

2015 FFTC-MARDI International Seminar on “*Cultivating the Young Generation of Farmers with Farmland Policy Implications*” be held in MARDI, Serdang, Selangor, Malaysia, 25-29 May 2015.

**THE RESTRUCTURING POLICY OF AGRO-MANPOWER AND FARMLAND IN  
TAIWAN, R.O.C.**

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**ABSTRACT**

*The average farm size was 1.03 hectare and only 21.7% of the farm households had a farm size with area more than 1 hectare in Taiwan in 2013. The agriculture employment decreased from 950,000 in 1995 to 544,000 in 2012. Furthermore, the average age of farm decision maker was getting old from 56.0 years old in 1995 to 62.9 years old in 2010.*

*In order to deal with the severe problems of small farm scale, aging agro-manpower, and short of agricultural successors in Taiwan, the Government promoted many policies such as “ Small Landlords, Big Tenants-Farmers” Project, the leaving off payment for aging farmers, “Adjust Farming Systems, Enactive the Fallow Farmland” Project, reformed for the Welfare Pension of Senior Farmers , Farmland Bank, “Farmers ’ Academy”, “Rural Rejuvenation Act” and establishing various kinds of agriculture production zone etc. to facilitate the farmland market, to increase the willingness for old landlord to lease out their farmland, to increase the incentive for young generation to join in agriculture, and to encourage group cultivation in recent years. These policies did attract thousands of young generation and new comers joining in farming and in some circumstance enlarge the farm scale.*

*But these policies are still difficult to enlarge ownership scale of farm because of the limited cultivated area and the fragmenting effect by the canon of multi-persons inheritance of land. It seems that a possible way to increase the scale economy of farming in Taiwan is by group cultivating. These policies are also difficult to let the aging farmer to transfer their farmland to the young generation since there are many welfare policies for senior farmers. It seems that the way to solve this problem is to shift the welfare policy for senior farmers to farmer retire policy which should require the senior farmers transfer their farmland to the young generation while getting retired pension. These two ways need dramatically policy reform so it is a long way to go to cultivated young farmers in Taiwan.*

Keywords: farming land, landlord, tenant, young farmer, Farmland Bank, Farmer’s Academy

## INTRODUCTION

Taiwan (the Republic of China) is a mountainous subtropical island located in Far East Asia. The country has one of the world's highest population densities (648 persons/per km<sup>2</sup>) with a population of more than 23 million and only a total area of 36,000 km<sup>2</sup>. (Huang, 2001)

After the World War II, the agricultural facilities in Taiwan were damaged by war and in a state of ruins. Millions of soldiers and their families were retreated from Mainland China. The Government was struggling to restore agricultural irrigation facilities, increase fertilizer supply, provide better varieties, and improve farming techniques in order to increase food production as soon as possible. The “37.5% -Rent-Reduction”, “Sale-of-Public-Lands ”, and “Land-to-the-Tiller” were respectively in effect. (Chen, 2000) That was the so called “First Land Reform” (FLR) in Taiwan. Though the FLR helped to increase the productivity and production before 1980, it as well as other factors also pulled down the farm scale and pushed up the production cost in Taiwan.

On the other hand, the Government has offered various kinds of welfare programs to farmers in order to maintaining their living standards and economic security. The welfare programs as well as other factors let the elder farmer keeping in farming and being unwillingness to transfer their farmland to young generation. The aging problem made the agricultural production more inefficiency.

In 1990s, Taiwan was preparing to accede the GATT. It meant that Taiwan was going to face the competition of import agricultural products so the inefficient problem which was caused by scale uneconomic and aging manpower should be solved first. In 2000, the Agriculture Development Act which is the essential law for agriculture and farming land in Taiwan was amended substantially. The cultivated land policy was dramatically changed from “Only tillers can own cultivated land” to “Farmland only can be used for farming”. The big changes included: (1) every person or agro-business can buy cultivated land only if he/she is going to engage in farming, (2) exempting the holding tax and transaction tax for farmland which is continue to be used for farming, (3) the land leasing contracts which are signed after the revision act in 2000 are no more constrained by the “37.5% -Rent-Reduction” Act, (4) the segment constraint of cultivated land was released from at least 5 ha. to at least 0.25 ha., and (5) every “farmer” who owned more than 0.25 ha. farmland can build a house less than one-tenth area of his/her farmland. Though the first 3 changes can facilitate the farmland market but the last 2 changes made the cultivated land fragment severely.

In recent year, the Government made many efforts to improve the cultivated scale and attract young new comer joining in Agriculture. The policies were in 4

dimensions: (1) to facilitate the farmland market; (2) to increase the willingness for old landlord to lease out their farmland; (3) to increase the incentives for young generation to join in agriculture; and (4) to encourage group cultivation.

## **The Aging Agro-manpower and Fragmenting Farmland Situation in Taiwan**

### **Policy Background**

After the World War II, the agricultural facilities in Taiwan were damaged by war and in a state of ruins. Millions of soldiers and their families were retreated from Mainland China. The Government was struggling to restore agricultural irrigation facilities, increase fertilizer supply, provide better varieties, and improve farming techniques in order to increase food production as soon as possible. The “37.5% -Rent-Reduction”, “Sale-of-Public-Lands”, and “Land-to-the-Tiller” were respectively in effect. (Chen, 2000)

The “Land-to-the-Tiller” Act was in effect in 1953, its impact consequently transferred the ownership of tillage from minority big landlords to majority small tillers and let more than 80% tillers have his/her own land though the law was then expired in 1963. This was also the first key factor that made the average farm scale declining dramatically in Taiwan. This policy also formed in “Only tillers can own tillage” policy which was enforced for a long time and was broken till 2000.

The “37.5% -Rent-Reduction” Act was in effect in 1949 and ongoing till nowadays. Since this law set a ceiling rent rate for cultivated land and gave tenants the priority right to continue the rent contract, which are quite not beneficial for landlords, so the rent market of cultivated land almost died down and no landlord dare to rent out his/her cultivated land after then. The effect of “37.5% -Rent-Reduction” Act also made the so call “secondary land reform” which encouraged farmers expanding the farm scale by renting in land finally came to failure in 1980’s.

The second key factor that made the average farm scale declining dramatically is the canon of inheritance in Taiwan. According to the common law of R.O.C., every child of a family has the equal right to inherit his/her parents’ estates even cultivated land. Though under the “Only tillers can own tillage” policy before 2000, the other children who are not a tiller have to sell the cultivated land which he/she inherited, but a farm was still shared by more persons of a family for every time the inheritance occurred.

In 1990s, Taiwan was preparing to accede the GATT. In pre-responding the possible impact from import rice, Taiwan started a serial policy to reduce the production of rice and offered set-aside payment for paddy land. The payment reached NT\$ 45,000 high per-crop period (2 crops a year in Taiwan) in 2000s and ever

attracted 220,000 ha. (hectare) fallow land within which 50,000 ha. were fallowed all the year in 2000s. Since the payment was attractive, most of the landlord of paddy land would rather to set-aside the paddy land than lease out or sell out it. This phenomenon also made it more difficult for any policy to enlarge the farm scale.

On the other hand, the Council of Agriculture (COA) has offered various kinds of welfare programs to farmers in order for them to maintain their living standards and economic security. “The Temporary Statute Regarding the Welfare Pension of Senior Farmers” in effect in 1995 is one of the welfare programs. The elder farmers are assisted in the form of allowance. (Chun, 2013; Lee, 2014b)

Since the allowance which was NT\$7,000 per month per person adjusted in 2011 is quite attractive and the qualification of the Farmers’ Health Insurance (FHI) program is tightly bounded with whether owning farmland or not, so the senior farmer even very old would not sell their farmland or transfer to their children in order to keep the eligibility of FHI and senior farmer allowance. This phenomenon made the young farmers or new comers difficult to get farmland for farming or enlarge farm scale while the agro-manpower getting older and older.

Moreover, the cultivated land policy was dramatically changed from “Only tillers can on cultivated land” to “Farmland only can be used for farming” under the liberalization tide of economic and politic in 2000. The big changes included that every person or agro-business can buy cultivated land only if he/she is going to engage in farming, the segment constraint of cultivated land was released from at least 5 ha. to at least 0.25 ha., and every “farmer” who owned more than 0.25 ha. farmland can build a house less than one-tenth area of his/her farmland. This third key factor induced the average farm scale declining severely.

This small scale of farming was limited with higher costs, and sales price of products was not competitive, easily influenced negatively by the market condition. The average farming income per household was merely 22% of the total household income. Lower farming income has been one of the key contributors of the loss of farming labor resource which has decreased from 40% in 1971 to 13% in 2010. (Lee, 2013a)

### **The farmland and agro-manpower situation**

Before the 1960s, farmland was intensively utilized due to abundant rural labor and limited available farmland. However, since the 1970s, the intensity began to decline because of the decreasing availability of rural labor force. The multiple cropping indices, as an indication of intensity, reached a peak of 190 in 1964 and rapidly decreased to 109 in 1999. (huang, 2001)

In 2013, around 799,830 ha. or 22% of the total area of the island were used for

agricultural production. As the factors listed in last section, more and more farmland were set aside 1 crop or 2 crops before 2012, the multiple cropping index furthermore decreased to 86.6 in 2012. The average farm size was 1.03 ha. In 2013 (Table 1) and only 21.7% of the farm households had a farm size with area more than 1 ha. (Table 2)

According to statistics, the number of people employed in Taiwan's agriculture, forestry, fishing, and animal husbandry industries decreased from 950,000 in 1995 to 544,000 in 2012. This result indicates that the supply of labor forces in the agricultural industry is decreasing annually, negatively influencing agricultural development. (Kuo, 2014)

Furthermore, based on Taiwan's agriculture census data for 1995 and 2010, the average age of farm decision maker from 56.0 years old to 62.9 years old (Table 4), which is higher than that in most countries. Specifically, the number of farmers aged 15–44 years declined from 9.56% to 7.92%, whereas that of farmers older than 65 years old remained at approximately 44%. (Table 3)

## **The Restructuring Policy**

### **The Rationale of the Restructuring Policy**

Being aware of the historical background and the key factors that made the farm scale getting smaller and smaller, the agro-manpower getting older and older, and few young generation joining in agriculture in Taiwan, the Government did every efforts (Lee, 2014a) to solve the problems in 4 dimensions as followings in recent years:

- Releasing the legislations to facilitate the farmland market: As mentioned above in 2000, some big changes included that every person or agro-business can buy farmland only if he/she is going to engage in farming, exempting the holding tax and transaction tax for farmland which is continue to be used for farming, also that the land leasing contracts which are signed after the revision act in 2000 are no more constrained by the “37.5% -Rent-Reduction” Act.
- Increasing the willingness for old landlord to lease out their farmland: such as ” Small Landlords, Big Tenants-Farmers” Project and the leaving off payment for aging farmers from 2008 on, “Adjust Farming Systems, Enactive the Fallow Farmland” Project from 2013 on, and reformed for the Welfare Pension of Senior Farmers in 2014.
- Increasing the incentive for young generation to join in agriculture: such as established “Farmland Bank” in 2007, “Small Landlords, Big Tenants-Farmers” Project, established “Farmers’ Academy” in 2010 to give training course and help new comers starting up a farming career, “Rural Rejuvenation Act” in effect in 2011 to improve the convenience and living quality of rural area and

agricultural operation environment. In 2012 the COA expanded the definition of agriculture which would not only include the primary industry but also include secondary and tertiary industries in the value chain of agriculture so that a “farmer” could have more profit by engaging in the new agriculture.

- Encouraging group cultivation: establishing various kinds of agriculture production zone to enhance the scale economic, such as Agricultural Enterprise Zones, Rice Contractual Production Zones, Flower Zones for Export, Fruit Zones for Export, and Vegetable Zones for Export etc.. (Table 5)

## **The Major Programs of Restructuring Policy**

### **1. Farmers' Academy**

COA actively develops the agricultural successors through an organized training programs, Farmers’ Academy, to cultivate core knowledge and other related subjects in order to escalate the business to the next level.

Farmers’ academy consists of research, education, and experimental stations. It has a complete training system to cultivate high-quality agricultural talent and improve agricultural competitiveness. To meet different needs, the general public, new farmers, and experienced farmers from different levels of training courses are designed, and farming internships are also conducted. The farmers’ academy provides a lifetime learning channel for interested individuals and farmers. The training courses focus on the development of core agricultural knowledge while business practices and internships provides on-the-job practical training. The academy also provides agricultural business consulting service to help farmers solve problems related to their operations, strengthen management skills, and upgrade agricultural human capital. (Lee, 2013a)

The systematic courses offered in the Farmer’s Academy are divided into four levels:

- a) Introductory course (3 days), which provides individuals who are interested in farming with an overview of agricultural concepts.
- b) Beginner course, a 10–20 day program, which includes practical training and teaches beginner farmers the basics of production technologies.
- c) Intermediate-level course, a 3-day or 5-day course, which teaches professional farmers the concepts of technology upgrades and quality management.
- d) Advanced-level course, wherein agricultural leaders or experts are invited to lecture participants on business management and share their experiences.

In 2014, 153 groups comprising a total of 4,533 people participated in the training program, among which near 60% were below age 45, and 40% were above

age 45 years-old. Overall, the program provided young farmers the opportunity to learn agriculture practices and professional farmers the opportunity for advanced life-long learning. Moreover, 170 people were matched to participate in the farm internship program. (Table 6)

The farm internship program involves a professional farmer offering instructions to learners about farming production and management. Young farmers may be developing farmers, interns, or farmland owners. The internship period is 4 to 12 months; the COA will pay the internship employer a salary of US\$ 330 (NT\$ 10,000) per month, and the employer must pay interns a sum that is greater than the basic salary regulated by law. Relevant recruitments are advertised on the Farmer's Academy Website. (Kuo, 2014)

## 2. "Small Landlords, Big Tenants-Farmers" Project and Farmland Bank

To prompt the transactions and boost the utilization of farm land, as well as to encourage the long-term leasing of farm land by old peasants or farmers not keen on farming, the Council of Agriculture has been devising and implementing a "Small Landlords, Big Tenants-Farmers" Project.

The project provides one-off Rent Payments for Farmland to Small Landlords and Instalment Scheme for Big Tenant-Farmers, the scheme encourages small farmland owners who are not interested in or not capable of farming to lease their land on a long-term basis. It also aims to offer low-rate loans and subsidies to finance projects to establish business-style management by helping and supporting the expansion of farms for big tenant-farmers. Meanwhile, there will be training and education in the integration of production and distribution, technology R&D, branding and channel management and marketing for these big tenants. (Lee, 2013)

As of the end of June of 2014, there were 1,670 large tenants, with rented land totaling 15,070 hectares. Large tenants had, on average, 9 hectares of land each (including self-owned land), or about 8 times more than the 1.1 hectares of farmland held by the average farm household in Taiwan. This allows effective introduction of larger scale operations. The average age of the full-time farmers who have been included in the guidance program is 44, compared to 62 for the average farm owner in Taiwan, so the effect in terms of rejuvenation is clear.

A Farmland Bank which shall matchmaking the farmland demanders and the farmland providers with both website service functions and the physical service of farmer's associations was set in 2007 to help young farmers or big tenants acquire or rent farmlands from landlords, state owned farmland or other providers. By the end of 2014, there were around 4,093 ha. or 19,128 cases matchmaking by the Farmland bank. (Table 8)

### 3. Rural Rejuvenation

The Rural Rejuvenation Act was promulgated on August 4, 2010. The Act is enacted to facilitate the rural sustainability, its revitalization and rejuvenation, to improve production infrastructure, to conserve rural ecology and culture, to upgrade quality of life, and to construct a new rural prosperity and beauty.

In meeting the needs to implement the works of rural sustainability and revitalization, the central competent authority shall establish a rural rejuvenation fund of NT\$150 billion within budgetary period of 10 years after the Act is enacted. (Lee, 2013c)

### 4. Providing Startup Capitals for Young Farmers

Once farmers have entered the agricultural industry and acquired relevant techniques and land, the next step is to obtain capitals for purchasing seeds, fertilizers, and facilities. The COA collaborated with various farmers' associations (e.g., Agricultural Bank of Taiwan and Agricultural Credit Guarantee Fund) and devised various loan options that would provide each young farmer a maximum of US\$ 167,000 (NT\$ 5 million) loan at a low interest rate of 1.5% per annum. Young farmers with poor credit history can seek assistance from the Agricultural Credit Guarantee Fund and receive a guarantee for 95% of its loan. In addition, the COA has devised more than 10 types of agricultural loan plans for young farmers, including business improvement loan, land procurement loan, and agricultural machinery loan. Farmers could apply for these loans depending on their business needs. By the end of December 2013, 38 loans were granted.

### 5. Service and Exchange Organization for Local Young Farmers

In 2012, the COA began guiding farmer's associations in various municipalities and counties (cities) to integrate a service and exchange platform for young farmers. In this platform, surveys on farmers' management status, local information, and instruction services for farm internship and affairs were provided. This platform was dedicated to encouraging business cooperation and organizational guidance, enhancing organizational operation and overall marketing planning capability, and increasing the capacity of assistance and support provided to local young farmers.

Overall, in 2013, 15 farmer's associations from various municipalities and counties (cities) were guided to establish a local exchange organization for young farmers; approximately 700 people aged 35 on average have been recruited, and this number is still increasing. Thus, a cooperative environment, wherein local expert farmers and young farmers could interact and assist each other, was created.

For instance, through organizational operations, Taoyuan's Farmers Market,



with over 100 members, cooperated with farmer's associations in Taoyuan County, supplying organic vegetables to elementary and junior high schools as part of the nutritious lunch plans for students. Large catering firms and service delivery markets were expanded and developed. By using online communities, an operating mechanism involving workers exchange, collaborative purchasing, and cooperation was established.

#### 6. Promotion of the Project Guidance for Young Farmer (PGYF)

After combining advanced technologies, capitals, farmlands, and local organizations, in June 2013, the COA selected 100 young adults aged 33 on average and provided them with one-on-one counseling for a period of 2 years at 9 agricultural experimental institutions of the COA. Counseling was provided based on individual needs. The content ranged from offering agricultural business knowledge, acquiring farmlands and capitals, submitting applications for facility and equipment subsidies, assisting with legal regulation and administrative consultation, and providing product marketing design and consultation services. This project was dedicated to helping young farmers establish and stabilize their business for developing an innovative industry.

The COA will cooperate with agricultural schools to organize a summer vacation job shadowing program to help students understand their positions and the capabilities they need for their future career in agriculture. The scope of the job shadowing program will be extended to reflect their needs, the school's needs, and the requirements for the innovation and value addition of the future agricultural industry value chain. Agricultural enterprises will be encouraged to be a part of the job shadowing program. In 2014, a trial of the summer vacation part-time work was implemented, providing youngsters a channel for exploring their career development, thereby reducing the time they would expend to adapt to an agricultural work environment. Subsequently, students of farming schools and colleges are actively cultivated to become the main force of the future agricultural industry. (Kuo, 2014)

## **CONCLUSION**

In order to deal with the severe problems of small farm scale, aging agro-manpower, and shortage of agricultural successors in Taiwan, the Government promoted many policies to facilitate the farmland market, to increase the willingness for old landlord to lease out their farmland, to increase the incentives for young generation to join in agriculture, and to encourage group cultivation in recent years. These policies did attract thousands of young generation and new comers joining in farming and in some circumstance enlarge the farm scale.

But these policies are still difficult to enlarge ownership scale of farm because of the limited cultivated area and the fragmenting effect by the canon of multi-persons inheritance of land. It seems that a possible way to increase the scale economic of farming in Taiwan is by group cultivating.

These policies are also difficult to let the aging farmer to transfer their farmland to the young generation since there are many welfare policy for senior farmers. It seems that the way to solve this problem is to shift the welfare policy for senior farmers to farmer retire policy which should require the senior farmers transfer their farmland to the young generation while getting retired pension.

These two ways need dramatically policy reform so it is a long way to go to cultivated young farmers in Taiwan.

## FIGURES AND TABLES

Table 1. The trend of cultivated land area and average farm scale in Taiwan

Year	Cultivated land area ha.	% of total area %	of Farm number farm hold	Average farm scale ha.
1950	870,633	24.21	638,062	1.36
1960	869,223	24.17	785,592	1.11
1970	905,263	25.17	880,274	1.03
1980	907,353	25.20	891,115	1.02
1990	890,090	24.72	859,772	1.04
2000	851,495	23.65	721,161	1.18
2005	833,176	23.14	767,316	1.09
2010	813,126	22.58	776,725	1.05
2013	799,830	22.08	780,307	1.03

Source: Agriculture Statistic Year Book (each year),  
the Council of Agriculture, R.O.C

Table 2. The Farm Scale Distribution in Taiwan

Year	Unit: %						Total
	Less than 0.5 ha.	0.5-1.0 ha.	1.0-2.0 ha.	2.0-3.0 ha.	3.0-5.0 ha.	More than 5.0 ha.	
1950	28.9	28.0	27.8	9.6	4.5	1.2	100
1960	37.4	29.1	23.7	6.5	2.7	0.6	100
1970	43.9	27.6	20.0	5.3	2.5	0.7	100
1980	43.1	29.5	20.0	4.9	2.0	0.5	100
1990	46.8	28.3	17.9	4.3	2.0	0.7	100
2000	46.9	28.0	17.7	4.5	2.2	0.8	100
2005	52.6	26.1	15.1	3.8	1.8	0.7	100
2010	54.9	25.7	13.7	3.3	1.6	0.7	100
2011	55.1	22.9	14.7	3.9	2.2	1.2	100
2012	55.7	22.5	14.0	4.3	2.2	1.2	100

Source: Basic Agricultural Statistics (each year),  
The Council of Agriculture, R.O.C.

Table 3.The Agro-employment Distribution in Taiwan

year	Total number 1000 persons	15-24 years old %	25-34 years old %	35-44 years old %	45-54 years old %	55-64 years old %	Older than 65 years old %
1996	918	(3.5)	(14.3)	(22.3)	(22.9)	(29.5)	(7.6)
2000	740	(2.8)	(11.6)	(20.6)	(26.0)	(29.2)	(9.9)
2005	591	(1.9)	(8.9)	(19.6)	(27.3)	(28.6)	(13.8)
2010	550	(1.8)	(8.7)	(17.1)	(25.8)	(29.6)	(16.9)
2012	544	(1.7)	(8.8)	(16.0)	(25.6)	(30.9)	(17.1)

Source: The Manpower Statistics Monthly Book, Directorate-General of Budget, Accounting and Statistics, Executive Yuan, R.O.C.

Table 4.The Age Distribution of Farm Decision Makers

Units: years old; %

year	Average age	% of age 64 and under	% of age above 65
1995	56.0	74.4%	25.7%
2000	58.6	64.9%	35.1%
2005	61.2	56.3%	43.7%
2010	62.9	56.3%	43.7%

Source: Agriculture Census (every 5 years),  
Directorate-General of Budget, Accounting and  
Statistics, Executive Yuan, R.O.C.

Table 5.The Group Cultivated Zones in Taiwan

Unit: ha.

Year	Total	Agricultural Enterprise Zones	Rice Contractual Production Zones	Flower Zones for Export	Fruit Zones for Export	Vegetable Zones for Export
2010	25,003	2,901	13,978	387	4,215	3,522
2011	25,942	3,201	14,357	492	4,562	3,330
2012	28,954	3,513	14,954	537	5,150	4,800
2013	30,188	4,142	15,103	406	5,537	5,000
2014	30,227	3,925	15,718	284	5,100	5,200

Source: Agriculture Statistics Handbook,  
The Council of Agriculture, R. O. C.

Table 6.The Cultivation of Young Farmers

Unit: person

Year	The youth to experience farming	Training program of Farmers' Academy	On probation in a farm
2010	466	290	163
2011	351	2,678	121
2012	438	3,316	211
2013	289	4,090	111
2014	-	4,533	170

Source: Agriculture Statistics Handbook,  
The Council of Agriculture, R.O.C.

Table 7. The Policy outcome of Small landlord, Big Tenants

Year	Small landlord	Big tenants				Loan for this Policy	
	Number	Number	Total farm area	Average farm Scale	Average age	Balance	Million NTD
	person	person	ha.	ha.	years old	case	
2011	13,912	1,002	8,433	8.4	42	185	328
2012	18,265	1,328	9,579	7.2	44	280	436
2013	25,724	1,578	13,187	8.4	44	385	586
2014	29,049	1,670	15,070	9.0	44	517	817

Source: Agriculture Statistics Handbook,  
The Council of Agriculture, R.O.C.

Table 8. The Dealt cases by Farmland Bank in Taiwan

Units: ha.; case

year	Rent contract		Trade contract		Auction by courts	
	area	number	area	number	area	number
2007	59	194	7	31	122	414
2008	37	129	25	104	185	581
2009	309	939	11	52	44	95
2010	358	1,347	8	28	27	112
2011	170	699	5	25	11	61
2012	133	771	5	16	14	81
2013	2,164	11,559	3	15	14	61
2014	378	1,805	2	4	2	5

Source: Agriculture Statistics Handbook,  
The Council of Agriculture, R.O.C.

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