	-1.456	.728	.046	.233
Number of observation			268	
Omnibus Test of Model Coefficients			<i>p</i> = .000	
Cox & Snell R²			.181	
Nagelkerke R²			.252	
Hosmer and Lemeshow Test			<i>p</i> = .791(>.10)	
Percentage of correctly classified			71.2	

Table 5-3. Predictors of Rural Women’s Off-farm Work Choice for Full Sample (Preferred)

Explanatory Variables	Model 1.1			
	<i>B</i>	SE	<i>p-value</i>	<i>Exp(B)</i>
Yangling	.389	.430	.366	1.476
Ningqiang	.954	.479	.047	2.595
Family Size	.196	.117	.094	1.217
Household income in 2015	-.237	.102	.021	.789
Respondent’s age				
Young (= < 45 yrs old)	.900	.314	.004	2.459
The aging (> 45 yrs old)	Base	Base	Base	Base
Respondent’s education				
Middle schooling & below (<=9yrs)	Base	Base	Base	Base
High schooling & above (> 9yrs)	-.671	.432	.120	.511
Household head’s education				
Middle schooling & below (<=9yrs)	Base	Base	Base	Base
High schooling & above (> 9yrs)	1.670	.415	.000	5.314
Dummy for taking care of children	-1.082	.310	.000	.339
Dummy for who does farming	-.333	.321	.300	.717
Original land size	-.054	.042	.203	.948
Dummy for land transfer	.246	.337	.465	1.279
Constant	-1.430	.723	.048	.239
Number of observation		268		
Omnibus Test of Model Coefficients		<i>p</i> = .000		
Cox & Snell R²		.180		
Nagelkerke R²		.251		
Hosmer and Lemeshow Test		<i>p</i> = .718 (>.10)		
Percentage of correctly classified		73.9		

5.4.2 Yangling

In the Yangling sample, all the ten explanatory variables have been included in Model 2.0 (see Table 5-4). Variables with associated *p*-values in excess of 0.5, that is the ‘dummy for *guanxi*’ (*p* = .675), and ‘original land size’ (*p* = .827), were then removed, even though the coefficient signs were as expected. The results for this second model are shown as Model 2.1 in Table 5-5, and it is rewarding to note that other estimate do not change very much.

The regression results in Yangling have many similarities with the regression results shown in the full sample. For instance, the coefficient estimate for the variable 'family size' is positive but not significant ($p = 0.159$). The coefficient estimate for respondent's age below 45 is positive as expected and significant ($p = .048$). As in the full-sample model, the coefficient estimate for household income is unexpectedly negative and significant ($p = .002$). Yangling, is the only national agricultural High-tech Demonstration Zone, and has enjoyed benefits from the state's agricultural modernisation policy. It is relatively easy for local people to get the benefit from modern agriculture technology, perhaps explaining why higher household income can predict rural women staying in the farming sector. The coefficient estimate for the variable household head education is positive and significant ($p = .004$). The dummy for taking care of children is negative and significant ($p = .003$). The researcher will not spend much time dealing with the similarities of Yangling sample results with those from the full sample, and more attention is given to the differences in regression results between the Yangling sample and the full sample.

One difference between the Yangling and the full sample results is that the coefficient estimate for rural women with high school education and above towards the off-farm activity decision is not only negative as in the full sample model, but is also significant ($p = .031$) which it was not in the full sample result. It means there is a significant difference between rural women with high school education and above and those with middle school education or below. To be specific, in Yangling, rural women with high school education and above, compared to those with middle school education or below, can be predicted not to take off-farm work. This disagrees with the results of migration literature, which says people, either men or women, engaging in migrant working normally have higher education attainment compared to those left behind in the farming sector due to the higher education return from off-

farm activities (Jolliffe, 2004; Mu & de Walle, 2011; Song et al., 2009).

Table 5-4. Predictors of Rural Women's Off-farm Work Choice in Yangling

Explanatory Variables	Model 2.0			
	<i>B</i>	SE	<i>p</i> -value	<i>Exp(B)</i>
Family Size	.234	.171	.170	1.264
Household income in 2015	-.470	.158	.003	.625
Respondent's age				
Young (= < 45 yrs. old)	1.004	.508	.048	2.729
The aging (> 45 yrs. old)	Base	Base	Base	Base
Respondent's education				
Middle schooling & below (<=9yrs)	Base	Base	Base	Base
High schooling & above (> 9yrs)	-1.021	.555	.066	.360
Household head's education				
Middle schooling & below (<=9yrs)	Base	Base	Base	Base
High schooling & above (> 9yrs)	1.441	.569	.011	4.226
Dummy for <i>guanxi</i>	.257	.611	.675	1.292
Dummy for taking care of children	-1.475	.488	.003	.229
Dummy for who does farming	-.787	.498	.114	.455
Original land size	-.024	.112	.827	.976
Dummy for land transfer	-1.416	.574	.014	.243
Constant	1.391	1.141	.223	4.018
Number of observation	145			
Omnibus Test of Model Coefficients	<i>p</i> = .000			
Cox & Snell R²	.300			
Nagelkerke R²	.412			
Hosmer and Lemeshow Test	<i>p</i> = .511(>.10)			
Percentage of correctly classified	76.6			

Table 5-5. Predictors of Rural Women's Off-farm Work Choice in Yangling (Preferred)

Explanatory Variables	Model 2.1			
	<i>B</i>	SE	<i>p-value</i>	<i>Exp(B)</i>
Family Size	.238	.169	.159	1.269
Household income in 2015	-.467	.149	.002	.627
Respondent's age				
Young (= < 45 yrs. old)	1.039	.489	.034	2.827
The aging (> 45 yrs. old)	Base	Base	Base	Base
Respondent's education				
Middle schooling & below (<=9yrs)	Base	Base	Base	Base
High schooling & above (> 9yrs)	-1.175	.545	.031	.309
Household head's education				
Middle schooling & below (<=9yrs)	Base	Base	Base	Base
High schooling & above (> 9yrs)	1.560	.546	.004	4.761
Dummy for taking care of children	-1.463	.481	.002	.232
Dummy for who does farming	-.708	.481	.141	.492
Dummy for land transfer	-1.381	.559	.014	.251
Constant	1.257	1.121	.262	3.515
<hr/>				
Number of observation	149			
Omnibus Test of Model Coefficients	<i>p</i> = .000			
Cox & Snell R²	.312			
Nagelkerke R²	.426			
Hosmer and Lemeshow Test	<i>p</i> = .220 (>.10)			
Percentage of correctly classified	75.8			

From the introduction of the research areas in Chapter 3, it is known that an inland agricultural province, administratively belonging to the northwest, does not have much local off-farm employment opportunities for rural people. That is why when talking about off-farm employment, local people will immediately think of it as migrant work, and the researcher also has to use migration literature to discuss rural women's off-farm work choice. Rural women have less local off-farm employment opportunities, especially for middle-aged rural

women like many of the research subjects in this study. Besides, the local labour market does not have much demand or capability to absorb rural women in off-farm employment. So with few local off-farm work opportunities, off-farm employment to most rural women in Shaanxi still means migrant work. Migrant work means leaving one's hometown to make a living in strange places as a second class citizen under China's *hukou* system impact. Most of migrant workers have had to endure lots of mental and physical hardships (Fan, 2003; Fan & Li, 2002; Honig & Hershatter, 1988; Jiang, 2003; Li, 2003; Xiang, 2007).

However, Yangling is known as the birthplace of China's agricultural civilization. By nature, located on *Guanzhong* plain, the soil there is fertile, and the weather is suited to farming. The tomb of the emperor of Sui Dynasty was set there (which, in Chinese sense, means it has very good *fengshui*, and is a good place for living). Local people, either men or women are reluctant to leave their hometown to make a living. One of the famous eight local weird customs is 'Girls will not marry outside of the area' can be evidence. Rural women who are relatively well educated, may have more chance to take advantage of local natural and social resources, thus make a good life locally.

In addition, given the thousands of years of prevalent feudalism, division of gender roles 'Men as the breadwinner, women, care-provider', and the high opportunity cost of leaving one's parents, children, hometown, it is easy to understand why rural women in Yangling would choose to stay in the farming sector, and take care of the family as well. This finding, rural women with relatively higher educational attainment stay in the farming sector, agrees with the results of interviews with village leaders and professional women farmers in Chapter Four: many rural households even though have their land transferred, rural women there would stay idle in the farming sector.

Furthermore, although things are improving, rural women's off-farm employment reflected in this study still presents a temporary, informal, and unstable characteristic (see Section 4.4 of this thesis). One Yangling respondent in the questionnaire even put forward a question: '*Why should one take off-farm work?*' Comparing to those poorly paid and harsh off-farm employment jobs, (at least reflected in this study) staying in the farming sector with family members and fulfilling their associated responsibility was not a bad choice.

Another big difference between Yangling sample and the full sample results is that the coefficient estimate for 'Dummy for land transfer' in full sample is as expected positive (and not significant), but in Yangling, it is unexpectedly negative and significant ($p = .014$). Therefore, household land transferred in Yangling can predict that landless rural women do not engage in off-farm employment. It is assumed that in rural household have land transferred, landless rural women would engage in off-farm activity to either make household ends meet or make life better, so this result is unexpected. Given the high (61.9 %) land transfer rate in 2016 in Yangling, there are a large group of rural women in Yangling, after land transferred, staying idle in farming sector. This empirical result agrees with the results from interview with village committee members and professional women farmers in 4.1.2.3 of the study.

The deep reason lies in that with not much local off-farm work opportunity, taking off-farm work, most of the time means one has to leave ones' hometown and be a migrant worker. As time pass by, rural people's perception about migration has changed. After decades of migration and trying, as mentioned before, more and more rural people realize migrant work is not necessarily a good choice, especially to rural people in a relatively affluent area, like Yangling in Shaanxi. When rural women's household land transferred, they actually, on one

side, do not have farming to do. On the other side, do not have appropriate local off-farm work employment to take, so they have to stay in the farming sector passively in a state of visible unemployment.

Landless women staying idle in farming sector is a huge waste. Wang and Weaver (2013) distinguished two types of urbanization and argue that urbanization without sufficient employment creation in the urban sector might have no economic benefit as it only involves surplus labour in the rural areas becoming urban surplus labour. In this study, the surplus rural women labours are still rural surplus labour. Similar to the previous decades of large scale of migration that rural women were left behind and downgraded to looking after their household contract land farming, in the new round of official made land transfer, rural women's situation becomes worsened as they were laid off from farming without proper re-allocation to other employment.

5.4.3 Ningqiang

From the descriptive results of the survey in Section 4.1.1, the educational attainment of rural women in Ningqiang is low, and the illiteracy rate among rural women in Ningqiang is more than one fifth of the respondents. Half of them in the sample only have primary education or even less, and only 26.5 percent have middle school education. 72 of the 98 respondents only have primary schooling, 23 of the 98 have middle schooling; only one has more than middle schooling. And the household head's educational attainment is also low. Only six of them have more than middle school education. As a result, the two dummy variables for education attainment used in the full sample and the Yangling sample were recoded, from middle schooling & below and high schooling & above, to current primary schooling or below and middle schooling and above, with the former as the base category.

From the descriptive analysis of Ningqiang sample in Chapter Four, it is known that in response to the state's policy 'returning farmland to forest', most local farmers in Ningqiang have converted much of their land to forest, while small plots of land are left for old people and the disabled to take care for and rely on. Married middle-aged rural women in Ningqiang, like their male counterparts, normally go out to other provinces as migrant workers, so the empirical results are and should accord with findings in the migration literature.

The Ningqiang model results with all ten variables are shown in Model 3.0 in Table 5-6. Three non-significant variables were removed from Model 3.0 - the variable 'dummy for who does farming' ($p = .882$), the 'Dummy for *guanxi*' ($p = .733$) and 'original land size' ($p = .760$), and the new results are given as Model 3.1 in Table 5-7. The coefficients of all remaining variables have the expected sign and are consistent with the results of Model 3.0, which is the preferred model.

The regression results for Ningqiang show some similarities with the regression results for the full sample and Yangling sample. The coefficient estimate for the variable 'family size' is positive as expected but not significant at the 5% level in all three of these models. The coefficient estimate for the variable respondent's age below 45 is positive as expected and significant at the 1% level in the full sample model and at the 5% level in the other two models. The following will present some differences of regression results of Ningqiang sample.

Compared with the other models, firstly, the coefficient estimate for the variable respondent's education with middle school education and above, compared to those only have primary schooling or below, is positive and significant ($p = .011$). Respondents in Ningqiang with middle school education attainment, compared to those only with primary schooling

education are 13.67 times more likely to choose off-farm economic activities. It was also known from the field trip. Rural women in Ningqiang, as long as their physical condition permitted, would choose migrant work to make a living. So, unlike the unexpected negative sign in the full sample, and unlike that in Yangling sample negative and significant at 5% level, the coefficient estimate for rural women's relative higher education attainment (middle schooling and above) in Ningqiang present a positive sign and significant at 5% level, completely different from Yangling sample. But this result of Ningqiang sample agrees with the literature on migration (Jacka & Arianne, 2004; Song et al., 2009).

The coefficient estimate for variable 'dummy for land transfer' in Ningqiang is positive and significant with a p -value of .018. This differs from the results for this variable in the full sample and Yangling. It predicts that rural women whose household land has transferred, comparing to those not, is 5.64 times more likely to take off-farm employment. This agrees with local rural people's reaction to the national land policy *returning farmland to forestry* and also with what was found in the interview results and descriptive results of the survey in Chapter Four.

Different from the regression results of positive and significant coefficient estimates for the variable 'household head education' in full sample and Yangling, the coefficient estimate for the variable in Niqiang is positive as expected but not significant ($p = .503$). It implies that household heads' education cannot predict rural women in Ningqiang's off-farm work choices. This is because the generally low education attainment in Ningqiang limits husbands' human capital and thus cannot play a role in rural women's off-farm employment. Rural woman in Ningqiang, cannot be like those in the full sample (including Yangling sample), and need to rely more on their own educational attainment level to engage in migrant work.

A case in point is that a migrant couple interviewed in Ningqiang, where the husband only possesses a primary school education and the wife has less than three years of primary school education. They went together to Shanxi province, adjacent to Shaanxi, and have been working on a construction site for years as migrant workers, mainly doing harsh physical labour. When the wife was interviewed, she complained she had various kinds of health issues caused by the harsh working conditions on the construction site. With her own extremely limited educational attainment, plus her husband's low literacy, the couple can only get some harsh off-farm work from the foreign provincial labour market.

The coefficient estimate for the variable 'Dummy for taking care of children in Ningqiang is negative, like those in full sample and Yangling models. But unlike those in the full sample and Yangling, it is not significant ($p = 0.123$). This is mainly because the sample in Ningqiang has an aging issue: More than half (55 percent) of the respondents are over 51 years old, as many as 26.8 percent of the respondents are above 60 years old. At their age, their grandchildren are normally old enough to go to even middle boarding school, and do not need their parents to care for them.

Table 5-6. Predictors of Rural Women's Off-farm Work Choice in Ningqiang

Explanatory Variables	Model 3.0			
	<i>B</i>	SE	<i>p-value</i>	<i>Exp(B)</i>
Family Size	.634	.439	.149	1.885
Household income in 2015	.068	.335	.839	1.071
Respondent's age				
Young (= < 45 yrs. old)	2.855	1.289	.027	17.372
The aging (> 45 yrs. old)	Base	Base	Base	Base
Respondent's education				
Primary schooling below(≤6 yrs.)	Base	Base	Base	Base
Middle schooling &above (> 6 yrs.)	4.041	1.429	.005	56.906
Household head's education				
Primary schooling below(≤6 yrs.)	Base	Base	Base	Base
Middle schooling &above (>6 yrs.)	.769	.906	.396	2.158
Dummy for <i>guanxi</i>	-.500	1.465	.733	.607
Dummy for taking care of children	-1.992	1.063	.061	.136
Dummy for do farming	.156	1.055	.882	1.169
Original land size	.021	.070	.760	.979
Dummy for land transfer	1.529	1.529	.090	4.612
Constant	6.311	2.827	.026	.002
Number of observation			58	
Omnibus Tess of Model Coefficients			<i>p</i> = .001	
Cox & Snell R²			.410	
Nagelkerke R²			.562	
Hosmer and Lemeshow Test			<i>P</i> = .005(<.10)	
Percentage of correctly classified			87.9	

Table 5-7. Predictors of Rural Women’s Off-farm Work Choice in Ningqiang (Preferred)

Explanatory Variables	Model 3.1			
	<i>B</i>	SE	<i>p-value</i>	<i>Exp(B)</i>
Family Size	.422	.326	.196	1.524
Respondent’s age				
Young (= < 45 yrs. old)	1.875	.856	.029	6.518
The aging (> 45 yrs. old)	Base	Base	Base	Base
Respondent’s education				
Primary schooling below(<=6 yrs.)	Base	Base	Base	Base
Middle schooling &above (> 6 yrs.)	2.615	1.023	.011	13.673
Household head’s education				
Primary schooling &below (<=6 yrs.)	Base	Base	Base	Base
Middle schooling &above (> 6 yrs.)	.491	.733	.503	1.633
Dummy for taking care of children	-1.205	.781	.123	.300
Dummy for land transfer	1.730	.730	.018	5.642
Constant	-4.656	1.909	.015	.010
Number of observation		64		
Omnibus Test of Model Coefficients		<i>p</i> = .000		
Cox & Snell R²		.343		
Nagelkerke R²		.474		
Hosmer and Lemeshow Test		<i>p</i> = .377(>.10)		
Percentage of correctly classified		79.7		

5.5 Discussion

The study in this chapter were carried out in the context of the Chinese central government’s calling for reducing the number of farmers and cultivating a team of professional farmers for agricultural modernization. Rural women from small-scale farming households face a decision to shift and engage in off-farm activities. Meanwhile, the study of rural women is also carried out under the condition of China’s long-existing discriminative policy of the *hukou* system. Because rural women’s off-farm work opportunities are few, the notion of off-farm activities in this study is broad and includes local employment for wages, migrant work,

and self-employment.

Consistent with the literature, a rural woman with an age below 45 years old can predict that she will take off-farm work. The younger she is, the more advantages she has in the labour market. From Chapter Four, it is found that the off-farm work rural women undertake mainly centres on tertiary industry with little skill requirements, so young rural women are more likely to find working opportunities. Consistent with the studies on migration, the need to take care of children is a big obstacle for rural women to engage in off-farm employment. Meanwhile, if there is still farming for the woman to undertake in the rural household, she is also less likely to take off-farm employment, but this is not a significant finding. Family size also has a positive but not significant impact on a rural woman's choice of off-farm work in all three models. It is also found that rural household income in the preferred entire sample and Yangling sample has a negative on rural women's off-farm work choice with significance at 5% level.

Rural women's off-farm work choices also present regional differences. An important finding of the study is the role of rural women's own education attainment and that of their husbands' educational attainments on their off-farm employment decision. In the Yangling sample, on one hand, rural women's high educational attainment, compared to those rural women with low education attainment, can predict their not taking off-farm work, while rural women's husbands' high educational attainment can predict their taking off-farm activities. In contrast, as to Ningqiang sample, due to the general low educational attainment, rural women's relative high educational attainment (middle school and above), compared to those having primary education or below, can predict they taking off-farm work. Meanwhile, although husband's education attainment has a positive sign, it cannot predict a rural women's off-

farm work choice in Ningqiang. Zhu (2002) claimed that education only played a positive role for males but not for females in migration, this study put it further and found the mixed role of education on gender's economic participation within household, which also reflect regional differences.

This is mainly because Yangling, located on *Guanzhong* plain, with its unique national political and economic status (the only national Agricultural Hi-tech Demonstration Zone). Rural women in Yangling do not want to leave hometown living as migrant workers. They prefer to find off-farm work locally to make money and take care of the households as well, this matches with Zhao's (1999) claim that most educated rural people prefer local non-farm work. In contrast, in the research area of Ningqiang, rural people have taken migrant work as their living pattern for years due to its economic backwardness. Rural women there, as long as they have received some education, would step outside the poor hometown to do migrant work and this pattern agrees with the literature on migration.

The regional difference of rural women's off-farm employment decisions between Ningqiang and Yangling is consistent with the finding in Du, Park, and Wang (2005) on migration (off-farm employment). At low income levels (Ningqiang), the likelihood of migration increases with wealth. However, at moderate levels of income (Yangling), migration declines with wealth (Ren & Dominique, 2011).

Another important finding of the study is the contradictory results regarding the impact of land transfer on rural women's off-farm work decision. In Ningqiang, the rural household land transferred can predict a rural woman taking off-farm employment, however, in Yangling, it cannot. In other words, even if the household's land has been transferred, it can predict that rural women in Ningqiang take off-farm employment, while those in Yanling still

stay in the farming sector.

Literature says there was a causal relationship between the growths of off-farm employment and the land rental market (Zhang, Rozelle, & Huang, 2001). Klaus Deininger et al. (2013) claimed a sustained increase in non-agricultural opportunities was a precondition for successful structural transformation and the continued economic attractiveness of rural areas, instead of the other way round. This research has found that household land transfer alone cannot necessarily predict rural women's off-farm choice.

The finding of land transfer in Yangling cannot predict the growth of local rural women's off-farm employment can have great policy implications. Carrying out land transfers without fully considering the appropriate reallocation of rural women can be dangerous as rural women can easily become part of the proletariat or semi-proletariat in the process. This does not necessarily mean a decline in their standard of living, but they are unavoidably plunged in a position of being squeezed in the flow to urban areas. Rural women's economic status can be downgraded from previously helping cultivating the household contracted land to current landlessness and no available off-farm work. They then become economically dependent on their husbands. Land transfer has actually made many rural women in Yangling solely rely on their husband's unstable migrant work income, and accept a lifestyle of being separated from husbands and economically completely dependent on their husbands. In losing one's independent economic base, how can rural women's basic equality rights be assured?

In fact, many researchers have revealed that off-farm jobs for peasants are unstable, and migrants often have to keep moving in search of new opportunities (Xiang, 2007). After decades of fast growth, the Chinese central government has currently adjusted its development rate, and its real estate market is not as prosperous as it was years ago. As

reflected in the researcher's fieldwork, many of the local male migrant workers came back to their hometowns earlier in the winter of 2015, idled around, and waited for the winter to pass by and the spring of the New Year to come so that they could go out to find some migrant jobs (mainly on construction sites).

There is still less recognition that labour is gendered and that declines in income of poorer households may affect women and children more than men. Evidence had shown that household income was not fully pooled and shared (Dwyer & Bruce, 1988). Studies from all major regions of the Third World and many developed countries have found that whereas women's income is almost exclusively used to meet collective household needs, men tend to retain a considerable portion of their income for personal spending. The hidden 'equilibrating factor' was women's ability to absorb the shocks of stabilization programs through more work and 'making do' on limited incomes (Elson, 1993). Without exception, rural women's economic dependency on their husbands caused by the local governments' push of land transfer will reduce rural women's bargaining power and worsen their status within a household and society. If this situation cannot be fixed in time it is a backward step in terms of social progress and can increase rural women's vulnerability in economic participation.

Chapter 6. Professional Women Farmers

6.1 Introduction

With fast economic development and the migration, the countryside in China is occupied by a ‘38-61-99 Army’ (‘38’, March 8th, Women’s Day, represents rural, married, usually left-behind women; ‘61’ or June 1st, Children’s Day, represents rural left-behind children; and ‘99’, September 9th in the Chinese lunar calendar is Elder’s Day, and here refers to the left-behind elderly)(Xiang, 2007). Of the three groups of people, women have become an important force in rural economic and social development, and their challenges, such as lack of access to agricultural technical extension, lack of appropriate off-farm professional training, and lack of access to product selling, have been analysed in the previous two chapters. However, from the long-term view, China’s agricultural modernization cannot just rely on these three groups.

To solve the issue of ‘who will farm?’ and ensure food security in China, the Chinese central government has been advocating land transfer over the past several decades for moderate scale farming and agricultural modernization, and cultivating a team of professional farmers. With the promulgation of the National Cooperative Law in 2007 (Ito, Bao, & Su, 2012), the number of farmer cooperatives in China has grown steadily. Relevant professional farmers’ training classes are given nationwide. Among them, there are a few that specifically target professional women farmers, organized by some local women federations and which could be read in news reports (He & Danping, 2016, July 8) .

By 2017, the Shaanxi provincial government plans to have one hundred thousand people trained professional farmers, and aims to have two hundred thousand by 2020 (Jiang, 2014, November 24). In reality, in April 2015, after awarding 84 professional farmers in the

precious year, Shaanxi province awarded ‘Senior Professional Farmers’ certificates to 182 farmers, of which 22 were women, accounting for 12 percent of the total (Hao, 2015, April 19).

As ‘the cradle of China’s agricultural science and technology development and a significant base for the demonstration of agricultural industries and the Silicon Valley of modern agriculture’ in China (The People’s Government, 2016), Yangling had 212 rural women become agricultural technicians and became professional farmers between 2012 and 2014. With skills and professional identification, they actively offer technical services, not only within Shaanxi province, but also to other provinces like Shandong, Gansu, and Yunnan, as well to rural people there (Li & Zhang, 2014, October 29). An analysis of the common traits of this small group of women in the new era of PRC will not only have a spill over demonstration effect on ordinary rural women, but can also build an update image of rural women within the fast development of China’s agricultural modernization.

This chapter is arranged in the following way. Section 6.2 is the theoretical base: Amartya Sen’s Capability Approach, and Section 6.3 data and research method. Sections 6.4 and 6.5 are the narratives of professional women farmers, including their individual information, previous experiences, development of the family farm/cooperative and its current scale, any assistance they received, and barriers/challenges they encountered. Section 6.6 is discussion and sub-divided as: 6.6.1, Professional woman farmer’s political empowerment and social network; 6.6.2, agency and self-direction. In this subsection, professional women farmers’ common traits are further investigated from five perspectives, namely, industry, learning spirit, experiences of business or migrant work, courage to explore what they do not know, and mobility; and 6.6.3 investigates the challenges professional women farmers facing.

6.2 Theoretical Base: Amartya Sen's Capability Approach

A winner of Nobel Memorial Prize in Economic Sciences, Amartya Sen has been called "the Conscience of the profession" and "the Mother Teresa of Economics" (Coy, 25 October 1998; Steele, 19 April, 2001) for his work on famine, human development theory, welfare economics, the underlying mechanisms of poverty, gender inequality, and political liberalism. Sen's revolutionary contribution to development economics and social indicators is the concept of "capability" developed in his article "Equality of What" (Amartya Sen, 2010). In 1998, Sen further advanced and redefined the capability approach in his book "Development as Freedom"(Amartya Sen, 1998).

Amartya Sen is very concerned about justice, and he made major contributions not only in measuring poverty but understanding it. To him, poverty is the lack of capability to function, so reducing it is related to positive freedom. The core of the Capability Approach is what people are effectively able to do and to be on their capabilities. So when studying the new agricultural operator, Chinese professional women farmers' development, to set an update public image of Chinese submissive invisible rural women, Amartya Sen's Capability Approach is the best choice.

Scholars have been putting forward different lists of capability measurement, and Table 6-1 shows some of the work of capabilities categorized as low and high, done by researchers over the years. It is easily seen all of them were western scholars work. Given the big difference in terms of culture and development, some of the capabilities listed by western scholars are applicable to Chinese women (such as Education and knowledge, Domestic work and nonmarket care), while some of them do not fit in the Chinese rural women's situation (such as Control over one's environment).

Table 6-1. Comparison of Several Lists to Do with the Capability Approach

Authors	Swedish approach (1987)	Alkire and Black (1997)	Nussbaum (1995, 2000, 2003)	Robeyns (2003)
The list	Quality of life measurement in Sweden	Universal	Universal	Gender inequality in Western societies
Level of abstraction	Low	High	High	Low
Dimension	<ol style="list-style-type: none"> 1. Mortality 2. Physical and mental health and healthcare use 3. Employment and working hours 4. Working conditions 5. Economic resources 6. Educational resources 7. Housing conditions 8. Political resources 9. Family and social integration 10. Leisure and recreation 	<ol style="list-style-type: none"> 1. Life 2. Knowledge and appreciation of beauty 3. Work and play 4. Friendship 5. Self-integration 6. Coherent self-determination 7. Transcendence 	<ol style="list-style-type: none"> 1. Life 2. Bodily health 3. Bodily integrity 4. Senses, imagination, and thought 5. Emotions 6. Practical reason 7. Affiliation 8. Other species 9. Play 10. Control over one's environment 	<ol style="list-style-type: none"> 1. Life and physical health 2. Mental well-being 3. Bodily integrity and safety 4. Social relations 5. Political empowerment 6. Education and knowledge 7. Domestic work and nonmarket care 8. Paid work and other projects 9. Shelter and environment 10. Mobility 11. Leisure activities 12. Time-autonomy 13. Respect 14. Religion

Source: (Robeyns, 2003)

Considering Chinese professional women farmers (PFWs) are a very small group of rural women elite who are sharp and clear what is happening the national wide and thus could grasp the opportunity to development themselves, combining the western scholars' research on selecting relevant capabilities (Nussbaum, 1995, 2000, 2003; Robeyns, 2003), the researcher innovate her specific three steps to investigate Chinese professional women farmers' capabilities.

Step One uses the results of interviews and PFWs' narrative as the base, to give readers a general idea how these group of elite rural women come to their current development. Then

by extracting common characteristics from agency and self-direction, PWFs' common traits are identified. According to Sen, authentic self-direction is the ability to shape one's own destiny as a person and as part of various communities. Agency means the person's ability to act on what they value and have reason to value (Amartya Sen, 1999). Step three focuses on PWFs' ideological perspective, with the cut point of political awareness, involvement and social network. The three steps of capability analysis are specifically designed for the analysis of Chinese professional women farmers (see Figure 6-1).

Figure 6-1. Chinese Professional Women Farmers' Capabilities



6.3 Data and Method

The data analysed in this chapter mainly came from three sources (see Table 6-2) — one is Yangling. Provided by the Yangling Women's Federation, the professional women farmers already have some scale with a certain amount of assets and maturity in the industry. Data was collected at a meeting hosted by the Yangling Women's Federation, where relevant women respondents filled in a semi-structured questionnaire. Based on the collected questionnaire, the researcher did further follow-up telephone interviews.

The second source was from a second term professional farmers' training class carried out at Lueyang, a county bordering Ningqiang that also belongs to the Hanzhong prefecture. Of the 100 trainees in the training class, only ten were women. As it was from a training class, trainees were at different developmental stages: three of them were with a certain scale, while

the rest seven were still in their initial stages, struggling to survive. The data was collected from a group discussion during one night of the training. The third source is a woman professional farmer who set up the only mountainous vegetable cooperative at the specific research site of Ningqiang County.

Table 6-2. Profile of Professional Women Farmers

Region		ID	Age	Field	Stage
Yangling		PWF1	55	Breeding	Ending
		PWF2	47	Kiwifruit	Mature & prosperous
		PWF3	45	Dry fruit	
Han-zhong	Lueyang (trainees)	PWF4	44	Flower and wood	Beginning
		PWF5	44	Herb medicine	
	Ningqiang	PWF6	38	Mountainous vegetable	

By the end of 2015, the resident population of Shaanxi province was 37.92 million. The rural population took up 46.08 percent, that was 17.443 million and the women –men sex ratio is 100:106.73 (Comprehensive introduction of Shaanxi Province), which means rural women was around 8 million. Shaanxi provincial government plans to have one hundred thousand people trained professional farmers by 2017, and two hundred thousand by 2020 (Jiang, 2014, November 24). In reality, in April 2015, after awarding 84 professional farmers in the precious year, Shaanxi province awarded ‘Senior Professional Farmers’ certificates to 182 farmers, (Hao, 2015, April 19), altogether 286 professional farmers. Taken the year 2015, professional women farmers take up 12% of the awarded Senior Professional Farmers, there were roughly altogether only 32 Senior Professional Women Farmers.

The researcher interviewed six professional women farmers (mainly from Yangling) and 11 trainees from the training class), excluded those cooperated with the husbands for probably

actually running by the husbands, thus could not measure PEF's own capability, and also those still at their initial stage, thus could not see clearly their proven capabilities, the rest six representatives of professional women farmers were chosen and studied here. In other words, the focus of this study is on the women whose cooperative or family farms has reached a certain scale, and women really in charge. The research method in this chapter is mainly qualitative (Baxter & Jack, 2008; Yin, 2014), by combing case study and thematic analysis, professional women farmers' (PWF) common traits and challenges were illustrated.

6.4 Professional Women Farmers from Yangling

6.4.1 PWF1, the Head of the Fuqianjia Breeding Cooperative

PWF1 is fifty-five years old and her children have all grown up and started their own lives. Currently, she lives with her husband and runs a cow cooperative. In the beginning, PWF1 and her husband ran the cooperative together but, later, her husband was hurt by a cow and gradually became less involved in the operation of the cooperative. For the last seven to eight years, she has been running the cooperative by herself.

Currently, there are eight households with 110 cows in the cooperative. The investment is around 0.8million yuan. PWF1 personally owns 20 cows, and other dairy farmers raise their own cows in their own places. She provides the other dairy farmers with a milking machine and a venue for milk collection and employs two individuals: one is responsible for feeding the cows, and the other for cleaning and keeping the daily accounts. The cooperative deals with both wholesale and retail selling. PWF1 was a tailor for 20 years with six apprentices working for her. In 2001, a friend inquired if there was an abandoned brick factory nearby where they could raise cattle. They found a place, signed a contract, and started raising beef cattle and hired professors from the agricultural university to give them technical guidance.

Several years later, they switched to raising dairy cows and set up a cow cooperative in the form of a ‘company plus rural household’. It was a format where the company is responsible for the marketing and the rural household for producing, and was popular in the 1990s.

According to PWF1, there were once five cow cooperatives in the district, but two of them have gone bankrupt. PWF1 said she did not receive any assistance from the village committee or any other level of official organization. *Cooperative*, as she said, *is only a beautiful name*, and she, herself, has had to deal with the market risks and endure losses. Since the *Sanlu* poisonous milk powder incident of 2008¹⁷, Chinese people were scared and dared not to buy milk. The big dairy company left the cooperative, and the cooperative had to sell the milk itself. When the price was so low that milk was often poured away, and cows were not valuable either then.

The most difficult time for the cooperative was during the 2013 Spring Festival, when the two large dairy companies in China, *Mengniu* and *Yili*, suddenly stopped collecting milk. Milk was unwanted even at the price of 1.0 yuan/kg. Every day, around 1,000 kilograms of milk was poured away. At that time, according to PWF1, she would rather lose money herself than let other dairy farmers lose money. She paid those dairy farmers 2.6 yuan/kilo for three successive months with a personal loss of more than 10,000 yuan.

6.4.2 PWF2, the Chairwoman of the Meixin Land Share Cooperative

Forty-seven years old, PWF2’s husband is a migrant worker in Xi’an, and she is a left-behind woman. She has two children: a daughter and a son. Her daughter has married and moved to

¹⁷ China’s official media exposed the Sanlu poisonous milk powder, containing melamine, in September, 2008, and two infants’ deaths were reported related to it. Since then, the Chinese nation is suspicious of domestic milk powder, so it hugely affects the domestic milk market (Xiang, 2007)

a foreign place, and her son is also a migrant worker. Now she is at home. The family has two properties, with a shop along the street that she has leased out. Early in 2001, PWF2 subcontracted 120mu of land and hired a technician to give her technical guidance on kiwifruit planting. By giving the technician milk and eggs, very good food at that time in a rural area, and her diligence, she won his trust and learnt techniques from him.

In 2005, she sat an exam and, shortly after, got an agricultural technical title: senior technician. In 2015, she was appointed as the Director of Meixin Land Share Cooperative with 32 rural households and 106 mu of land. It is the first land share cooperative with which farmers can put land with all the appendages on it as shares. The local Bureau of Agriculture thought highly of the cooperative and held meetings at a stretch of five nights to standardize organic production according to famous provincial trademarks. The cooperative provides technology to its members. Meanwhile, they have hired a Chief Executive Officer (CEO) to manage the cooperative, give technological guidance, and assist with marketing.

The land share cooperative firstly needs to ensure the rent of its members, and will then distribute bonuses at the end of the year. The production should follow the CEO's requests, ranging from what fertilizer to use to the purchase of cover papers for the fruit; thus, the products have uniform standards. As to the bonus distribution, 70 percent of the profits go to the CEO as a guide fee, 20 percent was shared amongst the members, and the remaining ten percent is reserved for the village. As the Meixin Land Share Cooperative has just been established, Li is responsible for almost everything. She said she worked 20 hours a day. When asked about why they still need a CEO for the cooperative when she, herself, knows the business very well, she said it was the official arrangement.

Another cooperative in the village, the Senguo Cooperative, was set up in 2012, and now

consists of 201 households. Headed by the village secretary, PWF2 is the Assistant-director. They offer agricultural material, relevant techniques, and marketing information to their members. As ordinary farmers have no shares, they have no dividends. By using sprayers, the cooperative assists its members by spraying selenium and calcium on cooperative kiwifruit. The kiwifruit, depending on the species, sold at 15-16 yuan/kg. The cooperative kiwifruit usually sells at a price 0.8yuan per kilogram higher than those from surrounding areas. In addition, PWF2 has tried to sell fruit via the internet since 2014. In 2015, through PWF2's efforts, by using a new technique, the kiwifruit does not so easily go soft, and the fruit quality has improved as well. Since 2016, she said she has not had any negative feedback from consumers who purchased online.

6.4.3 PWF3, the Head of the Sister Lan Family Farm

After high school graduation, PWF3 worked in a local factory and later in some township enterprises. She got married three years after she left school, went to Weinan City with her husband and lived there for ten years. During that time, she tried different migrant jobs, including being a salesperson in a shopping mall and a server in a restaurant. Then, from 2002 to 2009 for eight years, the couple moved to another county to sell motorcycles. In 2010, with money saved, her husband came back to Yangling, signed a contract for 50 mu of land, and invested two million yuan to develop a cooperative. One year later, PWF3 joined him in Yangling.

Currently 45 years old and with an only son, PWF3 and her husband have a modern nuclear family, the annual income from her 100 mu family farm has risen to five million yuan in 2015. She runs a business selling various types of dried fruit, including grapes, cherries, and dates. She also engages in under-forest business, raising 500–600 free-range chickens on the

farm. She recently won an award as a model provincial family farm. However, the development of the family farm was not as smooth as expected. In the beginning, due to lack of techniques and shortage of labour, the business did not go well, and they encountered many difficulties. With accumulated market experience, they switched to introducing the cash crop of wood and learnt relevant skills.

PWF3 also works in developing the community. There are 55 rural households on her family farm now, and she regularly provides them with technical training. She also supports a group of disabled people by hiring them to work on the farm or buying agricultural material and selling products for them. She said her cooperative did not get any support from the government, and she used a traditional way—window/platform exhibits—for selling. She said she would like to learn e-business if she had the opportunity.

6.5 Trainees from Professional Training Class in Hanzhong Prefecture

6.5.1 PWF4

PWF4 is 44 years old till then and has two daughters: one is now at college, and the other is at boarding school. Her husband is employed as a driver. With fewer family constraints, she can now develop her business in the way she likes. Previously, PWF4 assisted her husband running a mine and selling ore¹⁸. In 2003, after the birth of her second daughter, she was in charge of the security of the mine and the workers. At that time, she always went down the ore pit hundreds of meters deep to supervise security, which established her good habit: whatever she does, she firstly thinks about it and then prepares well. A few years later, the

¹⁸ Lueyang is rich in ore resources. In addition to a large state-owned steel plant, there were many small families run mines. In recent years, however, the government started to restrict the operation of ore mines, and many local small-scale mine owners have switched to other industries. Three trainees in the professional farmers' class once ran these kinds of family ore mines.

ore business did not make much money, and she decided to switch to another industry. After careful investigation, she made the decision to join a relative's company for a few years. It was the time after the earthquake in 2008, and the local green industry started to rise.

She became the manager of the green wood company, accepted many training, thus learnt relevant technology. After managing several large projects, her experience became rich and vision was widened. In 2011, she came back to her hometown to develop her own wood business. She wanted to lease a piece of land, but the rent was too high for her to afford. Luckily, she got a plot of flood land and spent hundreds of thousands of yuan to reclaim a further 20 mu of land. She started with seedlings, which needed three to five years to become profitable. Three years later, she switched to the flower industry and focused on cultivating roses. The business is now starting to make money.

The location of her flower business is good in that people can easily see the beautiful blossom flowers. The local women's federation and Technical Association saw them and voluntarily erected advertising boards for her. In 2013, she registered as a cooperative. With her skills, she was often invited to give technical guidance. Till the time of interview, she employed 40 long-term local workers to do weeding work but, as most of them are in their 50s and 60s, they are slow to learn techniques. So, when it comes to the technique of cutting the branches, she needs to do the work herself, which sometimes makes her feel exhausted, but she said it was alright and she could stand it.

At the time, the Lueyang County government is spending hundreds of millions of RMB to build Wulongdong Forest Park. PWF4 grasped the opportunity, leased 100 mu of land at the entrance of the Park, and built 17 greenhouses there. She plans to sell tickets to tourists when the flowers start to blossom and believes that when the tourists see the beautiful flowers, they

will naturally use their cell phones to take photos, which they will then upload on *Wechat*¹⁹. This will attract more tourists to her garden, thus allowing her to make more money before she actually sells the flowers.

PWF4 said she had no worries about marketing, as from macroeconomic perspective, one can see infrastructure construction wherever one goes in China today, which means there is a huge market demand for flowers and cash wood, but there are only about five people of the similar scale doing flower business like her in Hanzhong prefecture. From a micro perspective, even ordinary rural people want to buy pots of flowers or plants to put in their yards and decorate their life after they build their houses. Therefore, what she needs to do is to improve her grafting techniques and cultivate the best roses with long blossoming periods.

PWF4 studies technology by herself, does technical training, and cooperates with many companies. She stressed it was not a time for an individual to do business alone and cooperation was very important, either through shares or technical guidance. Business may not look profitable on the surface, but when all costs added up, one could still be a winner. She said she would join e-commerce as soon as possible.

6.5.2 PWF5

PWF5 is also 45 years old, but her career development was interrupted several times due to marriage and caring for others. In her early 20s, PWF5 married a soldier who had to serve the country in another bordering province. Living alone with her young daughter, she started to think what she could do. Soon she found her house yard was big enough to use as a private kindergarten. As soon as she got the idea, she started to put it into practice. Although the

¹⁹ *Wechat* is a kind of popular Chinese social media software normally installed in one's cell phone, just like *Facebook*.

kindergarten started with only two children, two years later there were usually 15 to 20 children attending, which was a good number in a small town. When her husband completed his army service and was relocated to the county's capital city, she closed her kindergarten and she and her daughter joined her husband.

Not long after her arrival in the city, she again faced the same question of what business she could do. With careful observation, she found the beauty industry had great potential. At that time, people knew little about beauty, yet she bought some CDs to teach herself and stepped into the industry. In the beginning, she only had one beauty bed and did the service all by herself. Later, the business developed to a scale where she had six beauticians working for her. At the same time, she went to a beauty school to improve her knowledge and skill in the industry.

While her business in beauty was on track and developed well, her father got seriously sick. With no valid social security system then, it was the children's duty to look after their parents when they were sick or paralyzed. Most of the time, it is the daughter or daughter-in-law who has most of the responsibility of care. PWF5 closed her beauty shop to take care of her father for several years until he died.

In 2013, during the local woodland reform, together with a business partner, PWF5 leased 400 mu of land on a hill. Given local industry characteristics, the two chose to plant Chinese medicinal herbs. Hence, this was the third time PWF5 had started a business. Now, her daughter is in college, and the older one does not need PWF5 to take care of her anymore, so PWF5 may now have a continuous career.

6.5.3 PWF6

Thirty-eight years old and a native of Anhui province, PWF6 met and got to know her husband from Ningqiang while she was a migrant worker in Beijing. After their marriage, the couple got some work contracts, gathered and organized a team of people to work on the construction sites, and began to make some money. Not long after this, her mother-in-law became ill, so PWF6 and her husband took their money and came back to his hometown, Ningqiang, to take care of his mother. Not long after the couple return to his hometown, the husband had an affair with another woman. PWF6 had no choice but to agree to a divorce and, together with her eight-year-old son, she started to make a living by herself in a foreign county.

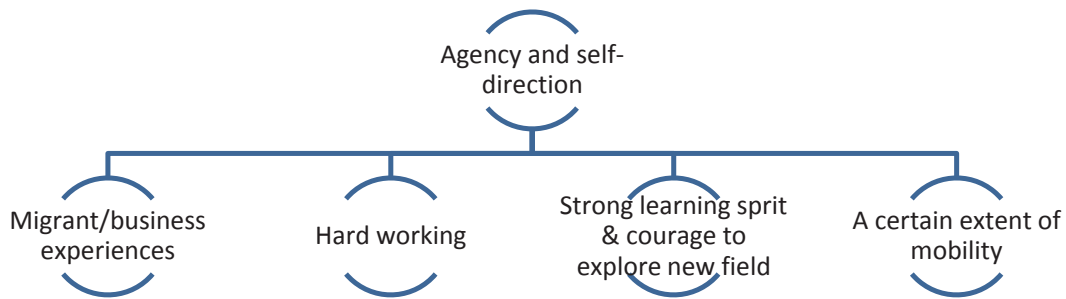
Divorced PWF6 faced a dilemma. Based on rural social norms, a divorced woman without land does not belong to the local rural community anymore (See Section 4.1.1.1). However, to provide her son with a relatively stable home and education, she needed to settle down locally. She wanted to engage in agribusiness through cooperatives and, with some local assistance, she set up a mountainous vegetable cooperative. However, the local people still have doubts about her and are reluctant to join the cooperative for fear that she might one day run away with their money. Even her ex-mother-in-law does not believe in her.

6.6 Discussion: PWFs' Common Traits and Challenges

6.6.1 Agency and Self-direction

Based on the interview and professional women farmers' narrative, professional women farmers' agency and self-direction can be investigated from five perspectives (see Figure 6-2).

Figure 6-2. Illustration of PWFs' Agency and Self-direction



First, almost all of the PWFs have migrant work experience, business experience or both. These experiences are very good for accumulation of their human capital. PWF1 once worked as a tailor and hired six apprentices to help her; PWF5 once ran a kindergarten and, later, a beauty shop; PWF4 once assisted her husband to manage an iron mine, and PWF3 had run a motorcycle store with her husband. PWF6 assisted her ex-husband to organize local people to go to different provinces to do building working on construction sites. All these experiences have widened their vision and can be viewed as a process of capacity building for themselves. With greatly improved management capacities, leadership and organizing capability, they stand out from other ordinary rural women and their roads head towards professional farmers are paved.

Second, all the professional women farmers are hard working. PWF2 maintained that she worked 20 hours every day. Whenever customers order kiwifruit on the internet, even if it was at 10 pm, she would immediately ride her motorcycle and go to the kiwifruit storage unit to pack the fruit for the customer and then deliver it. PWF1 also illustrated her diligence through her description of her daily work:

Villagers always say I can compete against three men at work. Every day I

get up at 4am and go to my milk station to milk the cow. After that, I drive my three-wheeled motorcycle to a clean-vegetable factory by my village to pick up the unwanted vegetable leaves for my pigs and the paper package waste they throw away as well. Then I drive to a waste collecting station not far away to sell those paper packages. By doing this, I can get an extra 1000-yuan income per month.

To me, staying idle is a waste; I love working.

Third, this group of women also illustrates a strong learning spirit together with courage to explore what they do not know. For instance, WPF1 was once a tailor, but she is not afraid of the unknown and started a breeding cooperative. WPF3 was a businesswoman selling motorcycles, but later came back with money to develop her family farm. As PWF1 said:

As long as I have an idea, I will do it. We once needed to build a cow shed around 3000 square meters for storing feed, and a flat for living. Although not knowing anything about building, I hired people who knew and learnt something about building while helping them.

PWF3 said:

Whatever I do not know, I want to learn.

PWF4 is a perfect example of a brave learner. At each step in her life, she set a solid base for the next one. From her early business experience of assisting her husband to operate an ore mine, she got managerial experience; she then went into the cash wood business by firstly working for others through managing some large projects, and accumulated relevant experience as well as building social networks. With her new skills, she came back and set up

her own business. Because of careful market investigation, her flower and cash wood businesses matched local development and met people's need to beautify their lives. Her businesses do not have many competitors, so it grows quickly and smoothly.

As the only divorced rural woman in the sample, years of migrant work experience has widened PWF6's worldview, and she believes in pursuing what she thinks is the direction of Chinese agriculture: the cooperative. She likes to study new things and is keen on developing her cooperative. Although the traditions and social norms are deep-rooted and hard for local people to overcome, her experiences have already shown she has great courage and a new outlook for rural China.

PWF6 wants to make a living in her ex-husband's rural community, which is completely anti-cultural behaviour. Other people cannot imagine how much pressure, hardship, and prejudice she experiences. The good news is that the migration of family members, greater connections with the outside world through TV, and the widespread use of smart phones and even the usage of internet have made the community less rigid than before. All this development has undoubtedly made these women aware of modern world development and given them confidence to continue with what they believe in. However, it is impossible to rely on an individual to beat the ideas in local people's minds.

Last but not least, all the successful professional women farmers have shown different degrees of mobility to enlarge their living and working spaces. PWF2 has a motorcycle at her disposal, and PWF1 has a three-wheeled motorcycle to go wherever she wants. PWF3, PWF4, and PWF5 each have a car to assist them to operate their dried fruit, herb, and flower businesses, respectively. Although PWF6 does not have a motorcycle or a car, she manages to go wherever she wants to participate in various kinds of professional farmers' training.

However, they also encounter some deep-rooted obstacles. PWF5's story says a lot about women's life which revolves around marriage and being a care-provider (Hartmann, 1981). In less than 20 years, PWF5 started businesses three times and stopped twice simply because of the marital custom and the role of caregiver. The opportunity cost is huge as each time, and each time after the interruption, it took her a lot of time and energy to get to know the market to re-enter and start and develop a new business.

6.6.2 Social Network and Political Empowerment

Of all the professional women farmers and trainees interviewed, only PWF2 has had some political involvement working in the village committee. Although the focus of the position is mainly on women in the village and not a key role in the village committee, at least she is involved in it. With a senior technician title, unlike other rural women in her village, PWF2 has extended herself to a relatively wide social network. It was not only reflected in her income: she got a salary of 1,800 yuan/month because of the technician title, and was hired as a technical consultant by a nearby Taiwanese company for an extra 1,200 yuan/month salary, she is also often invited to give technical guidance to a vegetable project at Xinxiang, Hanzhong, south of Shaanxi, through phone communication.

As the women representative in the village committee, she gets along well with village committee members through her industrious work. She cooperates well with village secretary to run two cooperatives: one (Senguo Cooperative) he is the director and she is the vice director, and another one (Meixin Land-share Cooperative) she is the director and the village secretary is the vice director. Partially due to her active involvement in the village committee work, she gets support relatively easily from the government easily for the cooperative's development. All the others showed little interest in being part of the village committee. Once

again, historical and psychological constraints on women are formidable.

Emily Honig (1985) argued that the marital custom of women move to husbands' village is a key reason for hindering Chinese rural women's enthusiasm in political equality. As when young women were at the natal village, they are less likely to be trained as leaders because they will leave their village at marriage. For if she acquired some power in her village, once she married and moved to her husband village, she, as a newcomer, would face distrust, meanwhile, and be disadvantaged by being unable to compete for political power with men who had been born and bred in the village. Meanwhile, Patricia et al. (1995) argued that women's participation in the politics is curtailed and characterized by their reluctance to challenge the traditions that define their roles as nurturers, supporters, and organizers

The negative side of not being involved in politics is obvious and has already been shown through a woman professional farmer. Of all the professional women farmers interviewed, PWF1's cooperative has existed for ten years, the longest of all those interviewed. As one of the pioneers²⁰ of new agricultural operators, her cooperative development seemed to be full of hardship, and she always had to fight against market fluctuations. Impacted by the village land acquisition, she passively accepted the village committee's manipulation of the cooperative land contract without arguing for her rights.

Although it is a global phenomenon that women are less involved in politics, Chinese rural women generally lack awareness of their rights, let alone participate politically (O'Brien & Han, 2009). Society does not provide equal opportunity for women to become involved in politics and is often prejudicial against women who engage in it. To the rural women with the

²⁰ In its No.1 Central Document of 2012 and 2013, the Chinese government emphasized developing new types of agricultural operational bodies, which include a new type of professional farmer (Young, 2013).

influence of thousands of years of feudalism in Shaanxi, China, most of them are still used to accept what they are presented with and lack initiative to fight for what they want.

6.7 Conclusion: Common traits and challenges

Women's economic life is easily interrupted by marriage, child rearing, and taking care of the elderly in the family; in other words, their major challenges for equally economic participation are the exogamous marriage customs and gender divisions of labour (Jacka, 2006), both of which show no sign of fading in this research. WPF5's story says a lot about women's life which revolves around marriage and being a care-provider: In less than 20 years, WPF5 stopped twice and started businesses three times. Needless to say, each time she needed to get to know the market to start a new business and develop it again. Rural women like WPF6, who married into a strange village in a foreign province, yet has a strong inner drive to develop her cooperative but is restricted by out-of-date rural social norms, are really in need of help. Local government, together with social forces, need to reach out to help them.

With all the interviewees, no matter what her condition is, the unpaid work taking care of the children, the sick, the disabled, or the elderly is naturally the woman's responsibility. This fossilized gender division of labour makes it seem natural that women were born to do all the unpaid domestic work and provide care for the household. More than 35 years ago, Hartmann (1981) used housework as an example to point out family is the locus of gender, class, and political struggles. The deep-rooted social injustice and marital norms have strongly restricted women's equal rights development. China, as the second largest world economy, should take the initiative to do something for its women and the world.

PWFs actively choose an independent life for themselves and are far better adjusted in

society. They earn their own money and have become more self-assured, visible, and autonomous subjects. Their experiences challenge traditional types of gender-based access to resource management, improve gender relations in community development, and advance participation.

Compared to the ordinary rural woman, professional women farmers or trainees show strong signs of agency and self-direction. This is illustrated by their hard work, strong learning spirit, rich human capital accumulated in business and migrant work experiences, courage to explore the unknown, and mobility at different levels. They all have some social networks for their businesses, but most of them still lack of political awareness. What's worse, there is no sign to show they have any intention to improve their political involvement, which is due to traditional gender roles and the lack of women involved in the political environment.

7 Conclusions

7.1 Summary of Major Findings

With first-hand data collected from three areas in Shaanxi province, China, by using mixed research methods, multi-dimensional research of Chinese rural women, this research looked at rural women's barriers to economic participation, the predictors of rural women's choice of off-farm work and professional women farmers' common traits and challenges.

7.1.1 Rural Women's Current Situation and Challenges

The shared characteristics of the rural women in this study were that they are generally married, middle-aged women with a mean age of 46.8 years for those in farming and 42.6 years for those involved in off-farm activities. Rural women of this age group are strongly constrained by social norms, including marital customs. Both ordinary rural women and professional women farmers, without exception, need to keep their married status and take care of their children/grandchildren and the elderly in the households. Marriage is a way to ensure their right to household land and their identity in a rural community. Without marriage, they could become nobody and have no place in a rural community. That is why in the entire sample, only one woman is divorced, and she is encountering many challenges.

The rural women in Ningqiang County are usually illiterate, or have less than primary or barely reached primary school educational attainment. The remote location and hilly terrain, mainly relying on the weather and manual labour for farming, have put local women in a most disadvantageous situation. Meanwhile, impacted by the state's calling for the conversion of farmland to forest, most of the local households only have small pieces of land left and cultivated mainly by the elderly.

With few local off-farm economic chances in Ningqiang, almost all the young and middle-aged rural men and women chose to go to foreign provinces to be migrant workers. On leaving their hometown to go to a foreign place, middle-aged low literate women, like their husbands, can only do harsh unskilled physical work. Because of no urban *hukou*, some of them returned to their hometowns, usually with health issues, which makes their situation worsen. For those still staying in the farming sector, heavy economic debt, low literacy, aging farmers, shortage of hands, lack of agricultural technical extension, difficulty in selling products due to remoteness, and no access to resources are their key issues. With so many challenges, rural women in Ningqiang need government's direct financial support and poverty reduction programmes to solve their economic backwardness.

With strawberries and kiwifruit as their leading industries, relatively convenient transportation and good natural resources, rural women in Mei County have clear farming goals and relatively stable incomes, but they also have challenges. Harsh farming work without much entertainment, lack of access to the latest agricultural technology and marketing issues are their major barriers. However, different from the marketing issue in Ningqiang, the marketing issue in Mei County is due to the characteristic of the cash crop, strawberries, which cannot be stored long after harvest, and can result in economic loss to local rural women. Therefore, for rural women in Mei County, strengthening their access to agricultural technical extension service, enriching their leisure time, and improving the strawberry marketing system are what they really want.

Of the three research sites, rural women in Yangling were the first to experience impacts of the fast pace of local urbanization and modern agriculture. It is found that the operation of land banks was largely dependent on the village committees' responsibility and leadership,

and land expropriation was too fast and sudden to provide protection of local people's interests. Reflected at the village level in Yangling, the status of rural land is complicated, and land transfers are at different scales and levels. Some individual villages, particularly those with good locations, have attracted some outside companies to set up factories close by. As a result, rural women there had the opportunity to work for the firms after their land transferred. However, some of the villagers have been passively waiting for years for the local governments' replacement measures.

China's migration, *hukou* system, HRS and adjusted land policies easily degraded rural women to look after the household contracted land and become the last resort for migrant workers (Chen, 2014; Hare et al., 2007; Hu, 2013; Lu et al., 2013). Although the local government in Yangling provided two months of off-farm professional training for reallocation in 2015 for rural women, they did not get much benefit from it and still had nothing to do. That was a great waste of money and public resources. The findings of this study have shown that simply speeding up the rate of land transfer without a careful complementary reallocation plan could only lead rural women to both landlessness and unemployment. Therefore, one of the urgent questions needed to be asked of local governments, which want to follow the central government's calling and promote modern agriculture through land transfer and urbanization, is 'What is the most effective and sustainable way to assist landless rural women to engage in off-farm economic activities'?

7.1.2 Predictors of Rural Women's Off-farm Choice

With the past pace of urbanization and agricultural modernization, less rural women are needed in the farming sector, and most of them are facing a choice of engaging in off-farm economic activities. To determine the predictors of rural women's off-farm choice, the

research used logistic regression. The entire sample included regional dummy variables with Mei County as the base, and the model was re-estimated by using the Yangling and then the Ningqiang samples. The entire sample results indicated no significant difference between the constant terms for Yangling and Mei County (the base). However, the Ningqiang dummy showed a significant difference from Mei County. Of the three preferred models, the results for two variables showed consistency. Variable 'family size' was as expected positive, reflecting that the larger the family size, the more likely rural women chose to engage in off-farm economic activities. The other was variable 'respondent's age': The younger rural women (below 45 years old), the more likely she would engage in off-farm sector.

In the full sample and Yangling sample, the 'household income' variable shows an unexpected negative sign but is significant at 5 % level. Therefore, the higher rural household incomes are associated with rural women staying in the farming sector. A possible reason is that Shaanxi is a large inland agricultural province with little off-farm employment opportunity, a rural woman, if her life is good from the perspective of relative higher household income, she is less likely to engage in off-farm work, which normally takes the form of migration. Meanwhile, if the rural women need to do farming, she is also less likely to take off-farm employment. 'Having children to take care' can predict rural women not to take off-farm activities, but in Ningqiang the estimated coefficient is negative but not significant, due to the aging farming issue reflected from the data there.

An interesting finding is that in the three preferred models, rural women's choice of non-farm work all had a positive connection with their husband's educational attainment, and was significant at 5% level in the entire sample and the Yangling sample. The husband's higher education attainment could predict rural women choosing of off-farm work. In contrast, rural

women's own education attainment presented different signs in the three prepared models. In the entire sample, rural women's higher educational attainment has an unexpected negative sign. In the Yangling sample, the estimate coefficient is not only negative, but also significant at the 5% level. This means rural women with high school educational attainment in Yangling are predicted to stay in the farming sector. However rural women with middle school education and above in Ningqiang were predicted to take off-farm (migrant) employment.

The differences for rural women's own educational attainment on rural women's off-farm work choice in Ningqiang and Yangling's could be attributed to geographical, social norms, and people's changing attitude towards migration. Although rural women in both areas found it was hard to find local off-farm economic opportunities, being located on the fertile *Guanzhong* plain, as the only national agricultural Hi-tech Demonstration Zone, having convenient transportation, relative affluent life, rural women in Yangling would rather stay idle in their hometown, instead of going to foreign provinces to be migrant workers. However, for rural women in Ningqiang, hilly topography, inconvenient transportation, small-scale farming, and not enough income from farming make them leave their hometowns as migrant workers in foreign provinces.

Another important finding was that the estimated coefficient of the variable 'land transfer' in the full sample was positive, and in Ningqiang sample, it was not only positive but also significant at 5% level, while in Yangling sample, it was unexpectedly negative and significant. How can such a big difference be explained? The variable 'land transfer' did not have a significant impact on rural women's choice of off-farm work in the entire sample because the general land transfer rate in Shaanxi province was still low. However, to rural

women in Ningqiang, due to the wide spread national land policy ‘converting farmland to forestry’ and lack of other local resources and the harsh local condition, after their land has been transferred, local people got rid of the restriction of land, and just stepped outside their hometown and become migrant workers in foreign provinces.

In Yangling, even though household land had been transferred, landless rural women still preferred to stay in the farming sector, although they also could not find off-farm employment locally, but due to its relevant economic affluence, favourable location and rural women’s own age and division of labour, they would rather choose to stay idle in the farming sector. This is because that the high land transfer rate (61% in 2016) in Yangling was not caused by a growth of off-farm work opportunities or labour market’s ‘pulling’ behaviour, but rather local government’s ‘pushing’ behaviour. What’s worse, this study found there was evidence that the current ongoing land transfer policy, pushed by local authority, before the local labour market was ready, could have made rural women completely dependent on their families, normally their husbands’ migrant work income. This contradicted the mainstream media voice that land transfer was good as it could increase rural people’s income and productivity (Wang, C., 2013; Xu, 2014). Land transfer policy needs attention and to address this issue as soon as possible.

In summary, after the study on the three research areas in Shaanxi Province, it was found that, although rural women have diverse regional characteristics, they are generally marginalized and with a lack of access to either agricultural technical extension or proper off-farm professional training. Out-of-date social norms, including gender division of labour, were another large obstacle for rural women to participate equally in economic activities. In addition, the state’s ongoing land transfer policy in Yangling had shown signs of making

rural women's situation worse by plunging them into a situation totally reliant on their husbands' unstable migrant work income. As a result most of the middle-aged Chinese rural women unexpectedly encounter the state's fast structural transition, such as the fast speed of urbanization and agricultural modernization, and constrained by the out-of-date social norms and gender division of labour, and therefore found it hard to make adjustments and catch up with the times.

7.1.3 Rural Women in Off-farm Sector and Professional Women Farmers

As to the findings of rural women in the off-farm sector, in terms of signing working contracts, their general working environment has improved when comparing their first and current jobs. The off-farm work they take usually required less skill, and was temporary, unstable and changeable. As time passed by, nearly one third of the women quit and went back to the farming sector staying idle. Of the rest, 10% improved their financial situation and with some wealth accumulation, started to engage in self-employed small business, and the rest did not have much difference. It was found that there was little off-farm professional training available for the majority of ordinary middle-aged rural women.

Compared to the ordinary rural women, who are passively involved in the state's land policy and urbanization, and become landless and idle, a handful of professional women farmers grasped the opportunity of developing family farms and cooperatives and presented an updated modern image of rural women in terms of agency and self-direction. They were experienced, industrious, and open-minded. They were willing to learn and had courage to do whatever they wanted to pursue. They all showed some capability of mobility. However, professional women farmers also face some challenges. They generally lack of political awareness, which naturally leads them to have less involvement in politics, and they have

little initiative to seek government support. This can explain why sometimes their rights could not be protected.

7.2 Policy Implications

Understanding rural women's current situation and challenges has important implications for aggregate growth and for policy improvements. Extension services with gender awareness are particularly important, meanwhile through better services in health care, creation of non-farm employment, provision of public policy on children's care and anti-poverty reduction strategies can all play a role in helping rural women.

7.2.1 On Trainings and Local Officials' Sense of Service

From the survey on rural women both in the farming and off-farm sectors, a common finding is that they all lack appropriate training, either in terms of agricultural technical extension or off-farm professional training. Relevant challenges rural women encounter in training include lack of access to training (such as rural women in Ningqiang), training offered showed a lack of gender awareness (the case of rural women in Mei County), and a mismatch between the training that local government offered and what the rural women really need (the case of rural women in Yangling). All these show that the mode of training needs further reform. The PRC's previously planned economy and the one party political system easily makes it resulted in a centralized diffusion system, which is easy and carried out in a top-down pattern, and lead to the finding of the research: the mismatch of the training offered and what rural women really want.

In essence, all these issues rooted in local officials' vision and sense of service. To improve the training result, local officials at different geographical areas should know very well about

the impacts of the interweaving factors of local economy, geography, culture including gender division of labour, with careful baseline investigations, design trainings that are not only available and accessible for rural women, but also have relative satisfactory economic benefits for them. It requires that right from the beginning, local officials, instead of crossing the river by feeling the stone, they should be clear what they are doing, developing a strong sense of service, with gender-sensitive training team, and integrate it into governmental officials' work evaluations.

At the state's critical transitional stage, issuing policy on rural-women-oriented, well-designed training with evaluation throughout the whole process is of critical importance. Local officials need to go into rural households, talk, even eat with rural women, and do careful and solid baseline investigation. They could study what rural women really want and make evaluations and assessments, taking into consideration rural women's low educational attainment and their mobility, and design more practical and profitable training. Based on each area's specific situation, trainings should be carried out at flexible time and locations for the convenience of rural women's participation.

Meanwhile, assessment of the training should be taken into consideration not only at the beginning of the training project, but also on an on-going basis until to the end of the project to ensure timely adjustments, either methods, time or content, so as to maximize the training purposes. Besides, to make the maximum of social resources, local officials should also try to use various kinds of methods to stimulate different levels of social forces, and cooperate with relevant NGOs²¹. With this in mind and in the training process, rural women as training participants could overcome their cold passive attitude towards training, learn relevant

²¹ For more information about agriculture extension, see Section 2.1.3

technology, build their confidence, and finally reach the purpose of reducing gender inequality.

7.2.2 Match the Growth of Off-farm Employment with Land Transfer Rate

There is no doubt that land circulation is good for the PRC to achieve its agricultural modernization, but it should be cautious and carried out following some economic rules and at an appropriate rate. This research found in the Yangling sample that the growth of household contracted land transfer rate could not naturally result in rural women's choice of engaging in off-farm work. Due to various factors, age, the traditional gender division of labour, and inland location, low demand in labour markets, most of them became landless and unemployed at their middle age, and have to stay idle in farming sector.

This suggests that simply stimulating land transfer and increasing the land transfer rate will not do good for rural women's development. Accompanying land transfer, local government at various levels need to work on creating off-farm employment opportunities for local rural women. This is not new. Twenty years ago, PRC's current Premier Li Keqiang had pointed out that the realization of the transfer of rural surplus labour should be within the rural areas (see Section 2.3.3). Therefore, local governments should try hard to create off-farm working opportunities. Attract, encourage, and assist local people with wealth, or migrant workers who have made money to come back to their hometowns and set up enterprises to create local off-farm opportunities. Alternatively, they could also attract outside investors to set up businesses, such as food processing factories to create off-farm employment opportunities for local rural women. Such strategies would stimulate local surplus labour absorption, and thus change the current situation of a high rate land transfer and high rate of rural women unemployment.

7.2.3 Social Norms and Professional Women Farmers' Demonstration Roles

Rural women have had to pay a high price for the out-of-date social norms and marital customs. This can be seen from the experiences of PWF5 and PWF6. To motivate the unused large labour force of rural women, governments at all levels should take the initiative to fight against some backward traditions, out-of-date social norms and gradually provide a relatively fair platform for rural women. Only by carefully targeting the needs of rural women can fair and sustainable agriculture and rural development in China be possible to achieved, which in turn, will also maintain China's stability and prosperity.

In fact, some international charity foundations and organizations have a good sense of gender awareness in developmental projects, so governments of all levels could be open to seek cooperation with them, for different types of improvement and intervention. By infusing their advanced working connotations and approaches, spreading modern notions and eradicating out-of-date ones, rural women may have the opportunity to understand what is going on and even participate equally. Rural women's situation could improve and the gender gap could be narrowed. However, it must be admitted that social custom is very hard and slow to change. It was found in Henan province that some NGOs have attempts to advocate new wedding customs, such as men married to women and settled in the women's village, with good effects, but it is still rare, and we cannot rely on some individual NGO to solve the problem.

Professional women farmers can be role models for ordinary rural women and be encouraged to assist the development of their ordinary rural sisters. Living in the same rural communities with ordinary rural women, professional women farmers know very well the problems that ordinary rural women feel in life and production. Thus professional women farmers should be encouraged to play an active role in encouraging and organizing various kinds of rural

women's organizations, assisting and guiding ordinary rural women with potential to evolve from an old-fashioned field-tiller to a 'new type' of professional farmer. Eventually, the number of successful professional women farmers will increase, and this will have larger spill over effect.

7.3 Closing Statement: Limitations and Future Studies

A small sample size and data collection coming from just three areas of one province is clearly a limitation of this study. Suggested future research could include the use of larger samples, or repeating the work in other areas and parts of China to generate a more comprehensive set of findings. Furthermore, new research can also be carried out on how to develop and design appropriate farming and off-farming professional training programmes that embrace gender awareness and develop effective evaluation systems. Finally, research should be undertaken on how to allocate rural people, especially rural women more appropriately while accelerating land transfer to achieve its modern agricultural goal and better urbanization outcomes in China.

In 2015, world leaders from 193 countries have agreed sustainable development goals(SDGs), the world's action plan for the world's next fifteen years. It follows the Millennium Development Goals (MDGs), and has altogether 17 development goals. Governments have agreed no goal should be met unless it has met everyone, including those most vulnerable and hardest to reach in society. As to this research, the study of the specific group of middle aged rural women concerns SDGs of end of poverty, freedom from hunger, health and wellbeing, gender equality, decent work and economic development, reducing inequalities, peace and justice, thus the finding of the study could make relevant contribution in the area.

Plenty research has proven that economic growth does not necessarily lead to social progress,

nor could it lead to all the better off of citizens' wellbeing. Gender equality can promote economic growth, yet the influence of economic growth promoting gender equality is less likely. China's vastness and long feudalism history, institutions, such as the *hukou* system and rural land collective ownership, gender division of labour, and local authorities gender awareness, sense of service, capability to attract outside investors and leadership can all contribute to rural women's smooth and successful economic inclusion.

In addition, modern technology has already show some signs in assisting rural women's development during the researcher's fieldtrip of data collection. E-commerce advertisement can be seen almost everywhere in the rural areas of Yangling and Mei County. Accompany the government's supporting of the advancement of rural e-commerce development, some professional women farmers interviewed have started to use the internet to do business. As to those have not, they all expressed their intention to make use of it to enlarge their business. Smart phones are prevalent. Some women cadres and professional women farmers, who the researcher added as friends on *wechat*, frequently uploaded news ranging from professional farmers training, modern agriculture development and the latest governmental agricultural policy. Statistic data has already shown that online shopping and payments increase faster in rural areas. All of these may offer an unprecedented equal opportunity for rural women's fast catch-up development, which needs researchers to give special attention to.

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Appendix 1. Interview Outline with Women Cadres

Area: Participants Name:

Title Phone

1. The land transfer characteristics, the impact on farmers, particularly female villager economic life
2. The local rural women, foreign workers briefing (geographic, type of work characteristics, trends, obstacles, causes, ways to cope)?
3. Rural women in agro-farming, the number of relevant aquaculture industry, the proportion of the relevant supporting policies, difficulties, causes, how to deal with; non-agricultural: the District Rural Women go out of business persons, the proportion of industry characteristics, common obstacles, response program

Appendix 2. Research Site Basic Information

Dominant land use (by gross revenue)	No. of households	No. of women	No. of men	No. of permanent residents	No. of the elderly (60 above)
No. of children (under 14 years old)	The ratio of male migrant workers	The ratio of female migrant workers	No. of men who take local off farm work	No. of women who take local off farm work	The ratio of women self-employed
Per capita annual income	per capita net income	Per capita land/ Total farmland	Average farmland /household	Primary market oriented crop	Primary subsistence crop

- Village information: land type; Irrigation; plantation; distance to (possible) employment sources; distance to nearest market
- Land situation, operation of land transfer; issuing of land certificate, any landless women?
- Introduction of the engagement of rural women in farming and off-farm work (locally and in foreign province_
- Introduction of agricultural extension or professional training (time, format, women participation rate, effect)
- The introduction of rural women's obtainment of microloan (access, amount and proportion)

Appendix 3. Questionnaire for Rural Women in Farming

Date: _____ Town /Village: _____ Name of respondent: _____ Tel./Mobile: _____

Please read each question carefully and answer as accurately as you can, by ticking () a box. For some questions, you will need to write a short answer.

Table 1. Basic household information:

Marital status <input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Divorced <input type="checkbox"/> Widow		Family size	Husband's age	education	Spouse age	education
Household income in 2015: <input type="checkbox"/> below 5,000, <input type="checkbox"/> between 5,001 to- 15,000, <input type="checkbox"/> between 15,001-30,000, <input type="checkbox"/> between 30,000- 45,000 <input type="checkbox"/> between45001-60,000 <input type="checkbox"/> between 60,001-75000;						
Are there anyone in the household working for the government: <input type="checkbox"/> no <input type="checkbox"/> one person <input type="checkbox"/> 2people <input type="checkbox"/> above 2 people						
Household mode: <input type="checkbox"/> husband goes out for off-farm employment , wife farming <input type="checkbox"/> both husband and wife are farming <input type="checkbox"/> others _____		Are you left-behind women (husband is away for more than 6 months) ? <input type="checkbox"/> No <input type="checkbox"/> Yes Who is taking care of the kids?: <input type="checkbox"/> oneself <input type="checkbox"/> one and one's husband <input type="checkbox"/> Kids have grown up, no need Who is doing the farming? <input type="checkbox"/> oneself <input type="checkbox"/> one and one's husband <input type="checkbox"/> one and one's husband, also hire others, <input type="checkbox"/> other _____				
The allocated farm size of your household	The actual farming size of your household	Has your household land transferred	If yes, in what form? <input type="checkbox"/> Land bank <input type="checkbox"/> subcontract <input type="checkbox"/> lease <input type="checkbox"/> stock(cooperative) <input type="checkbox"/> other _____		Proportion between farming and off-farm incomes: <input type="checkbox"/> 2:8 <input type="checkbox"/> 3:7 <input type="checkbox"/> 4:6 <input type="checkbox"/> 6:4 <input type="checkbox"/> 7:3 <input type="checkbox"/> 8:2 <input type="checkbox"/> other _____	
Did not transfer land, why? <input type="checkbox"/> the land is not good, no one wants <input type="checkbox"/> being afraid losing land <input type="checkbox"/> other _____	Total No. of household labour force	of which No. of male	of which No. of female	Kids No.		
				The elder one	Age	Occupation
				The second		
In the busy farming season		male hrs/day	farming	female hrs/day	farming	
In the slack farming season		male hrs/day	farming	female hrs/day	farming	

1. Currently, do you have challenges in farming ? No Yes

2. If yes, what is it?

We don't know much about the pro-agricultural policy

lack of channel to know the information

labour shortage

lack of technology

hard to sell

other_____

3. How do you deal with it currently? _____

4. Do you care about the latest agricultural news/information? ? No Yes

If yes, where do you get them?

5. Have you participated in any trainings this year? No Yes

6. If you didn't attended any, it is because

no one organized don't know where it has not qualified

no time to attend too far to attend no interest in the content

others_____

7. If attended, how many times? _____

8. Give suggestions on how to improve the result of technological training.

Section two: Open questions:

2.1. Is land important to your household? What do you know about the nation's land policy:

don't understand, don't care , support , disagree ? Explain the reasons.

2.2. Agricultural production to your household: not important at all, not important;

important, important, very important Why?

2.3. To you household agricultural income, : not important at all, not important;

important, important, very important, ? Why?

2.4. Comparatively, which one you prepare, farming, local off-farming work and migrant worker? Why?

2.5. Of the peers you grow up together, how is your current life up class, middle,

lower class? How it comes? If you can choose to do it again, how can you make it better?

2.6. Any plan for your future? If no, why? if yes, what is it? How are you going to fulfil it?

2.7. To let you choose: the nation's pro-agriculture policy, agricultural technology, agricultural information, fund to help, Which one you think are most important? Why?

2.8. As to the barriers you encounter in economic participation, anything else you want to add to?

You have finished the questionnaire, thank you very much.

Appendix 4. Questionnaire for Rural Women in Off-farm Work

Date: _____ Town: _____ Village: _____

Name of respondent: _____ Tel./Mobile: _____

Please read each question carefully and answer as accurately as you can, by ticking in a box.

For some questions, you will need to write a short answer.

Table1: Basic household information:

Marital status	<input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Divorced <input type="checkbox"/> Widow	Family size	age of husband	education	Wife's age	education
Household income in 2015: <input type="checkbox"/> below 5,000, <input type="checkbox"/> between 5,001 to- 15,000, <input type="checkbox"/> between 15,001-30,000, <input type="checkbox"/> between 30,000- 45,000 <input type="checkbox"/> between45001-60,000 <input type="checkbox"/> between 60,001-75000;						
Are there anyone in the household working for the government: <input type="checkbox"/> no <input type="checkbox"/> one person <input type="checkbox"/> 2people <input type="checkbox"/> above 2 people						
Household mode: <input type="checkbox"/> the wife engaging in off-farm activities, husband farming <input type="checkbox"/> husband and wife engage in different off-farm employment, <input type="checkbox"/> husband and wife have common business <input type="checkbox"/> wife does business, husband in public service <input type="checkbox"/> other _____						
Who is taking care of the kids in the household: <input type="checkbox"/> oneself <input type="checkbox"/> one and one's husband <input type="checkbox"/> parents in the countryside <input type="checkbox"/> kids have grown up, and no need.						
Who is doing the farming nowadays in the households? <input type="checkbox"/> husband <input type="checkbox"/> parents <input type="checkbox"/> other _____						
The farm size allocated to your household	The actual farming size of your household	Has the land in your household transferred or not?		If yes, in what form? <input type="checkbox"/> Land bank <input type="checkbox"/> subcontract <input type="checkbox"/> lease <input type="checkbox"/> stock(cooperative) <input type="checkbox"/> other _____		
No, why? <input type="checkbox"/> the land is not good, no one wants it <input type="checkbox"/> being afraid of losing land <input type="checkbox"/> Don't want to <input type="checkbox"/> other _____		Which one of the following do you agree? <input type="checkbox"/> Land transfer stimulates my off-farm activities. <input type="checkbox"/> My off-farm activities stimulate my household land transfer. <input type="checkbox"/> They mutually stimulate each other. <input type="checkbox"/> The two have no relationships.		No. of Children		
					age	gender
				The elder		
				The second		

Income between and farming and off-farming: <input type="checkbox"/> 1:9 <input type="checkbox"/> 2:8 <input type="checkbox"/> 3:7 <input type="checkbox"/> 4:6 <input type="checkbox"/> others					
Till now, how many years you have been working out of farming?		Among them how many jobs you have been taken?		Averagely, how long it takes for you to do every job?	
The change of your working location? <input type="checkbox"/> always out of my hometown <input type="checkbox"/> always locally; <input type="checkbox"/> at first at foreign place , later, locally ; <input type="checkbox"/> at the beginning, locally, then at foreign places; <input type="checkbox"/> not sure;			Have you ever attended any short course training to improve your working skills? <input type="checkbox"/> No <input type="checkbox"/> Yes		
Will you go again after the new year? <input type="checkbox"/> No <input type="checkbox"/> Yes			If not, was it temporary , or permanent?		
If permanent, Why _____			<input type="checkbox"/> temporary <input type="checkbox"/> permanent		

	Your first migrant working experience	Your current status
When?		
At what age?		
How to find it?		
What was it?	<input type="checkbox"/> Service industry , <input type="checkbox"/> Technician <input type="checkbox"/> Management	<input type="checkbox"/> Service industry , <input type="checkbox"/> Technician <input type="checkbox"/> Management
location	<input type="checkbox"/> Local <input type="checkbox"/> Foreign province	<input type="checkbox"/> Local <input type="checkbox"/> Foreign province
Any contract	<input type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> Yes
Salary		
For how long?		
Reasons to leave		

Section two: Open questions

2.1. Is land important to your household? What do you know about the nation's land policy:

Don't understand. Don't care. Support. Disagree.

2.2. Agricultural production to your household:

not important at all, not important; So so. important, very important, Why?

2.3. To you agricultural income, not important at all, not important; so so, important, very important. Why?

2.4. Comparatively, which one you prefer, farming, local off-farming work, and migrant worker? Why?

2.5. Of the peers you grow up together, how do you view your current life up class, middle, lower class? How it comes?

2.6. Do you have any plan for your future? No. Yes.

Why?

2.7. Let you choose: the nation's pro-agriculture policy, agricultural technology, agricultural information, fund to help, Which one you think are most important? Why?

2.8. As to the barriers you encounter in economic participation, anything else you want to add to?

You have finished the questionnaire, thank you very much.

Appendix 5. Questionnaire for Professional Woman Farmer

1. How many people are there in your household? Who are they? Do you husband help you with your farm?
2. How is this year's income?
3. What is the leading industry? Why do you want to develop it?
4. What is your industry scale?
5. How do you sell your products? Why and what is the effect?
6. If there is some other channel to sell your product, will you take it? Why?
7. Have you been selling your product on internet? How is it?
8. If not, do you want to learn e-business? What do you need to learn in e-business?
9. Who do you need to work on your farm? If hire some hands, what is the wage?
10. Are there any challenge occurred in your industry? If yes, what is it?
11. Does the women cadre in your village help you? Why?
12. Any governmental branch has ever helped you? Why?
13. The government give any support to your farm development? Explain.
14. Any technician gives your some guidance?
15. What do you think about the future of your industry?

Appendix 6. Questionnaires in Chinese

附件 1. 村干部， 妇联干部访谈

地区： 访问日期:

参加人员姓名 职务 电话

1. 土地流转的特点，对农民，尤其是女村民经济生活的影响

2. 农村女性本地，外地务工情况介绍(地域，工种特点，趋势，遇到障碍，原因，应对的方法)?

3. 涉农 农村女性从事种植业，养殖业相关产业人数，比例，相关扶持政策，遇到困难，原因，如何应对; 非农：区上农村女性外出经商人数，比例，行业特点，共同障碍，应对方案

附件 2：调研村相关经济统计数据

县：_____ 乡：_____ 村庄、组：_____

人员姓名及职务：_____ 访问日期：_____

➤ 村子的人口状况

村子的总户数	村子的总人口	常驻人口	妇女人数	男性人数	60 岁以上老人数量	14 岁以下儿童数量
主要粮食作物	经济作物	总耕地面积	村人均耕地占有量	每户的平均耕地占有量	年人均纯收入	

- 村庄基本地形： 平原 丘陵 山区 土壤类型/特性; 气候特点
- 村内农地类型： 旱地 水田 园地 林地
- 去最近市场的距离
- 女村民本地，外地务工情况介绍(地域，工种特点，年龄趋势，遇到问题)
- 附近（村上，乡里）是否有（女性挑头）企业，企业是否雇用女村民参与生产？
- 农村女性外出务工是否有官方提供职业培训和就业指导？ 无 有
- 农村妇女获得小额信贷的情况介绍（是否有，额度，比例）
- 是否有失地女村民？村上土地流转情况，土地证颁发情况，及土地证上是否有女村民的名字？
- 村上农业科技推广的内容，时间，来源，推广形式，女村民参与率。

附件 3: 农村妇女务农障碍问卷

问卷编码:

问卷说明: 请划勾标示你的选项, 如果你选择“其他”, 请解释; 除非特别指出, 问题一般只有一个答案选项。

县、镇/村/组 _____ 被访者姓名 _____

电话: _____ 调查员姓名: _____ 电话 _____

表 1. 家庭基本相关信息:

婚姻状况 1=单身 2=已婚 3=离异 4=丧偶		家庭人口	户主性别	年龄	上了几年学	配偶年龄	上了几年学	
2015 年家庭收入: 1=0.5 万元以下, 2= 0.5 万-1.5 万元, 3=1.5-3 万, 4=3 万-4.5 5=4.5-6 万 6= 6 万-7.5 万 7= 7.5 万—9 万 8= 10 万 以上								
家(族)有儿人在国企部门, 县政府, 镇上, 村委会做干部: 1=无人 2=1 人 3=2 人 4= 2 人以上								
家庭模式: 1=丈夫外出打工, 妻子在家务农 2=丈夫, 妻子均在农村务农 3=其他 _____		你是否属于留守女士(丈夫今年在外地务工 6 个月以上)? 1=否 0= 是 家中照看孩子(含孙子)者: 0=自己 1=自己和老公 2=没有要照顾的 现在家中做农活的人? 0=自己 1=自己和老公 2=自己和老公, 也雇人 3=其他 _____						
家庭原有耕地面积	现在实际耕地面积	是否参与土地流转	有流转, 以哪种形式: 1=土地银行 2= 转包 3= 出租 4=转 让 5=互换 6=入股(合作社) 7=其他 _____					
土地没有流转, 为什么? 1=地不好, 没人要 2=没有钱; 3=不知道怎么做 4=害怕失去土地 5=其它 _____		家庭劳动力总人数	其中男性人数	女性人数	孩子数量: 信息 年龄 职业 婚否			家中农业与非农 收入比例: 1=2:8 2=3:7 3=4:6 4=6:4 5=7:3 6=8:2 □其他 _____
					老大			
					老二			
农忙时节: ____月至 ____月		家中男性务农 ____ 小时/天		家中女性务农: ____小时/天				
农闲时节: ____月至 ____月		家中男性务农 ____ 小时/天		家中女性务农: ____小时/天				

- 目前, 你在农业生产上是否有困难? 没有 有
- 如果有, 遇到的困难是什么?
 1=国家政策和基层农村脱节, 很多惠农政策我们不清楚
 2=缺乏了解农业信息及政策的渠道和途径 3=缺乏人手
 4=缺乏相关农业生产知识和技术 5=销售困难 6=其他 _____
 你目前如何应对? _____
- 你通常从哪里获取这些农业生产技术、信息、政策?
- 今年你个人是否参加过农业生产技术培训? 0=否 1=是

5. 如果没有参加过，是因为（可多选）

1=没有人组织培训 2=不知道哪儿有培训 3=没有资格参加

4=农忙时间安排的培训，没时间参加 5=培训地点太远，不方便参加 培训内容不切实际，没兴趣参加

6 其他_____

6. 如果参加了，参加了几次？_____

7.你对提高农业科技推广的建议：

第二部分：开放问题：

2.1. 土地对你和你们家来说意味着什么？你对国家现在的土地（流转）政策是：1=不懂，2=不关心，3=支持，4=反对？如果选择支持，反对，或不关心，请说明原因

2.2. 农业生产现在对你来说：1=一点也不重要，2=不重要；3=一般般，4=重要，5=非常重要？为什么？

2.3. 相比较而言，你更喜欢 1=务农，2=本地打工还是 3=外地打工？为什么？

2.4. 从小一起长大的同村姐妹中，你目前的日子过得属于 上，中，下 哪个层次？

2.5. 你对自己未来从事的经济活动（务农，非农，自己干）是否有打算？如果没有，为什么？如果有，什么打算？怎么去实现呢？

2.6 让你选择：1=国家的惠农政策，2=农业技术，3=农业信息，4=资金扶持，你觉得那个最重要？为什么？

2.7. 关于你个人从事经济活动的困难，你还有什么要补充的吗？

您已经完成了本次问卷调查，谢谢。

附件 4: 农村妇女从事非农经济活动障碍问卷 问卷编码:

问卷说明: 请用“√”标示你的选项, 如果你选择“其他”, 请说明; 除非特别指出, 问题一般只有一个答案选项。

县、镇/村 _____ 被访者姓名 _____

电话: _____ 调查员姓名: _____ 调查员电话 _____

表 1: 家庭基本相关信息:

婚姻状况 1=单身 2=已婚 3=离异 4=丧偶		家庭人口	户主性别 (男=1 女=2)	年龄	上了几年学	配偶年龄	上了几年学
2015 年家庭收入: 1=0.5 万元以下, 2= 0.5 万--1.5 万元, 3=1.5--3 万, 4=3 万--4.5 万 5=4.5-6 万 6= 6 万-7.5 万 7= 7.5 万-9 万 8= 10 万以上							
家(族)有儿人在国企部门, 县政府, 镇上, 村委会做干部: 1=无人 2=1 人 3=2 人 4= 2 人以上							
家庭模式: 1=妻子外出打工, 丈夫在家务农 2=丈夫, 妻子各自外出打工 3=丈夫, 妻子有共同的生意 4=妻子做生意, 丈夫公职 5=其它 _____							
家中照看孩子者: 1=自己 2=自己和老公 3=村中的父母 4=孩子们已长大成人							
现在家中做农活的人? 1=丈夫 2=父母 3=其他 _____							
原有耕地面积	实际耕地面积	家中耕地是否流转? (0=否 1=是)	有流转, 是哪一年开始的?	有流转, 以哪种形式: 1=土地银行 2=入股(合作社) 3=转包 4=出租 5=转让 6=互换 7=其他 _____			
没有流转, 为什么? 1=耕地不好, 没人要 2=害怕失去土地 □不差那点钱 3=其它 _____			你同意下面哪种说法: 1=我家的土地变动促使我外出务工 2=我外出打工促进了我家的土地流转 3=两者相互促进 4=两者没有关系		几个孩子?		
					年龄	性别	职业
					老大		男=1 女=2
					老二		
家中农业与非农收入比例: 1=1:9 2=2:8 3=3:7 4=4:6 5=其他 _____							
截至目前为止, 你外出工作几年了?		期间一共找了几次工?		每份工平均能干多久? (年)			
你打工地点的变化特点是什么? 1=一直在外地 2=一直在当				打工以来, 你是否参加过职业技术培训,			

地； 3=先外地，后当地； 4=先当地，后外地； 5=不确定；	并获得技术资质证书？ 0=否 1=是
过完年你是否还出去打工？ 0=否 1=是	如果否，是暂时不出去打工，还是永远不去了？ 1=暂时不去 0=永远不去了
如果永远不去务工了，原因是_____	
1= 照顾上学的孩子	
2= 要照顾家里的老人	
3= 老了，干不动了	
4=在当地找到工作	
5=受到不公正的待遇，导致的健康问题	
6=其他_____	

	你的第一份工作	目前的工作
哪一年？		
你多大的时候？		
怎么找到的工作？		
什么工作？	1=服务业， 2=技工 3=管理	1=服务业， 2=技工 3=管理
工作地点	本地=1 外地=2	本地=1 外地=2
有无合同	无=1 有=0	无=1 有=0
工资(元/月)		
干了多久？		
离职原因		

第二部分：开放问题：

2.1. 土地对你和你们家来说意味着什么？你对国家现在的土地（流转）政策是：1=不懂，2=不关心，3=支持，4=反对？请说明原因

2.2. 农业生产现在对你来说：1=一点也不重要，2=不重要；3=一般般，4=重要，5=非常重要，？为什么？

2.3.农业生产对你家家庭收入来说属于：1=一点也不重要；2=不重要；3=一般般；4=重要；5=非常重要？为什么？

2.4.相比较而言，你更喜欢1=务农，2=本地打工，3=外地打工？为什么？

2.5.你从小一起长大的同村姐妹中，你目前的日子过得属于3=上，2=中，1=下，哪个层次？原因是什么？如果可以重新选择，你会如何让自己过得更好？

2.6.你对自己未来从事的经济活动（1=务农，2=打工，3=自己干）是否有打算？如果没有，为什么？如果有，什么打算？怎么去实现呢？

2.7.让你选择：1=国家的惠农政策，2=农业技术，3=农业信息，4=资金扶持，你觉得那个最重要？为什么？

2.8.你还有其他要补充的吗？

您已经完成了本次问卷调查，谢谢。

附件 5. 女职业农民访谈问卷

1. 你现在家庭几口人？都是谁？家里的男人帮你干吗？
2. 今年的收入如何？人均多少？
3. 家庭主导的产业是什么？为什么要发展该产业？
4. 你的产业规模是多大？为什么？
5. 你目前的产值是多少？投入了多少？为什么？
6. 你的产品是通过何种方式和途径销售？销售效果如何？为什么？
7. 如果有其他途径销售你的产品，你觉得那种方式更好？为什么？
8. 你有网店吗？网店名称？网址？网络销售如何？
9. 如果没有，你愿意学习电子商务吗？
10. 你的产业靠谁来完成？自己？家人？请人？
11. 如果请人，工资情况如何？如男性 元/天；女性 元/天
12. 你的产业出现过什么问题吗？如果有时哪些？你找谁解决？问题解决了吗？为什么？
13. 村里有合作社吗？他们能帮你什么？为什么？
14. 村里有妇女组织吗？他们能帮能你什么？
15. 你对自己的合作社/家庭农场有什么期望和计划？

Appendix 7. Multicollinearity Test Before and After

		Coefficients ^a						Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF	
		B	Std. Error	Beta					
1	(Constant)	.963	.253		3.802	.000			
	Family size	.031	.021	.083	1.469	.143	.929	1.077	
	Household head age	-.006	.008	-.125	-.757	.450	.109	9.145	
	Household head education	.007	.013	.044	.521	.603	.418	2.391	
	Respondent age	-.002	.008	-.050	-.310	.757	.114	8.808	
	Respondent education.	.012	.011	.099	1.108	.269	.373	2.678	
	Household income in 2015	-.047	.018	-.154	-2.636	.009	.864	1.158	
	Anyone work in the official branch?	.022	.046	.027	.477	.634	.901	1.110	
	Who takes care of kids?	.123	.026	.269	4.723	.000	.912	1.096	
	Who do farming	.154	.026	.331	5.824	.000	.916	1.092	
	Original farm size(mu)?	-.003	.007	-.026	-.443	.658	.868	1.153	
	Have your land transferred?	.023	.057	.024	.405	.686	.841	1.189	

a. Dependent Variable: Respondent in

		Coefficients ^a						Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF	
		B	Std. Error	Beta					
1	(Constant)	.917	.246		3.733	.000			
	Family size	.031	.021	.085	1.499	.135	.930	1.076	
	Household head education	.008	.013	.049	.586	.558	.421	2.375	
	Respondent age	-.008	.003	-.164	-2.706	.007	.811	1.233	
	Respondent education.	.013	.011	.103	1.165	.245	.375	2.665	
	Household income in 2015	-.047	.018	-.152	-2.601	.010	.866	1.155	
	Anyone work in the official branch?	.021	.046	.026	.446	.656	.902	1.108	
	Who takes care of kids?	.122	.026	.267	4.698	.000	.914	1.094	
	Who do farming	.154	.026	.332	5.834	.000	.916	1.092	
	Original farm size(mu)?	-.004	.007	-.028	-.483	.629	.870	1.150	
	Have your land transferred?	.025	.056	.026	.441	.659	.843	1.186	

a. Dependent Variable: Respondent in



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**STATEMENT OF CONTRIBUTION
TO DOCTORAL THESIS CONTAINING PUBLICATIONS**

(To appear at the end of each thesis chapter/section/appendix submitted as an article/paper or collected as an appendix at the end of the thesis)

We, the candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the candidate's contribution as indicated below in the *Statement of Originality*.

Name of Candidate: Mei Yang

Name/Title of Principal Supervisor: Martin Young, Head of School of Economics and Finance

Name of Published Research Output and full reference:

A Study of the development of Professional Women Farmers' In Shaanxi, China

In which Chapter is the Published Work: Chapter 6.

Please indicate either:

- The percentage of the Published Work that was contributed by the candidate:
and / or
- Describe the contribution that the candidate has made to the Published Work:

I wrote the paper, made the PPT, and did the presentation at the conference. My supervisors guided my writing and my principal supervisor supported me to head for the conference.

Candidate's Signature

27/11/2017

Date

Principal Supervisor's signature

27/11/2017

Date