

Attracting the Young Generation to Engage in Agriculture

Sri Hery Susilowati
Researcher and Deputy Director,
Indonesian Center for Agriculture Socio Economic and Policy Studies (ICASEPS),
Ministry of Agriculture
srihery@yahoo.com

ABSTRACT

For the last ten years there has been a shift in the structure of agricultural labor in Indonesia, where the number of young farmers was declining, but the number of aging farmers was increasing. The factors that affected the farmers' interest on working in agriculture were mainly land tenure and earning prospects from the agricultural sector. To attract youth to work in agriculture, many countries provide incentives, particularly to improve access to capital and land. Learning from the experience of these countries, the Government of Indonesia, particularly the Ministry of Agriculture, should give a priority to young farmers through an incentive policy in order to attract the youth to work in agriculture and retain young farmers to stay in the sector. To assure youth involvement in agriculture, the policies required are not only in the form of incentive policies but also the overall rural industrialization policy, through rural agroindustry development, innovation, investment, infrastructure and strengthening agricultural institutions from upstream to downstream.

Keywords: Young farmer, Aging farmer, Incentive policy

INTRODUCTION

Agriculture is one of the sectors that absorb significant labor force in Indonesia, contributing to nearly 43 percent of the total employment. Major problems of labor force in agriculture are: education level of the majority of the farmers is relatively low, increasing number of the aging farmers and the decreasing involvement of young workforce in agriculture. According to the Agricultural Census, in 1993-2003 the composition of agricultural labor force by age had changed significantly. Agricultural labor less than 35 years old in 1993 amounted to 25.8 percent, but ten years later (2003) was reduced to 20 percent. In the next decade, the Agricultural Census in 2013 confirmed further declined of the younger workers (aged under 34 years old) to 12.9 percent. On the other hand, the data showed a growing number of aging farmers, aged over 65 years (CBS, 2003, 2013). During the same period the youth who worked in the non-agricultural sectors showed an increasing trend.

There are many factors that make the agriculture is not attractive to young and educated workforce. The factors consist of push factors such as the increasing scarcity of agricultural land, and pull factors such as more promising and higher income of working in the non-agricultural sectors. Moreover, from cultural value system point of view, the majority of youth consider that

working in non-agricultural sectors is more prestigious. They prefer going to the cities to work as construction laborers, merchants, or civil servants. This phenomenon occurs almost consistently in all regions of Indonesia (Susilowati *et al.*, 2012).

The declining interest of young workforce to work in the agricultural sector is not without consequences, particularly for the future sustainability of this sector. In the future, with the increasing number of population, the burden to agriculture will be much more difficult, particularly in fulfilling the increasing demand for food. Therefore, the role of the government in promoting the increase of food production and productivity becomes very challenging. For that reason, the interest of young people to become the next generation farmers must be fostered.

The main challenges facing the youth to start working in the agricultural sector are access to capital, limited skills, and access to land. Therefore, it is necessary for the government to formulate incentive policies for young workforce so that they are interested in working in the agricultural sector. Unfortunately, up to now there have been no incentive policies in place to encourage young workforce to work in agriculture. In fact, learning from the experience of developed and developing countries, the government could come up with a number of policies and programs for young people and beginning farmers who are interested in working in the agricultural sector (Murphy, 2012; Shute, 2011; Katchova and Ahearn, 2014; Davis *et al.*, 2013).

The objectives of this paper are: (1) to study the structure of the agricultural labor force based on age related to the phenomenon of aging farmers and participation of young workforce in the agricultural sector; (2) to study the factors that influence young workforce on working in the agricultural sector; and (3) to review incentive policies for young farmers in other countries and what policies have been carried out in Indonesia in response to the issue. Finally, the paper addresses some policy implications, in attracting young workforce to work in the agricultural sector in Indonesia.

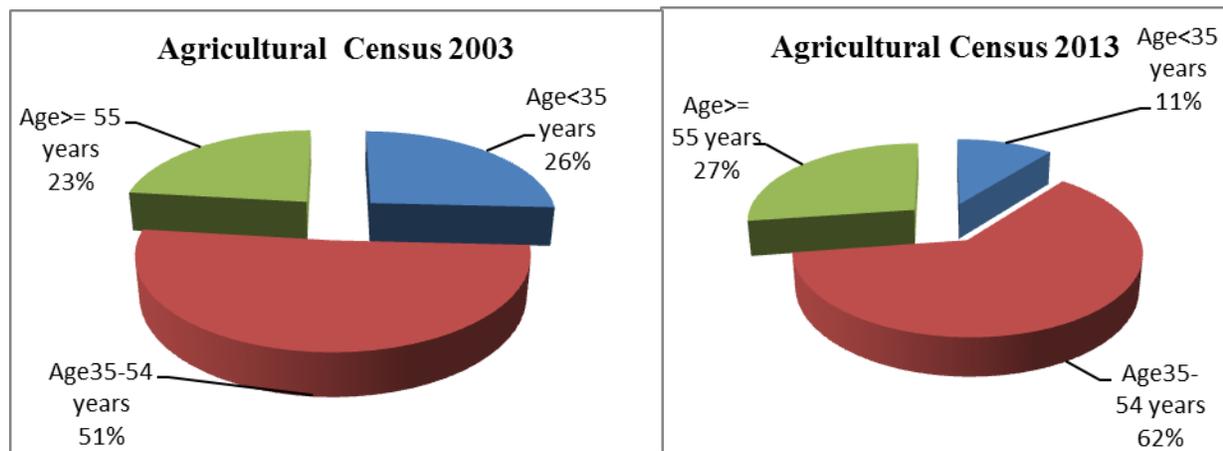
METHODOLOGY

The paper utilizes both primary and secondary data. The primary data is data base of ICASEPS (Indonesian Center for Agricultural Socio Economic and Policy Studies, Ministry of Agriculture) drawn from household survey conducted in some provinces distinguished by agro-ecosystem (primary commodities), namely: plantation (4 provinces, n = 320), *palawija* or secondary crops (5 provinces, n = 300), paddy rice (5 provinces, n = 350) and vegetable (4 provinces, n = 193). The primary data will be used to analyze the factors affecting young farmers on working on farm by using the Binary Logistic Regression model. The secondary data is collected from the Central Bureau of Statistics (CBS) to determine the structure of the Indonesian agricultural labor by age, particularly related to aging farmers and young labor force participation in agriculture. Reviews of incentive policy for young farmers in other countries and in Indonesia are conducted through literature study.

STRUCTURE OF AGRICULTURAL LABOR IN INDONESIA

Participation of Young Workforce in Agriculture

The definition of young farmers (young workforce) varies, but in general some sources have determined the age range from 16-40 years of age. In Indonesia, according to the Law No. 40 of 2009, Article 1, paragraph 1 on the youth states that the youth are those who enter an important period of growth and development from the ages of 16 (sixteen) to 30 (thirty). Indonesian Youth Employment Network (IYEN) defines 'young people' as those who are in the age group of 15-29 years (ILO, 2007). Several studies on peasant youth used the age limit of peasant youth (young farmers) differently. A study by Katchova and Ahearn (2014) on the implications of ownership and lease of land for peasant youth and novice farmers used 35 years as the limit of age to be called as young farmers. David et.al (2013) used 35 years of age to determine someone as a young farmer. The French government uses the age limit of 40 as a peasant youth who is entitled to financial scheme (Murphy, 2013). In this paper, peasant youth are those who are 35 years of age and below.



Source: CBS, 2003 and 2013.

Figure1. Composition of farmers according to age group, 2003 and 2013

For the last two decades, in both absolute and relative term, the number of young people who work in the agricultural sector has declined sharply. On the contrary, the number of aging farmers has significantly increased. There are several factors explaining these phenomena. On the average, the size of agricultural land per household is getting smaller so that young farmers who are working in agriculture do not have other options but becoming a laborer, an option that is not their interest. The alternative is getting out of the agricultural world and work in non-agricultural fields in the city. Another factor is the increasing number of youth who go to a higher level of education, enabling them to be more selective in finding the job. Non-agricultural jobs in the cities have become their choices instead of going back to their villages and work as a farmer.

FACTORS INFLUENCING YOUTH ENGAGED IN AGRICULTURE

This section will discuss the factors that affect the youths on working in agriculture by using a regression analysis. The dependent variable is dummy variable equal to 1 and 0, where the value of 1 is youth (aged 15-35) who are involved in agriculture, and the value of 0 is the youth who are not involved in agriculture. The analysis was performed for each base commodity region. The results of the analysis are shown in Table 1.

The variables that significantly affect the probability of youth on being involved in agriculture are age, education, tenure, gender and economic status. Meanwhile, the number of household members had a significant effect only in dry land-secondary crops area and year dummy had a significant effect only on dry land-plantation area. The description of each variable is as follows:

1. Age.

The regression model showed that age significantly affects the chances of the youth to be involved in agriculture. This is true in all area. The younger a person was, the bigger the opportunity to engage in agriculture. This indicated that the youth involved in agriculture generally were relatively younger than the age limit of 35 years used in this analysis. It might be that the young men were actually still in the learning period, for example, students helping their parents work on farm.

2. Education.

Education has a significant effect on youth's opportunity to be involved in agriculture. The bigger the opportunity to be involved in agriculture. The higher the education, the opportunity to be involved in agriculture was also bigger, meaning that young workforce engaged in agriculture had relatively good education. Many young people who were still at school or college had a second job to help their parents on the farm.

3. Size of land per capita.

The smaller the land size per capita is, the greater the chance for young workforce to be engaged in agriculture. This means that most young workforce engaged in agriculture do not have arable land, both the land owned by their parents and their own, or the land of others which they cultivate on a profit-sharing or rental basis. So, the youth engagement is more like a worker / laborer who receive wages. This is consistent with the fact that the farm size of farmers is smaller so that the youth opportunity to get access to the land is also getting smaller, both with their owned, profit-sharing or rental status.

4. Gender.

Gender significantly had a negative effect on the chances of youth to be involved in agriculture. Only on dry land region of secondary crops did gender show a positive effect although insignificant. The fewer the young male workers are, the greater the opportunity for women to work on the farm. This suggests that many young female workers are involved / working in agriculture. This is quite common when the girls are no longer in school and

unmarried. They usually help their parents on the farm until they get married and take care of their own household. Even those who are married often help her husband work on the farm.

Table1. Factors influencing youth engaged in agriculture

Variable	Wetland		Dry land-secondary crops		Dry land – vegetable crops		Dry land- plantation crops	
	Coefficient	Pr> Chi-Square	Coefficient	Pr> Chi-Square	Coefficient	Pr> Chi-Square	Coefficient	Pr> Chi-Square
1. Age	-0.1572	***	-0.1008	***	-0.1747	***	-0.1125	***
2. Education	0.1989	***	0.2234	***	0.2403	***	0.1993	***
3. Land holding/capita	-0.2264	**	-0.3500	***	-0.6272	***	-0.3590	***
4. Sex	-1.0036	***	0.0631		-0.5815	**	-0.4709	***
5. Number of HH member	0.0203		0.1229	*	0.0327		0.1600	***
6. Economic status	3.621E-6	***	4.5E-7		1.48E-6	***	1.137E-6	***
7. Dummy Year(2009=1; 2012= 0)	-0.2034		-0.1743		-0.3056		-0.4044	**

Source: primary data

***significant at the 99% level

**significant at the 95% level

*significant at the 90% level

5. Number of household members.

The number of household members has a significant effect on dry land region of intercrops and dry land plantations. The larger the number of household members was, the greater the chances of young workforce to work on the farm. The involvement of the younger members of the household on the farm can be as temporary or permanent job. The household members who are still students was generally working on farm as a sideline or for those who are non-students in addition to working on the farm they also work in non-agriculture. Most of the household members generally have double jobs, in agriculture and in non-agriculture (transport, trade, etc.).

6. Economic status.

Economic status which reflects the wealth is measured by the amount of income per capita (expenditure per capita). These variables significantly affect the opportunities of youth on working in agriculture in all regions except in the areas of dry land crops. The better the economic status was, the greater the chances of youth to work in agriculture. This implies that the economic status of the youth who were not involved in agriculture was not as good as the youth who were involved in agriculture because agriculture was a source of household income which contribute to the per capita income of the household greater compared with the youth who were not involved in agriculture.

7. Year Dummy.

Year dummy only had a positive effect on the plantations type of region. Year dummy showed the change in youth involvement in agriculture at two points of time, namely 2009 and 2012. It means that for the last three years there had been a significant change in youth involvement in agriculture, especially in the area of the plantation, and with the difference in the year 2009 to the year 2013, there were more youth involved in agriculture.

Apart from the above-mentioned factors, there are many factors affecting the interest of youth to work in agriculture. The data show that youth involvement in agriculture has declined. The reluctance of youth to work in agriculture can be analyzed from two sides, namely by understanding the push factors triggering youth to get out or do not want to work in agricultural sector, and the pull factors causing youth to work in the non-agricultural sectors. The main driving factor causing the declining number of young people working in the agricultural sector is the small size of agricultural land assets which can not guarantee a reliable source of income. The choice being a farmer is identical to working on farm with a limited farming mechanization, lowering their social prestige. The pull factors that make young people prefer working in non-agricultural sectors or getting out of agriculture is the growth of such sectors as industry, commerce, and services in urban areas which have particular attractions to youth.

THE FRAMEWORK of INCENTIVE POLICIES

Learning from other countries

To start a business in the agricultural sector, young farmers and novice farmers generally will encounter several challenges, especially those who are categorized as small farmers. The main characteristics of small farmers are having limited capital, education and experience. With such

constraints, it would be difficult to gain access to capital from commercial banks because generally they do not have any collateral so that the credit is deemed to have a high risk in the repayment. The rising prices of land and the absence of collateral to the bank make young farmers and beginner farmers find it difficult in gaining access to land (Kauffman, 2013). In countries that do not adhere to the system of land inheritance from parents to their children, their children as successor generation would start their business as farmers. They generally develop their business by buying, renting or through a profit-sharing system. With limited capital and assets, access to farmland is a real challenge for young farmers and beginner farmers (Katchova and Ahearn, 2014). The condition is different from Indonesia where inheritance system is still widely applied. Parents will divide the land according to the number of their children so that land fragmentation occurs along with the increasing number of new farm households.

With the increasing population, the demands for food keep increasing. To meet the food needs, the agricultural sector plays a very important role. The increase in agricultural production and productivity is a key factor in the success of a country in providing food for its population. This is where the role of the next generation of farmers is very essential. The youth interest in working on the farm must be grown. But to start a business in agriculture, young farmers have constraints, primarily related to capital aspect. Aware of this problem, many developed countries as well as developing countries have come up with various incentive schemes so that young farmers and beginner farmers can start their business in agriculture easily, especially on farm agriculture. After reviewing some of the references, various incentive schemes are summarized in Table 2 as follows:

Table 2. Incentives Scheme for Young and Beginning Farmer

No	Country	Programs/ Incentives	Targeted Object
1.	European ¹⁾	New entrance scheme for farmer : – Working capital installation grant – Interest subsidy on a farm	Farmers under 35 years
2.	Victoria – Australia ²⁾	Three loan facilities with an interest rate concession 1. Purchase stock & equipment 2. Purchase land 3. One to grow.	People 40 years of age or under
3.	France ²⁾	- lump sum or subsidized loan to help young farmer to buy the land - a reduction in taxes over five years	Young farmers (under 40)
4.	United Kingdom ²⁾	Young Entrants Support Scheme (YESS): – A one-off grant payment for a young entrant as head of holding for the first time or as head of holding for the first time within the previous 12 months. – Access to funded mentoring services from established farmers and/or professionals	People under 40
5.	Canada ²⁾	– Loan guarantees, innovative lending products, interest rate protection and interest rate reduction for education and training. – Farm Credit Canada (FCC) Loan up to \$500,000 at a variable interest rate of cost of funds plus 0.5%.	-Young farmer and Beginning farmer -People under 40 years of age
6.	Alberta-Canada ²⁾	The Agriculture Financial Services Corporation (AFSC)'s programs: – Interest rate concession of 1.5% for the first five years of a loan	– Beginning farmer – Available to any individual with a net worth of \$500,000 or less at the time of application.

7.	Manitoba-Canada ²⁾	Manitoba Agricultural Services Corporation (MASC) <ul style="list-style-type: none"> - Annual rebate of 2% on the first \$150,000 of principal of a loan for each of the first 5 years which is \$3000 annually and \$15,000 total after 5 years. - 90% financing option that reduces the deposit required or five years of interest-only payments to assist with cash flow 	Young farmers less than 39 years of age
8.	USA ^{2) 3) 4)}	1. United State Department of Agriculture (USDA) Farm Service Agency (FSA): “Lender of First Opportunity” to help farmers graduate to commercial credit <ul style="list-style-type: none"> - Guaranteed Loan Program - Direct Loan Program - Land Contract Guarantee Program 2. Iowa Agricultural Development Authority (IADA) <ul style="list-style-type: none"> - Beginning Farmer Loan Program (BFLP) - Loan Participation Program (LPP), - Beginning Farmer Tax Credit Program (BFTC). 3. Farm Credit System ³⁾ : <ul style="list-style-type: none"> - Provide credit at competitive interest rates - Lower loan fees, or loan covenants for owning land and leasing equipment 	Young Farmer under 35 years of age, beginning farmer and socially disadvantaged farmers Beginning farmers are defined as those having 10 years or less of experience Young farmers as 35 years of age or younger Beginning farmers
9.	China ⁴⁾	Ministry of Agriculture: <ul style="list-style-type: none"> - loans and tax benefits 	Young Farmer

Source: ¹⁾ Davis, et.al (2013); ²⁾ Murphy, 2012; ³⁾ Kauffman², 2013; ⁴⁾ National Young Farmers Coalition, 2013; ⁵⁾ Jieying Bi, 2014;

The explanation of the above table is as follows:

1. Two main European Policy approaches to promote structural adjustment in agriculture are Farmer Early Retirement and New Entrance Scheme for farmer. Two alternative approaches to a new entrant Scheme: (1) working capital installation grant, and (2) an interest subsidy on a farm. A working capital installation would be made to new entrance meeting specific eligibility criteria concerning management control of the business, income viability and a commitment to remain in farming as the main occupation for a specific period. Most of the studies concluded that the early retirement Scheme for Farmer was not effective because the farmers who benefited were soon due to retire. In contrast, New Entrant Schemes for Farmer directly on capturing the benefits associated with the goal and aspiration of younger farmers to take control of a farm business for the first time. But there is not a lot of research evidence on their effectiveness. A suitable designed new entrance scheme involving an interest subsidy loan and working capital installation grant on a farm can result in significant improvements in farm performance (Davis *et.al.*, 2013)

2. Victoria-Australia has a Young Farmer Finance Scheme through Rural Finance that is available to people 40 years of age or under and provides three loan facilities with an interest rate concession.
 - a. Purchase stock & equipment: These loans have a term of up to eight years with a 2% concession off Rural Finance's commercial interest rate for the first three years and then commercial rates apply for the rest of the loan term.
 - b. Purchase land: These loans have a term of 15 years with a 2% concession off Rural Finance's commercial interest rate for the first five years and then commercial rates apply for the rest of the loan.
 - c. One to grow: This loan is aimed at young farmers who are looking to purchase their first block of land as a first step towards owning and operating a commercial farm. These loans have a term of up to 12 years with a 1% discount off Rural Finance's commercial interest rate for five years and then commercial rates apply for the rest of the loan (Murphy, 2012)
3. France budgeted total public expenditure between 2007 and 2013 to be €1.6 billion. Young farmers (under 40) can have as a lump sum or as a subsidized loan to start an agricultural operation. When land comes up for sale in some provinces of France it is the local government and a farmer board that decides who can buy the land and they also set the price. The government also assists young farmers with a reduction in taxes paid that is stepped up over five years, which helps cash flow through the start-up period (Murphy, 2012)
4. United Kingdom. The National Federation of Young Farmers Clubs in Coventry introduced me to a program that was running in Wales called the Young Entrants Support Scheme or YESS. The assistance package includes:
 - a. A one-off grant payment for eligible capital expenditure when a young entrant (under 40) is setting-up as head of holding for the first time or when the applicant has set-up as head of holding for the first time within the previous 12 months.
 - b. Access to funded mentoring services from established farmers and/or professionals. To qualify applicants are required to submit a Business Development Plan, including details of the capital investment that the grant will support.

It requires that the holding must be viable or the applicant will be required to demonstrate in the Business Development Plan that the holding will become viable within 5 years after entry into the Scheme (Murphy, 2012)
5. Canada provided this study with a broader perspective on finance to young farmers by including a number of different assistance measures. They included assistance to beginning farmers, loan guarantees, innovative lending products, interest rate protection and interest rate reduction for education and training. This investment cannot cover the purchase, rent or lease of land, livestock. Single Payment Scheme entitlements or farm machinery to be used for contracting activities. Financial assistance will take the form of a grant payment (made in arrears upon successful completion of an approved project) for an investment made in setting up as head of holding for the first time. The grant is for 50% of agreed eligible expenditure or maximum grant of £15,000 (Murphy, 2012)
6. In Alberta, Canada, the Agriculture Financial Services Corporation (AFSC) explained their program that does not take into account the age of the loan applicant but uses a net worth calculation to determine if the applicant qualifies for an interest rate concession. The Beginning Farmer Incentive offers an interest rate concession of 1.5% for the first five years of a loan and is available to any individual with a net worth of \$500,000 or less at the time of

application. A couple applying jointly for the loan could receive the Beginning Farmer Incentive on loans up to \$1 million provided both have an individual net worth of \$500,000 or less at the time of application (Murphy, 2012)

7. Manitoba Agricultural Services Corporation (MASC) has an interest rate rebate for farmers less than 39 years of age. The Young Farmer Rebate which is an annual rebate of 2% on the first \$150,000 of principal of a loan for each of the first 5 years which is \$3000 annually and \$15,000 total after 5 years. The applicant also has the choice of a 90% financing option that reduces the deposit required or five years of interest-only payments to assist with cash flow. These loans have a maximum limit of \$2 million (Murphy, 2012).
8. Young farmers in the USA have access to funding through a number of channels. If a young or beginning farmer does not qualify for a loan with a commercial bank then they can apply to Farm Credit. If they do not qualify at Farm Credit then they can apply for a loan from the Farm Service Agency which is a department within the United States Department of Agriculture. There are also organizations like Iowa Agricultural Development Authority (IADA) that have lending products and administer tax credits as a form of assisting young farmers (Murphy, 2012; National Young Farmers Coalition, 2013).
 - a. United State Department of Agriculture (USDA) Farm Service Agency (FSA)

FSA is referred to as the “Lender of First Opportunity” because each year it targets some of the direct and guaranteed loan funds for beginning and socially disadvantaged farmers. or who are members of a group which has been subjected to racial, ethnic, or gender prejudice because of their identity, without regard to their individual qualities. A farmer who is unable to obtain credit elsewhere to start, purchase, sustain, or expand the farm can apply for a loan from the USDA FSA. Unlike loans from a commercial lender, FSA loans are temporary in nature and the goal is to help farmers graduate to commercial credit.
 - b. Guaranteed Loan Program

Guaranteed loans are made and serviced by commercial lenders, such as banks, the Farm Credit System, or credit unions. FSA guarantees the lender’s loan against loss, up to 95 percent. FSA has the responsibility of approving all eligible loan guarantees and providing oversight of the lender’s activities.
 - c. Direct Loan Program

Direct loans are made and serviced by FSA using Government money. FSA has the responsibility of providing credit counseling and supervision to its direct borrowers by helping applicants evaluate the adequacy of their real estate and facilities, machinery and equipment, financial and production management, and goals.
 - d. Land Contract Guarantee Program

Land contract guarantees are available to the owner of a farm or ranch who wishes to sell real estate through a land contract to a beginning or socially disadvantaged farmer
9. In spite of the current rural-urban migration trends, more and more talented young people who are good at farming and who earn their first fortunes in the cities are shifting their focus to agriculture and going back to rural areas. The Ministry of Agriculture has issued new supporting policies in 2011, such as offers of loans and tax benefits, to facilitate youth to go back to their hometowns to start agriculture-based businesses. Training programs on practical farming skills and farm management are also provided (Jieying Bi, 2014)

Incentive policies in Indonesia

About 55.3 percent of the farmers in Indonesia belong to the group of small farmers whose land ownership is less than 0.5 ha. In accordance to the characteristics of small farmers--low education, lack of skills and limited capital--the main problem in running their farming business is limited capital. Therefore, various incentive programs have been provided by the government to improve their access to capital, particularly for small farmers. In the meantime, there are various types of agricultural financing programs from the Ministry of Agriculture for small farmers today, such as: (1) Credit for Food Security and Energy (*KKP-E*), (2) People's Business Credit (*KUR*), (3) Credit for Cattle Breeding Program (*KUPS*), (4) Services of Agricultural Financing Scheme Program (*SP-3*), (5) Social Responsibility Partnership Program (Partnership). However, there is no specific arrangement is made toward young farmers.

1. Credit for Food Security and Energy (*KKP-E = Kredit Ketahanan Pangan dan Energi*) (Indonesian)

KKP-E is an investment credit and or working capital loan given to farmers and farmer groups in order to support the implementation of Food Security Program and Development Program of Biofuel Raw Material Plants. The aim of *KKPE* is to provide an investment credit and or working capital with affordable interest rates to support the improvement of national food security and energy security through the development of biofuel raw material plants. In this scheme the government provides an interest subsidy, which is lower than the prevailing commercial interest. These credits can be accessed in groups on condition that they are extended by the executing banks (Directorate of Agricultural Finance, 2010)

2. People's Business Credit (*KUR = Kredit Usaha Rakyat*) (Indonesian).

This program is a low-interest loan for working capital like *KKPE* scheme, but *KUR* program has a wider credit target, not only farmers but also small and micro entrepreneurs. The purpose of the *KUR* for agriculture is to improve access to credit / financing for farmers and farmer groups from the bank to accelerate the growth of the real sectors (food crops, horticulture, plantation and livestock), and to support food security and poverty reduction as well as the expansion of employment opportunities in the agricultural sector. *KUR* target is for business people in upstream agriculture, that is, for the procurement of production facilities, equipment and agricultural machinery, on-farm cultivation of food crops, horticulture, plantation and livestock; and in downstream agriculture it includes production processing (Directorate of Agricultural Finance, 2010).

3. Credit for Cattle Breeding (*KUPS = Kredit Usaha Pembibitan Sapi*) (Indonesian)

KUPS is the credits extended by the executing banks for business players in cattle breeding with an interest subsidy from the government. They are cattle breeding company, cooperative, and group / combined groups of farmers who run a cattle breeding business. *KUPS* aims to support the availability of beef toward food self-sufficiency. Through *KUPS* it is expected that breeding industry and breeding group will develop so that there will be an increase in the cattle population and the creation of jobs in the community. The target of the credit schemes for cattle breeding is the availability of 1 million heads of cattle in a period of 5 years or

200,000 heads annually, performed by the business players of beef cattle breeding and dairy cow breeding in a sustainable manner. *KUPS* for business players in the form of breeding company is a two-year interest subsidy in accordance with the longest loan period of 6 (six) years. *KUPS* interest rate is set at the prevailing market interest rate for similar loans. Meanwhile, *KUPS* interest paid by business people is set at 5 (five) years. The difference between *KUPS* interest rate and the interest imposed on the employer is the government subsidy.

4. Scheme Program for Financing Agriculture (SP-3= *Skema Program Pembiayaan Pertanian (Indonesian)*)

This program aims to finance investment and or working capital from commercial banks which are supported the Ministry of Agriculture to encourage farming credit of food crop sub-sector, horticulture, livestock and plantation, from upstream to downstream. Types of loans offered are investment credit and working capital loan. The duration of the program for food crops and one-season horticultural businesses, annual horticulture, plantation and livestock business is at least one business cycle. As for the upstream and downstream businesses related to food crops, horticulture, plantation, livestock and trade businesses, the maximum period is one year and can be extended. This credit scheme provides lower interest rates than commercial lending rates with a credit limit up to Rp 500 million and it is free administrative costs. The requirements to obtain this credit, among other, are a farmer with at least 21 years of age or married, has run his business at least for 2 (two) years and or has good business prospect.

5. Social Responsibility Partnership Program (PKBL = *Program Kemitraan Bina Lingkungan (Indonesian)*)

PKBL is partnership program between state-owned enterprise (*BUMN*) and small businesses to empower and improve the ability of small businesses to be resilient and self-reliant through the use of funds from parts of *BUMN* profits. The program provides a new loan facility for working capital or investment extended to *BUMN*'s prospective partners which is feasible but not yet bankable and generally the funds are in form of grants or loans with low interest rate.

Although the government through the relevant institutions has launched various financial aid programs, most of which are credit with an interest subsidy, in reality programs are under-utilized by farmers. This is because the banks executing the programs still require collateral to anticipate risks. So a credit scheme program with a guarantor is required so that the executing banks feel safe in extending their credits. Currently, establishing Bank of Agriculture is being initiated through the mechanism of credit without making farmer asset as collateral or through a guarantor from Insurance Agency.

However, scheme programs with an interest subsidy are only intended for farmers or farmer groups in general. They are not specifically targeted to young farmers and beginning farmers. So far the government has not had any special incentive program to attract young farmers, so that there will be more young people interested in agriculture businesses. The data show that the number of households and young people who are involved in the agricultural sector is decreasing during last decade (CBS, 2013). There are several government ministries responsible for youth development. Ministry of Youth and Sports has a duty to develop the young people of Indonesia, especially in sports, organization and social organization. The other ministries give more indirect

contribution to the national programs related to youth employment. For example, the Ministry of Social Affairs serves as a facilitator of youth community organization development. Ministry of National Education, and Ministry of Manpower and Transmigration are active in tackling youth unemployment. Other programs for youth employment are youth workforce development for college graduates by including local universities, and self-employed development program through the participation of non-governmental organizations for high school graduates. Another program for public job creation is to apply appropriate technologies aimed at disadvantaged community groups and groups with productive activities for rural communities (ILO, 2007). Ministry of Agriculture also has a variety of youth development programs for them although they are more in the form of training for capacity building. So far there has been no special program in the form of incentives to attract the youth to work in agriculture.

WHATS THE GOVERNMENT SHOULD DO TO ATTRACT YOUTH IN AGRICULTURE?

To strengthen the younger generation's work enthusiasm in agriculture and to ensure that they will not leave rural areas, offering them incentives only is not enough. Additionally, rural industrialization should be systematically carried out so that the youth involvement in agriculture occurs on an ongoing basis, namely through:

1. Development of agro-industry

To improve the image of agriculture in the eyes of the youth, the development of Agro-Industry should be conducted. Over the past years, most people, including the youth, believed that agriculture was identical to on-farm agriculture, where farmers had to work on a narrow farmland with a simple technology. The picture was not attractive to young people, indicating less social prestige. This is in contrast to the on-farm system of agriculture in developed countries, where farmers manage extensive farmland with agricultural mechanization, developed and supported by good agricultural infrastructure. That the small size of agricultural land impedes young farmers to work in agriculture is a challenge that we should find the solution because this is an old persisting problem. On the one hand, the government will not be able to increase the size of land ownership or provide agricultural land for young farmers or beginning farmers quickly, simply because the size of agricultural land is relatively fixed. On the other hand, land expansion is a high-cost program taking a long period of time. In this case, agroindustry offers a new paradigm, namely value-added agriculture, meaning that agriculture is not always on the farm producing raw materials/feedstock. All this time, the Indonesian agriculture tends to be culturally trapped in on farm system of farming and has not headed to off-farm farming system (post-harvest). The strategy offered to overcome this problem is to change the views of young people about the stigma that agriculture is underdeveloped by developing agricultural industry. Agriculture should become the industry that produces the final product, not just raw materials, which can create high added value in the downstream sector due to a large margin. Branding, including packing and processing, is a creative economy that usually belongs to and is preferred by the younger generation (Daryanto, 2009). This industry can absorb more labor. Agricultural image through agroindustry will improve in the eyes of the youth because they do not have to work on farm all the time. At the same time, agricultural mechanization technology needs to be improved so that in addition to increasing the labor productivity agriculture can also increase the prestige of youth. Agro-industry should be able to be a leading sector to overcome the present conventional agricultural pattern. Agro-industry must be able to mix and match between the visions of

entrepreneurs, the ideas typical belonging to young people, with the technology to be selected. The synergy with the private sector and academia need to be developed to cultivate the new seeds of entrepreneurial spirit and create a new technology.

2. Innovation

Innovation is strongly associated with the younger generation, namely how to make agricultural industry able to produce something innovative that inspires young people to go into agriculture. One example to improve the image of agriculture in the eyes of the youth is urban farming innovation. In this case, the innovation of information through social media is very familiar to youth, (ie internet, twitter, face book). The social media would successfully boost the spirit of the youth to participate even if they do not understand exactly what they are doing. The role of young people, students of agriculture major in particular, is to enlighten the people with the knowledge they gained from the campus. The youth involved can spread seeds, water, and pose on the land that has been intentionally arranged in row and partially planted. This action will be able to attract the youth to farming / gardening in urban lands.

3. Incentives

Various incentive programs through interest rate subsidies as previously described shows the evidence of the government's great concern with the agricultural sector. The problem is the programs have not specifically been intended for young people or novice farmers who are interested in working in the agricultural sector. Learning from the experience of other countries where the government provided various incentives for youth, the Indonesian government also needs to add a special incentive scheme program for youth, especially incentives in helping them with their capital. In addition to easier access to capital, incentives can also be in form of input subsidies and affords to maintain the stability of the prices of agricultural products. Using the same schemes as described earlier, the Government should provide specific concession for the youth and beginner farmers a much higher incentives are offered. For instance, higher interest subsidy (lower interest rate) and higher credit limit. A priority should also be given on accessing agricultural land for beginner farmer.

d. Infrastructure

Infrastructure is a very important factor to build agricultural industry from upstream to downstream, especially rural infrastructure such as transportation, energy, communications, education and so forth. Infrastructure should be made available to open an entry access to villages so that industrial crops are easily distributed.

5. Investment

Agricultural investment will generate multiplier effects both forward (downstream) and backward (upstream). Investment does not have to rely on government budgets, but private investment and public investment should be constantly encouraged.

6. Institutions

Agricultural institutions must be built from upstream to downstream, providing production facilities, credit, information, farming activities, as well as post-harvest management. Therefore, it is a good idea to create and develop policies on business training, funding (capital loan),

technology, and markets for the young people who will strive in the development of agricultural products of high economic value despite their relatively marginal land area.

CONCLUSION

The agricultural sector has always played a strategic role in supplying raw materials to meet the food needs which continue to grow along with the increasing number of population. Therefore, the role of youth as the next generation for the sustainability of the agricultural sector is very important. However, the phenomenon is that the youth are reluctant to work in agriculture so that the number of young farmers has declined but the number of aging farmers has increased. The decrease in the number of young farmers is closely related to the size of agricultural land which is becoming smaller. Poor agricultural prospects due to its inability to provide a reliable income also contribute to the present condition.

Addressing the structural change in the employment and learning from the experience of other countries that offer a variety of incentives to attract youth to work on the farm, the Indonesian government, particularly the Ministry of Agriculture, has to be more supportive to young farmers. By using current incentives that available for the farmers in general, a special provision should be given to the young and beginner farmers. These may include higher interest subsidy on agricultural loan and higher credit limit. In addition to the incentive policies, the strategy that needs to be done to attract the youth to work in agriculture is to promote a much more productive and higher agriculture income through the development of agricultural industry, innovation, investment, infrastructure, and strengthening agricultural institutions from upstream to downstream.

REFERENCES

- CBS (Central Bureau of Statistics). 2003. Agricultural Census 2003. Central Bureau of Statistics, Jakarta.
- CBS. Central Bureau of Statistics 2013. Agricultural Census 2013, Jakarta.
- Davis, J, P. Caskie and M. Wallace. 2013. How Effective are New Entrant Schemes for Farmers? Euro Choices 12(3) 2013. The Agricultural Economics Society and the European Association of Agricultural Economists.
- Directorate of Agricultural Finance. 2010. *Jenis-jenis Pembiayaan Pertanian* (Financing on Agriculture). Ministry of Agriculture the Republic of Indonesia. Jakarta
- Daryanto, A. 2009. *Dinamika Daya Saing Industri Peternakan* (The Dynamic Competitiveness of Livestock Industry). IPB Press, Bogor.
- ILO (International Labour Organization). 2007. Country Review on Youth Employment in Indonesia. International Labour Office, CH 1211 Geneva 22, Switzerland
- Katchova, A and M. Ahearn. 2014. Farm land ownership and leasing: Implication for Young and beginning Farmers. JEL(Journal of Economic Literature): Q12, Q15, Q18 January 2014. The American Economic Association (AEA)

- Kauffman¹, N.S. 2013. Credit Markets and Land Ownership for Young and Beginning Farmers. JEL (Journal of Economic Literature): Q14, Q18. 2nd Quarter 2013. The American Economic Association (AEA)
- Kauffman², N. 2013. Financing Young and Beginning Farmer. The Main Street Economist. Agricultural and Rural Analysis. Issue 2, 2013. Federal Reserve Bank of Kansas City.
- Murphy, D. 2012. Young Farmer Finance. Nuffield Australia Project No 1203, Australia.
- National Young Farmers Coalition. 2013. Beginning Farmer and Rancher Opportunity Act of 2013. <http://www.youngfarmers.org/beginning-farmer-and-rancher-opportunity-act-of-2013>.
- Shute, L. L. 2011. Building a Future With Farmers: Challenges Faced by Young, American Farmers and a National Strategy to Help Them Succeed. National Young Farmers' Coalition, New York.
- Susilowati, S.H, T.B. Purwantini, D.Hidayat, M. Maulana, A.M. Makkay Ar-Rozi, R.D. Yofa, Supriyati, W.K. Sejati. 2012. *Panel Petani Nasional (Patanas): Dinamika Indikator Pembangunan Pertanian dan Perdesaan* (National Farmer Panel: The Agricultural and Rural Development Indicator). Research Report. Indonesian Center for Agricultural Socio Economic and Policy Studies. Ministry of Agriculture.

Submitted as a country paper for the FFTC-RDA International Seminar on *Enhanced Entry of Young Generation into Farming*, Oct. 20-24, Jeonju, Korea