

One-Stop Service for Young Farmers in Taiwan

Kun-Fong Kuo
Farmers' Service Department, Council of Agriculture
Executive Yuan (COA), Taipei, Taiwan

e-mail: kkf@mail.coa.gov.tw

ABSTRACT

This paper describes the process by which the Council of Agriculture in Taiwan selected 100 young farmers (average age of 33) in 2013 to guide and encourage them to engage in farming. Through assistance from local farmer's association, 15 collaborating organizations with over 900 members have been established. By expanding the synergy of youth farming from various faces, a positive atmosphere in which people will increasingly identify with youth farming can be created, consequently improving agricultural workforces.

The Project Guidance for Young Farmers involves a one-on-one tutoring system and a coordinating platform that facilitates multi-resource integration. Fourteen agricultural experimental institutions governed by the Council of Agriculture were integrated, subsequently establishing the Farmer's Academy, which provides technical training. E- Farmland Bank was also created for helping young farmers to obtain land. COA enables young farmers to acquire low interest loan and subsidies facilities, equipment and value addition competitions are hosted to encourage young farmers. Furthermore, youth farming organizations of local farmer's associations were combined to assist students of farming schools and institutes in career development, thereby constructing a one-stop service platform for young farmers in Taiwan.

Keywords: Young farmers , E-Farmland Bank, Farmer's Academy

INTRODUCTION

In response to challenges concerning food safety, climate change, globalization, and regional integration, the agricultural industry in Taiwan must redefine its perspectives based on the strategic goal of establishing a new agricultural value chain. Subsequently, traditional agricultural optimization, local production and consumption, niche market expansion, and internationalization can be promoted through the following efforts: (a) enhancing the agricultural value chain through innovation and cross-domain cooperation, (b) improving the efficiency of industries and human, land, and water resources, (c) internally optimizing industrial structures and externally expanding markets, and (d) creating opportunities for liberalization. "People" play a crucial role in achieving these goals.

In Taiwan, the agricultural industry mainly comprises small agricultural businesses in which each farmer possesses approximately 1 hectare (ha) of arable land. Among the 780,000 farm

households in Taiwan, professional farmers only account for 28.2%. Due to economic transformation, the number of employed people in the service industries and industrial businesses account for approximately 95% of the entire employment structure in Taiwan. Most people of younger generations in the rural areas have left their hometown to pursue non-farming-related jobs. Thus, population aging and outflow are observed in rural areas, causing continuous aging in the agricultural population in Taiwan. Currently, the average age of farmers is 62 years, forming an agricultural population that is detrimental to large-scale development and sustainable management. In this paper, we focus on exploring how young people can be encouraged to engage in farming, how the agricultural workforce can be adjusted, and the problems that farmers encounter during farming. We determined how the government, after assessing and analyzing problems, integrated the resources of the Council of Agriculture (COA) and planned a comprehensive guidance system based on young people's needs for managing and developing farming businesses, to ultimately cultivate new-generation of farmers and optimize the agricultural workforce.

Reduced Agricultural Population and Increasingly Aging Population

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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 540,000 in 2012, showing a decline in the proportion of the total number of employed people in Taiwan from 10.55% in 1995 to 5.01% in 2012. This result indicates that the supply of labor forces in the agricultural industry is decreasing annually, negatively influencing agricultural development.

Furthermore, based on Taiwan's agriculture census data for 2005 and 2010, the average age of farmers increased from 61.2 years to 62 years, which is (although lower than that in Japan) higher than that in advanced European countries and the United States. Specifically, the number of farmers aged 15–44 years declined from 9.56% to 7.92%, whereas that of farmers older than 65 years remained at approximately 44%. Analyzing age groups by industry reveals that the number of people employed in the rice industry accounted for 42% of the total population, exhibiting an average age of 63 years. In addition, the average age of people involved in floriculture industry and processing and leisure industries is 57.4 and 55.6, respectively. Moreover, farmers aged 15–44 in the rice, floriculture, and processing and plantation industries account for 7.04%, 13.30%, and 17.65% of the total population, respectively. In summary, the proportion of young people in technological industries and secondary and tertiary industries is higher than that in traditional rice industries.

Table 1. A comparison of the age and number of people employed in various agricultural industries

	Total	Age group				Average
	Number of people	15–44	45–64	65–69	> 70	age (years)
2005	729,387	9.56	46.78	15.32	28.34	61.19
2010	721,446	7.92	48.15	12.76	31.17	62.03
Rice cultivation industry	304,986	7.04	45.49	12.88	34.59	62.99
Floriculture industry	6,029	13.30	58.98	9.87	17.85	57.35
Processing and other industries	221	17.65	61.09	5.88	15.38	55.57

Problems Encountered by Young People during Farming

Agriculture is an industry that has a threshold. For example, farmers are required to acquire land, technologies, and equipment to produce high-quality products and thereby increase their competitiveness. Thus, young people who are interested in farming often face numerous complex problems. According to analyses, these problems are as follows:

- A. First, people who intend to run farming businesses must have a basic understanding of the industry they intend to invest in, how production technologies, land, and capitals are obtained, how facilities and equipment are incorporated into farming. They also need to acquire business management knowledge and establish sales channels. In other words, they must learn and understand every aspect of an industry chain.
- B. Although students of farming schools and colleges are equipped with basic skills, they lack practical experiences and relevant support. How should they be helped?
- C. For second-generation people whose family is in the farming business and who are willing to return home, they need assistance with taking over their family's business and handling problems related to communication with older generations, transformation, and growth.
- D. Local farming organizations must determine how they can encourage local youngsters to cooperate and help one another.
- E. Various governmental departments must identify how they can effectively integrate relevant resources.

Promotion Plans

Young people are filled with diverse and creative ideas; thus, they should be encouraged to engage in farming combined with activities related to the secondary and tertiary industries. Therefore, to help these people, the government must first establish a platform that provides a

one-stop service based on their needs, integrate relevant resources, and provide support for various stages of farming, from preparation to the start and management of a farming business. Consequently, young people can be guided to progressively manage and develop cross-domain industries. According to this idea, the COA began promoting a Project Guidance for Young Farmers (PGYF) in June 2013, enabling young farmers to engage in farming and accomplish their dreams at a young age.

1. Policy Goals and Strategy

A.Goal: To cultivate 500 high-quality and young new-generation farmers who earn stable income.

B.Strategy: 100 young farmers aged 18–45 were publically selected and subjected to one-on-one guidance for 2 years. Based on the plan-do-check-action (PDCA) concept, the guidance system comprised four stages: management diagnosis by consultants, young farmer project adjustment, on-site guidance and resource investment, evaluation review and project modification. Subsequently, young farmers were divided into two groups: beginners and potential farmers, where the beginners were assisted with developing its managerial characteristics and the potential farmers were encouraged to further expand through innovation and value addition.

2. Measure Promotion

The COA has established relevant research institutes across Taiwan, where research, training, and promotional activities related to regional industries are conducted. In collaboration with farmer's associations in differing regions, the COA established a E-Farmland Bank that offers information regarding farmlands and loans for running farming businesses. Relevant measures were then integrated into this platform, providing young farmers with a one-stop service, described as follows:

A. Training program for enriching agricultural knowledge and learning industry chain

The COA integrated its 14 agricultural experimental institutions, forming the Farmer's Academy in 2012, where research, education, and extension resources are brought together to provide professional systematic training in 14 training centers. In this Academy, internship program is offered wherein professional farmers are invited to teach and guide students, allowing students to participate in agricultural production and management and apply the knowledge they gained during class in real-life settings. The goal was to construct a systematic stage-wise training system based on both theories and practices.

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 2013, 141 groups comprising a total of 4,090 people participated in the training program, among which 2,407 people were below 45 years of age (59%), and 1,683 people were above 45 years-old (41%). Overall, the program provided young farmers the opportunity to learn agriculture practices and professional farmers the opportunity for advanced life-long learning. Moreover, 111 people were matched to participate in the farm internship program. In 2014, the COA plans to recruit 4,590 people for the next training program, forming a total of 153 groups. Course schedules will be adjusted according to industry characteristics, and short-term selective courses will be offered. Agricultural enterprises will be encouraged to enlist themselves as internship employers, thereby offering additional opportunities for young farmers to learn business management. In addition, the 100 farmers selected for participating in the PGYF may choose the desired training of a specific level based on their needs.

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 U.S.330(NT10,000) 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.

B. Farmland Acquisition for Young Farmers

In 2002, Taiwan acceded to the World Trade Organization and increased its area of fallow land. To address concerns related to food security and climate change, the COA has actively promoted the "Small Landlords and Big-Tenant Farmers" program and the "Program for Adjusting Farming System and Activating Farmlands." These programs were integrated into the Farmland Bank Website to further enrich the service functions of the Farmland Bank and farmer's associations. The goal was to help young farmers acquire or rent farmlands. By the end of December 2013, the 100 young farmers of the PGYF have purchased or rented over 480 ha of land.

The Small Landlords and Big Tenant Farmers program was initiated in 2009. From 2010 to 2013, farmlands were leased to tenant farmers, increasing the number of tenants from 8,121 to 25,724 and substantially expanding farmland areas from 4,000 ha to 11,200 ha. The number of big tenant farmers who participated in this program increased from 703 to 1,578. Most importantly, the average area cultivated by a tenant farmer increased to 8.4 ha compared with the average 1.1 ha for farms in general. In addition, the average age of 45 for tenant farmers was substantially lower than that of 62 for all farmers, exhibiting a significant result.

Table 2. Effectiveness of the Small Landlords and Big-Tenant Farmers Policy

Year	Number of Small Landlords	Large Lands			
		Number of People	Total Land Area	Area Available for Rent	Average Farming Area (ha)
2010	8,121	703	5,649	4,056	8.0
2011	13,912	1,002	8,433	6,549	8.4
2012	18,265	1,328	9,579	8,004	7.2
2013	25,724	1,578	13,187	11,268	8.4

3. Provision of Startup Business 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 US167,000(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.

4. 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.

5. Promotion of 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.

At the end of December 2013, the following results were obtained: 250 people participated in the training programs held by the Farmer's Academy; 47 people attended the agriculture production and marketing groups; 68 product or brand story designs were submitted; counseling on 38 items pertaining to processing R&D was provided; 505 technical services were rendered; 1,226 one-on-one counseling sessions were given; 24 GAP items, 35 organic or transformed items, and 18 TAP labels were obtained; 63 farmers were assisted with expanding 115 marketing channels; and 97.41 ha of newly purchased (rented) farmlands and 384 ha of lands for contract farming were acquired.

In 2014, the focused area of the PGYA will be expanded as follows:

- A. A pilot program involving 5 young farmers of the PGYA will be implemented. Specifically, these farmers will be guided to work at the Livestock Research Incubator, where they will collaborate with other young farmers, dairy product factories, dairy farming associations, and processing factories to integrate corn industry chain and establish a demonstration of the overall guidance procedure (i.e., the integration of industry value chain).
- B. An innovative business competition will be organized. In this competition, participating farmers of the PGYA and other youngsters will be encouraged to form 19 business teams, each of which will propose innovative value addition or cross-domain cooperation plans. Subsidies and professional consultants will be allocated to each team to facilitate the implementation of their proposed plans.
- C. Matchmaking services for specific types of requirements (e.g., organic agricultural products and processed products) will be planned, or product marketing resources will be integrated by local young farmers to propose a production plan, after which distributors are invited to visit the production area. Thus, the guidance for channel and contractual matching can be strengthened.
- D. Overseas internship will be arranged for industry chain integration, cross-domain cooperation, and market analysis and exploration to expand international perspectives.
- E. In 2015, the second group of 100 young farmers recruited for the PGYA has been announced. These farmers will be assigned to the aquaculture industries; aboriginal participants and those who applied as a group will be given priority for guidance counseling.

6. Promotion of Farm Job Shadowing and Summer Vacation Part-Time Work among Students of Farming Schools and Colleges

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.

CONCLUSION

The COA will continue to actively promote relevant measures; attract young people to engage in farming, expand their business, and add value to the industry; encourage young farmers to form a group or become a member of an organization; and strengthen the process of organizing the career development of students in farming schools. This effort is aimed at making the concept of youth farming a value widely identified within Taiwan's society, thereby prompting the improvement of agricultural workforces to cultivate novice farmers in becoming the new hope of Taiwan's agricultural industry.

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