

Push/Pull Factors, Networks and Rural Labor Migration: Based on the Survey Data of Rural Labor Force in Tobacco Enterprises

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Objectives:The "push-pull theory" analyzes the dynamic mechanism of the cross-border flow of labor force, and explains that the flow of labor force between countries is generated by the combined action of "push" and "pull". Tobacco has always been an important cash crop in China, providing a lot of financial support for the rapid development of China's economy. Tobacco production is the premise of the development of tobacco industry. The shortage of tobacco planting labor force and the decline of quality restrict the tobacco production and the development of the tobacco industry. Based on the "push-pull theory", the researcher focuses on the survey data of the rural labor force of a specific Labor Cooperation Company. This paper clarified the current situation and transfer characteristics of rural labor force in tobacco areas, discussed the impact of labor force transfer on flue-cured tobacco production, and put forward the strategies to solve the dilemma of rural labor force transfer in tobacco areas. Therefore, the suggestion of taking the city as the center and form a network of migrant workers to enhance the sense of belonging of them is proposed.

Keywords: push/pull Factors; networks; tobacco enterprises; rural labor migration

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INTRODUCTION

Background and Motivation

Combined with the industrial situation in the last decade, the tobacco industry has developed by leaps and bounds. However, at present, industrialization is

relatively developed. With the promotion of urbanization, the tobacco industry is undoubtedly facing a very severe form, and various uncertain factors are gradually emerging. At present, China's rural stratification is becoming more and more serious, which is largely due to the change of

"people". Most of China's agricultural workers are part-time, there is a shortage of rural labor force and the village population is aging. With the increasing scale of land transfer, the lack of rural labor force has become an inevitable situation. Moreover, the living environment of human beings is becoming worse and worse. With the continuous occurrence of natural disasters, although China's tobacco production continues to promote modernization, improve basic production conditions and greatly improve its comprehensive production capacity, due to the constraints of various factors and high investment risk, the production cycle of the whole industry is relatively long. The dependence on technology is relatively large; Specifically, it used to take about 40 workers to produce one mu of tobacco. Although the technology has been improved, it still needs about 28 workers in general, and the construction of the base needs to be increased to about 20 workers; at the same time, the original labor force increased by 2-3 times from the original 40 yuan per day. Therefore, the cost of labor directly affects the rapid development of tobacco industry to a great extent. Therefore, effectively reducing labor cost is an urgent problem to be solved.

Economic globalization has made possible the realization of a global village. This global village is composed of countries with their own characteristics and advantages in information, industry, service, labor and other aspects. With the deepening of specialized division of labor, each country can make achievements in its own industries and deepen the contact and cooperation between countries. Capital, raw materials, science and technology, commodities and other factors of production flow around the world, so that each country can give full play to its own advantages and greatly improve the production efficiency and commodity quality. Among the factors of production, in addition to capital, raw materials, science and technology, commodities, there is also a very important factor of production --labor force¹. The effective allocation of labor force

in the world is one of the important signs of economic globalization. The role of labor resources in economic development is more important in countries characterized by an aging society, a society where people over 65 account for 7% of the total population. Countries with sufficient labor can transfer surplus labor to countries with scarce labor, which will develop rapidly in a win-win manner.

According to the world migration report of 2018, the number of global migrants has reached 244 million, accounting for 3.3% of the global population, which is equivalent to one in every 30 people (World Migration Report, 2018). Developing countries are the main sources of international labor. Economic globalization, income gap, demographic changes, violent conflicts and other factors will urge people to seek work and life in areas with higher income and better environment. The flow of labor in the international market can not only optimize the allocation of global labor force, but also benefit the economic development of various countries (Moses, J.2006).

The export of labor services in Shandong Province has gradually become an important part of the regional foreign economic cooperation, and has made positive contributions to the implementation of the "going out" strategy. In 2018, Shandong province dispatched 58000 labor personnel (including seafarers), among which 22000 were dispatched under foreign contracted projects, accounting for 37.4% of China's total, and 36000 under labor cooperation, accounting for 62.6%. The main markets of the province are Japan, Singapore, South Korea, Indonesia, Hong Kong, Panama, Algeria, Israel, Saudi Arabia and Kuwait. Among them, more than 60% of the total number of overseas students to Japan and South Korea have been sent from Shandong Province, which maintains Shandong Province the position of the largest overseas labor market in China². According to statistics, every 1% increase in the turnover

(COR) of labor service cooperation in Shandong Province will increase the GDP of Shandong Province by 0.6765%. This is the situation that provides the rationale and relevance of this study. The findings of this study can be used as reference for the rural labor force who want to work abroad in Shandong Province and overseas employment service. The findings may also be used by the companies engaged in the practice of providing labor for overseas employment. They can use the findings as inputs in making policy decisions.

Statement of the Problem

The primary aim of this study was to describe the situation of the Shandong rural labor force groups working abroad. Specifically, it aimed to answer the following questions:

1. What are the individual characteristics of Shandong transnational rural labor force?
2. What is the situation of Shandong transnational rural labor force along
 - a) Length of time of going abroad
 - b) country of employment
 - c) place of work
 - d) type of work
 - e) income
 - f) willingness to return to China
3. What is the correlation between individual characteristics and the situation of Shandong transnational rural labor force?
4. What factors influence the Shandong rural labor's income?

Literature Review

The academic circles have also carried on the thorough discussion to the labor force to work abroad and so on, its research content mainly concentrated in four aspects³. The first is about the causes of the formation of migrant workers; the second is about the influencing factors; the third is about the significance and problems of migrant workers; the fourth is about the facts relating to

choice of countries.

At present, the academic research on the influencing factors of cross-border labor mobility mainly discusses from the following aspects: first, personal characteristics; second, trade capital; third, management system; fourth, access restrictions⁴.

Personal Characteristics

In terms of personal characteristics: the education level, marriage, age, intergenerational correlation, family structure, income status, household registration system, welfare risk, emotional correlation, etc. All of these have a significant impact on their decision to work abroad (David McKenzie and Hille Rapoport, 2007; Yang Xue and Ma Xiaoman, 2015; Zhao Feng et al., 2015; Wu Yanhua and Wang Yijie, 2017). Among them, in order to obtain higher labor remuneration, more promotion opportunities, more jobs and so on, become the main microeconomic reasons of labor force transnational flow (Tseng and Yen Fen, 2011). In addition, labor price will also significantly affect the cross-border flow of labor (Zhang Zhixin et al., 2019). The low quality of migrant workers, conservative ideas and fierce market competition have become the main obstacles to China's labor export (Wang Weinan, 2014). An Jingjing (2018) found that the quality of migrant workers is low when studying the labor export of Henan Province, which makes Henan Province have no competitive advantage in labor export in the international market⁵. Therefore, in terms of labor export, actively exploring emerging markets, avoiding homogeneous competition with other population exporting countries, and building labor service brand of migrant workers will become new growth points of labor export in China (Li Zhuowei and Zhang Ying, 2018).

Trade Capital

In terms of trade capital, export trade will significantly affect the cross-border flow of labor⁶. There is a long-term and stable synergistic

correlation between export trade and labor export (Zhan Yong and Li Li). The increase of China's export trade will lead to an increase in the number of migrant workers (Li, 2004). In addition, foreign capital agglomeration is also one of the main forces of regional labor mobility in China, and foreign capital agglomeration has a significant impact on China's labor mobility (ZangXin and Zhao Jiong, 2016).

Management System

At present, China's labor management system has to be improved. XiongZhanlin (2014) took the migrant workers in Heilongjiang Province as the research focus, analyzed the current situation of migrant workers in Russia, and found that the lack of safety guarantee and the irregular employment channels are the main obstacles to labor cooperation between China and Russia. China and Russia should give full play to the complementary advantages of labor resources of the two countries, increase China's labor output to Russia, and establish a sound employment mechanism, so as to better promote the economic development of China and Russia (DuanMeizhi, 2018). In addition to strengthen labor cooperation with Russia, we should also attach great importance to the labor cooperation mechanism with Southeast Asia and other neighboring countries. The cross-border flow of labor can bring unprecedented ideological confrontation and cultural integration to Yunnan border areas (ZiZhiyue and ShenPeng, 2018).

Access Restrictions

In terms of access restrictions: in addition to personal characteristics, trade capital and management system, the entry restrictions of importing countries will also have a certain impact on the labor force going abroad⁷. Because of the cross-border flow of labor force, the interests of different groups will be uneven (Bonin H, 2005). Therefore, some countries will impose restrictions on the degree of their labor market opening to the outside world. This kind of access restriction on

cross-border labor mobility is the main force that affects the cross-border labor flow, increases the cost of cross-border labor mobility, and is not conducive to the overall Pareto improvement between exporting and importing countries (Moses J.W., 2006). Some labor importing countries have some contradictory psychology on the issue of transnational labor force. On the one hand, they hope to solve the problem of labor shortage through the introduction of foreign labor force, and on the other hand, they worry that the introduction of foreign labor force will damage the interests of local residents to a certain extent (Song Yanan, 2011).

METHODOLOGIE

Research designs are introduced in the first section. The second section explains data gathering tools, and the researcher presents the treatment of data in the last section

Research Design

This study adopted the descriptive statistics as the research design. It is descriptive since it described the demographic characteristics of the labor force as well as the factors that influence their working income. Quantitative and qualitative methods of analysis were used in the study. The design that was used in this study has assessed the relationship between individual characteristics and the situation of Shandong transnational rural labor force.

The researcher used convenience sampling in selecting the respondents of this study. The sample was taken from Shandong Labor Cooperation Company. This company has been providing labor services to Japan and South Korea for more than five years. Hence, detailed and reliable data can be obtained.

The researcher distributed questionnaires to Shandong transnational rural labor force working in Japan and Korea through Shandong Labor Cooperation Company in the past three years. The

researcher distributed 360 questionnaires and collected 322 valid questionnaires.

Data Gathering Tools

The researcher used a survey questionnaire as the primary data gathering tool. The questionnaire consisted of two major parts. The first part of the questionnaire dealt with the profile of the respondents – the individual characteristics of rural labor force, such as gender, age, birthplace, education level, family population, number of children and marital status. These variables were used to understand the correlation between the personal characteristics of migrant workers (gender, age, birthplace, education level, family population, number of children and marital status) and the situation of migrant workers (time of staying abroad, country of employment, place of work, type of work, income, willingness to return to China), so as to understand the situation of rural labor force in Japan and South Korea in detail, and find out the correlation between personal characteristics and migrant workers. Quantitative and qualitative data were collected.

The second part of the questionnaire investigates the situation of rural labor force going abroad, such as the time of going abroad, the country of work, the place of work, the type of work, the income and the willingness to return home.

Treatment of Data

The quantitative method was used to measure the degree of correlation between the individual characteristics and the working abroad situation. Specifically, it included the following:

(1) Descriptive statistics. First of all, descriptive statistics are made on the individual characteristics of migrant workers in rural areas. Secondly, descriptive statistics are made on the situation of rural labor force working abroad. Finally, the paper makes an interactive analysis of the individual characteristics and the working abroad situation

(2) Empirical analysis. The influencing factors

are analyzed, and OLS regression model is used to analyze the influencing factors of rural labor income in Japan and South Korea.

(3) Cross tabulation was conducted on the individual characteristics and the situation of rural labors working in Japan and South Korea and chi square test was conducted.

DATA DESCRIPTIONS

The population of this study included the rural labor force of Shandong Province who were working in Japan and South Korea. They were sampled from Shandong Labor Cooperation Company. Shandong Labor Cooperation Company's main business is to provide labor services of Shandong to Japan and South Korea. It has been engaged in this service for more than five years, so detailed and reliable data can be obtained. 322 samples were expected collected, accounting for 60% of the total business volume.

The analysis of the personal characteristics of rural labor force in Japan and South Korea is shown in Table 1.

Table 1					
Descriptive Statistical Tables of Personal Characteristics					
	Persons	Percentage	Marital Status	Persons	Percentage
Gender					
Female	147	45.65	Unmarried	133	41.3
Male	175	54.35	Married	189	58.7
Ages			Birthplace		
21-30	152	47.20	Qingdao	90	27.95
31-40	145	45.03	Weihai	57	17.70
41-50	25	7.76	Yantai	34	31.10
Education			Jinan	30	9.32
Background					
Primary school and below	1	0.31	Weifang	25	7.76
Junior middle school	71	22.05	Rizhao	22	6.83
Higher middle school	164	50.93	Jining	19	5.90
Junior College	63	19.57	Linyi	19	5.90
Bachelor's and above	23	7.14	Liaocheng	11	3.42
Number of kids			Heze	6	1.86
0	5	1.6	Binzhou	6	1.86
1	94	29.2	Zibo	3	0.93
2	75	23.3			
3	145	45.0			
4	3	0.93			

The analysis on the situation of the labor force going to Japan and South Korea is showed in **Table 2**.

Table 2
Descriptive Statistical Tables of Transnational Rural Labor Force Working in Japan and Korea

Countries	Persons	Percentage	Time of staying abroad (year)	Persons	Percentage
Japan	290	90.06	1	116	54.66
Korea	32	9.94	2	113	35.09
Work place			3	93	28.88
Tokyo	61	18.94	Willingness to go abroad again		
Aichi	46	14.29	Go abroad again	201	62.42
Hyogo	44	13.66	Return home	121	37.58
Osaka	43	13.35	Types of work		
Hiroshima	38	11.80	Care for the aged	110	34.16
Hokkaido	33	10.25	Production workers	104	32.30
Nagoya	28	8.70	Auto parts technician	48	14.91
Seoul	15	4.66	Building worker	19	5.90
Jeju Island	13	4.04	Server	16	4.97
Pusan	12	3.73	Agricultural workers	14	4.35
Ulsan	10	3.11	Culturist	8	2.48
Inchon	7	2.17	chef	3	0.93
Income level (Ten thousand yuan)					
2-10	116	36.02			
11-20	113	35.09			
21-30	93	28.88			
>31	6	1.86			

FINDINGS

This section explains the findings based on descriptive statistics, empirical analysis and interview. In the following parts, four research questions are discussed respectively.

Individual characteristics of Shandong transnational rural labor force

Most of the rural labor force going to Japan and South Korea in Shandong Province are male, middle-aged and married. Most of them are educated in middle school. Most of them are families of five and have three children. Among the 12 cities surveyed in Shandong Province, Qingdao,

Yantai, Weihai and Jinan have the largest and most concentrated number of migrant workers abroad, while other cities are relatively scattered.

Situation of Shandong transnational rural labor force

The number of rural labors working in Japan is obviously more than that in South Korea. The number of rural labors working in Japan is mainly concentrated in Tokyo, Aichi, Hyogo and Osaka. They work abroad for a short time, mainly for one year, mostly engaged in nursing, manufacturing and other related work, and their annual income is between 100,000 and 150,000. In addition, rural workers in Japan and South Korea hope to work abroad for a long time, and their willingness to return home is weak.

Correlation between individual characteristics and the situation of Shandong transnational rural labor force

The time for women to work abroad is less than that for men. Women prefer to work in Tokyo, Aichi, Osaka, Hokkaido and Hiroshima. Men prefer to work in Tokyo and Hyogo. No matter male or female, the number of workers engaged in manufacturing, nursing and auto parts is more than others. Compared with men, the proportion of women who are willing to return home is larger.

The choice of countries is slightly different among different age groups. Most of the 21-30-year-old rural workers prefer to work in Aichi, Japan; most of the 31-40-year-old rural workers went to Tokyo and Aichi, Japan. There are some differences in their choice of jobs. Among them, 21-30-year-old rural labor force are mainly nursing workers, manufacturing workers and auto parts workers, 31-40-year-old rural labor force are mainly engaged in manufacturing and nursing and 41-50-year-old rural labor force are mainly nursing workers. With the increase of age, the proportion of people who intend to return to China gradually decreases, while the proportion of people who do not intend to return

to China gradually increases.

The rural labor force from Yantai and Weihai who went to Japan and South Korea worked abroad longer time than those from other cities. The rural labor force with different birthplace also has different choice for the country of work. The rural labor force with native place of Weifang, Rizhao, Liaocheng, Jining, Jinan, Heze, Binzhou tends to work in Japan, while the rural labor force with native place of Zibo, Yantai, Weihai, Qingdao tends to work in South Korea. The rural labors from Liaocheng have the strongest willingness to return home, next are labors from Yantai, Weifang, Jining and Qingdao. Heze and Zibo have the weakest willingness to return home.

The higher the level of education, the weaker their willingness to return China in the future. In the rural labor force with junior high school, senior high school, junior college and undergraduate education, the proportion of low-income people in the total number of people with corresponding education level decreased in turn.

Analysis on influencing factors of rural labor force's income in Japan and South Korea.

Variable selection

(1) Explained variable

The explained variable is their working income, expressed in annual income.

(2) Explanatory variable

The explanatory variables of this paper include the personal characteristics of rural labor in Japan and South Korea and the situation of working abroad. The personal characteristics of rural labor force in Japan and South Korea are composed of **six variables**: gender, age, native place, education level, marital status (married means married, unmarried includes unmarried, divorced and widowed) and number of children. The situation of rural labor going abroad to Japan and South Korea includes **four variables**: time of going abroad, type of work, place of work and willingness to return home. The

specific variable description are shown in **Table 3**.

Table 3			
Variable Meaning and Sample Specification			
Variable	Variable meaning	Mean	Std
Gender	Male=1, Female=2	1.46	0.24
Age	21-30years=1, 31-40years=2, 41-50years=3, others=4	1.62	0.44
Birthplace	Zibo=1, Yantai=2, Weihai=3, Weifang=4, Rizhao=5, Linyi =6, Qingdao=7, Liaocheng=8, Jining=9, Jinan=10, Heze=11, Binzhou=12	7.29	1.29
Education	primary school=1, junior high school=2, senior high school=3, junior college=4, bachelor=5	3.11	0.70
Marriage	Marriage=1, unmarried=2, divorced=3, widowed=4	1.46	0.33
Kids number	continuous variable, unite(people)	2.15	0.82
Time of abroad	continuous variable, unite(year)	1.91	0.64
Willingness to return	No willingness=1, willingness=2	1.38	0.23
Type of Work	Construction worker=1, chef=2, fish farmer=3, auto-part worker=4, manufacturing workers=5, waiter=6, Agricultural workers=7, carer for the aged=8	5.70	4.10
Working country	Korea=1, Japan=2	1.91	0.10
Workplace	Seoul=1, Ulsan=2, Pusan=3, Jeju Island=4, Incheon=5, Tokyo=6, Hiroshima=7, Osaka=8, Hyogo=9, Aichi=10, Hokkaido=11, Nagoya=12	6.67	3.10
Income	continuous variable, unite (million yuan /year)	10.38	3.77

Model setting

In order to verify the influencing factors of rural labor income in Japan and South Korea, this part establishes the following econometric model $Y = \alpha_0 + \alpha_1 X + \delta$. Among them, Y is the income of rural labor force going to Japan and South Korea, and X is the explanatory variable, including gender, age, native place, marital status, education level, total number of children, time of going abroad, type of work, place of work and willingness to return home. δ is a random interference term⁸.

Regression analysis

This part uses OLS regression model to explore the influencing factors of the income of rural labor force in Japan and South Korea. The regression results are shown in Table 4. From the model, it can be seen that in all the explanatory variables, except gender, age, birthplace, marital status and willingness to return home have no effect on the income of rural labor going to Japan and South Korea, all the other variables have significant effect on the income of rural labor going to Japan and South Korea.

In terms of years of education, it can be seen from Table 4 that education level has a positive effect on

income ($r = 0.12$, $P = 0.03 < 0.05$), the annual income of rural labor force in Japan and South Korea will increase by 12,000 yuan every additional year. This is basically consistent with the conclusion of the cross analysis of education level and income of rural labor force in Japan and South Korea before. The reason may be that with the increase of education level, the more competitive the rural labor force going to Japan and South Korea has in the labor market, and they are more likely to find jobs with high salary and good working environment.

In terms of the total number of children, it can be seen that the total number of children has a positive effect on the income ($r = 0.09$, $p = 0.04 < 0.05$; $r = 0.14$, $p = 0.03 < 0.05$). With the increase of the total number of children, their annual income increased by 14,000 yuan. With the increase of the total number of families or children, the higher the income of rural labor going to Japan and South Korea. The reason may be that with the increase of the number of families or children, the pressure of rural labor going to Japan and South Korea is increasing. The purpose of their going abroad to work is to earn more money and then take it home or improve their life. The increase in the number of families or children will encourage them to work hard and get more labor remuneration.

In terms of time to go abroad, it can be seen that the influence of time abroad on income is positively related ($r = 0.31$, $p = 0.02 < 0.05$), the annual income of rural labor force going abroad to Japan and South Korea will increase by 3100 yuan every additional year. The reason may be that with the increase of working time abroad, rural workers in Japan and South Korea adapt to foreign life better. The higher acceptance of cultural difference and the more social capital they accumulate abroad make them have more opportunities to get jobs with higher labor remuneration.

In terms of types of work, it can be seen that the impact of construction workers, chef, fish farmers

and agricultural workers on income presents a positive correlation ($r = 0.14$, $p = 0.31 > 0.05$; $r = 0.20$, $p = 0.09 > 0.05$; $r = 0.05$, $p = 0.10 > 0.05$; $r = 0.04$, $p = 0.16 > 0.05$), but they were not significant. On the other hand, the impact of manufacturing workers, carer for the aged and auto parts workers on income showed a positive correlation. ($r = 0.28$, $p = 0.03 < 0.05$; $r = 0.12$, $p = 0.04 < 0.05$; $r = 0.18$, $p = 0.04 < 0.05$) The income of manufacturing workers, carer for the aged and auto parts workers is higher, and the annual income gap is 1200-2800 yuan, which has passed the significance test. The reason may be that manufacturing workers, care for the aged and auto parts workers require higher professional skills and less job substitutability, so they will get higher remuneration. The rest of the types of work did not pass the significance test, which may be because the other types of workers are engaged in similar work and do not need professional skills, so the income difference is not significant.

In terms of workplace, it can be seen from Table 4 that the impact of workplace in Tokyo on income presents a positive correlation ($r = 1.88$, $p = 0.03 < 0.05$), that of workplace in Seoul presents a positive correlation ($r = 1.44$, $p = 0.04 < 0.05$), and that of workplace in Aichi presents a positive correlation ($r = 0.43$, $p = 0.02 < 0.05$), the annual income of rural labor force from Tokyo and Seoul is more than 10000 yuan higher than that from Aichi Japan. The reason may be that Tokyo and Seoul are the capitals of Japan and South Korea, with better economic development, higher average consumption expenditure and higher corresponding labor remuneration.

Table 4
Regression Analysis of the Factors Influencing the Income of Migrant Workers

Variables	Model	
	Income	
Gender	-0.07	(0.19)
Age	0.55	(0.09)
Birthplace		
Linyi	0.09**	2(0.04)
Zibo	0.10	(0.13)
Yantai	0.03	(0.08)
Weihai	0.05	(0.06)
Taian	0.06	(0.18)
Rizhao	-0.12	(0.09)
Qingdao	-0.01	(0.11)
Liaocheng	0.05	(0.12)
Jining	0.13	(0.19)
Jinan	0.07	(0.11)
Heze	-0.10	(0.20)
Binzhou	0.01	(0.14)
Education	0.12**	(0.03)
Marriage	0.26	(0.13)
Kids number	0.14**	(0.03)
Time of abroad	0.31**	(0.02)
Willingness to return	0.33	(0.06)
Type of work		
Construction worker	0.14	(0.31)
Chef	0.20	(0.09)
Fish farmer	0.05	(0.10)
Auto-parts worker	0.18**	(0.04)
Manufacturing worker	0.28**	(0.03)
Waiter	0.12**	(0.04)
Agricultural workers	0.04	(0.16)
Carer for the aged	0.20**	(0.01)
Workplace		
Seoul	1.44**	(0.04)
Ulsan	0.52	(0.11)
Pusan	0.36	(0.13)
Jeju Island	0.58	(0.23)
Inchon	0.41	(0.22)
Tokyo	1.88**	(0.03)
Hiroshima	0.23	(0.10)
Osaka	0.69	(0.11)

Hyogo	0.49	(0.28)
Aichi	0.47	(0.22)
Hokkaido	0.51	(0.16)
Nagoya	0.60	(0.19)
Constant	4.10**	(0.03)
R²	0.21	
Observation	322	
Note:		
*, **, *** respectively indicate that they have passed the statistical tests with significance levels of 10%, 5% and 1%		

CONCLUSIONS AND RECOMMENDATIONS

This part presents the conclusions derived from the findings and the recommendations forwarded by the researcher.

Conclusions

This paper explores the population situation and migrant workers in tobacco areas in recent years, analyzes the impact of labor transfer on tobacco production, and puts forward the strategies to promote the development of tobacco areas.

The conclusions are as follows: (1) At present, the proportion of female tobacco farmers in tobacco areas is high, aging, low education and low quality, which has a great impact on the sustainable development of the tobacco industry. (2) The income of tobacco farmers is low, the comparative benefits of tobacco farmers have decreased, and the income gap between urban and rural residents has increased. The combination of these factors makes tobacco farmers unwilling to grow tobacco and have a strong tendency to leave the soil. (3) The planting population is seriously insufficient. Tobacco farmers mainly use their own workers to consider the planting area, which makes the planting scale very small. (4) Migrant workers also have a great impact on local tobacco development. We should adopt adaptive methods. Only by increasing the planting scale, making the tobacco farmers larger and more professional in production and manufacturing, can we better develop tobacco planting. (5) The impact

of labor shortage and the decline of tobacco farmers' quality on tobacco production is multifaceted and fundamental. To solve the problem of labor shortage, the basis is that we should have a stable team of tobacco farmers and take the road of building a professional team of tobacco farmers.

Recommendations

The cross-border flow of labor is conducive to the relief of employment pressure in China. In order to better promote income level, the following are recommended.

1. The surplus rural labor force is encouraged to work abroad. Through the analysis of Shandong Province rural labor force to Japan and South Korea, we can see that their income level is higher than that of the domestic labor market, and their willingness to return home is weak. Therefore, the related branches in Shandong Province can publicize the benefits of working abroad, let the labor force of the right age or other surplus labor force know the working status and satisfaction of working in Japan and South Korea, eliminate their worries about working abroad, and stimulate their desire to work in Japan, South Korea or other countries.

2. Enhance the education level of migrant workers abroad. From the analysis of the influencing factors of rural labor income in Japan and South Korea, we can see that the higher the level of education, the higher the income. In order to better promote the rural labor force to work abroad, we can start from the following aspects: on the one hand, Shandong

government can encourage migrant workers to participate in adult college entrance examination, increase their education level and improve their academic qualifications. On the other hand, relevant institutions can carry out vocational and technical education for migrant workers. Increasing the practicality and professionalism of education is an effective strategy to meet the needs of labor force.

3. Strengthen the skill training of migrant workers abroad. From the analysis of the influencing factors of rural labor income in Japan and South Korea, it can be seen that workers with higher professional skills, such as manufacturing workers, nursing workers and auto parts workers, whose job substitution is small can get higher labor remuneration. Therefore, we need to improve the professional and technical level of migrant workers abroad, so as to increase their income level¹⁰. First, determine the focus of professional skills training. Because the younger labor force has a strong learning ability and will work for a long time in the future, Therefore, we should take the younger labor force as the key training object. Secondly, increase the pertinence of professional skills training. Training can be carried out according to the demand of labor should be focused on. Through the discussion and in-depth interview, we learned that language is one of the main obstacles for the labor force to work abroad. Therefore, the relevant branches of Shandong Province should establish language training for migrant workers abroad, so that they can afford the cost of learning foreign languages.

4. Form a group of migrant workers with geographical ties. From the analysis of the influencing factors of rural labor income in Japan and South Korea, it can be concluded that the rural labor force in different cities have different choices for the migrant countries. The reason may be that the number of migrant workers in China is still small. Most of the migrant workers choose to work abroad because they are introduced by their relatives and

friends. Therefore, migrant workers in different cities have different choices about the country of work. In order to make it more convenient for the migrant workers to understand the situation of the migrant country and ensure the legitimate rights and interests of the migrant workers, the relevant branches in Shandong Province should set up relevant institutions to be responsible for the problem of labor force going abroad to work in the region, and provide help for the workers who want to go abroad to work. In addition, WeChat subscription, WeChat, QQ group can also be used to push information and reduce the cost of information transmission. Take the city as the center, form a group of migrant workers with geographical ties, and enhance their sense of belonging.

5. Diversified overseas employment channels led by the government should be built. Therefore, in the labor export market, we should take the government as the leading role, take each labor export company as the auxiliary, the government is responsible for supervising and auditing the legitimacy of the labor export company, and give some preferential policies to the labor export company, so as to reduce the cost of labor when they go abroad to work, and protect the legitimate rights and interests of the labor who go abroad to work. In addition, relevant government agencies should provide convenience for individual workers to directly go abroad for employment, so as to provide them with better employment opportunities

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