

PAPER • OPEN ACCESS

## Young farmers and parents' perception for the future of agriculture: socio-spatial integration of Coffee Farmers in Jeneponto Regency

To cite this article: I Junais *et al* 2020 *IOP Conf. Ser.: Earth Environ. Sci.* **473** 012017

View the [article online](#) for updates and enhancements.

### You may also like

- [Tactile samples with variable surface textures to investigate tactile perception characteristic](#)  
Makoto Kawazoe and Norihisa Miki
- [Simulating the perceptual effects of electrode-retina distance in prosthetic vision](#)  
David Avraham and Yitzhak Yitzhaky
- [The relationship between sound source and urban soundscape](#)  
A S Sudarsono, N P A Nitidara and J Sarwono



The Electrochemical Society  
Advancing solid state & electrochemical science & technology

243rd ECS Meeting with SOFC-XVIII

Boston, MA • May 28 – June 2, 2023

**Abstract Submission Extended  
Deadline: December 16**

[Learn more and submit!](#)

# Young farmers and parents' perception for the future of agriculture: socio-spatial integration of Coffee Farmers in Jeneponto Regency

I Junais<sup>1</sup>, Samsuar<sup>1</sup>, Daniel<sup>1</sup>, H M Ali<sup>1</sup>, Yusran<sup>1</sup>, A Syarif<sup>2</sup> and M H Mansyur<sup>3</sup>

<sup>1</sup>Center for Research and Development of Natural Resources, Hasanuddin University, Makassar, Indonesia

<sup>2</sup>Agriculture Faculty, Makassar Muhammadiyah University, Makassar, Indonesia

<sup>3</sup>Faculty of Agricultural Technology, University of Cokroaminoto Makassar, Makassar, Indonesia

Email: iznamjz@gmail.com

**Abstract.** Farmer's social perception is an important factor in the future development of agriculture. Especially the perception of young farmers needs serious attention considering that they are the pioneers of agriculture in the future. This study aims to examine the perceptions of young farmers towards their future and parents' perceptions of the future of young farmers. The census study involved 151 coffee-farming families with productive-age children who were then interviewed separately. Data analysis using different test, factor analysis, then integrated in socio-spatial. The perception of the group of parents is greatly influenced by how they have strong access to farming, they assume that the activities of this sector require hard work, time consuming, energy and are synonymous with gross and dirty work. This is a precursor to form a social perception that more income is not the main benchmark in determining the social class of the community but rather the type of livelihood. The decision taken by farmer parents for their children is based more on social perceptions that farming work is still considered low in the social strata even though the income generated is in a decent category. In contrast to the perception of parents, young farmers are more optimistic about the future in developing business in agriculture seeing the potential and agricultural resources they have. The perception of young farmers is formed not entirely because of high education, but the ability to access information is a factor forming the perception of groups of young farmers, low education does not correlate with their ability to access information. Based on these results, we conclude that differences in perceptions are present as a result of differences in age backgrounds, perspectives, and characteristics. Poverty that has long ensnared the farming community has changed the social perception of the perspective of the current farming community, so that the perception emerged for farmers that leaving the agricultural sector is the best way to leave poverty. Therefore, it is necessary to launch an agricultural education system into the village, how the education system directly reaches the farming community in the village in order to create a modern agricultural social environment that is business-oriented in the community and family so that it can equate perceptions of the future agricultural business.

## 1. Introduction

The village is an area that is perceived as a place that is synonymous with beauty, a place where is abundant natural resources, with local wisdom that is still thick, polytheistic and cultured. Rural



Content from this work may be used under the terms of the [Creative Commons Attribution 3.0 licence](https://creativecommons.org/licenses/by/3.0/). Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.

development is intended to improve the welfare and quality of life of its society by encouraging independent and sustainable village development that has social, economic, and environmental resilience. Efforts to reduce the gap between villages and cities are carried out by accelerating the development of independent rural villages and building local economic links between villages and cities through rural area development. The village as a big issue, spearhead the development provides great hope for all rural communities [1].

In Indonesia, the socio-cultural, population and economic dimensions of rural society are predominantly agrarian in nature, with various problems in them, seemingly requiring real solutions. The results of existing studies indicate that the village government has not been too influential in increasing community participation in development. There are several factors, one of them is the village administration system which is still chaotic, the lack of complete government facilities and infrastructure and village apparatus resources that are still far from its capacity [2,3]. The younger generation as the successor of agricultural development in the village also needs serious attention.

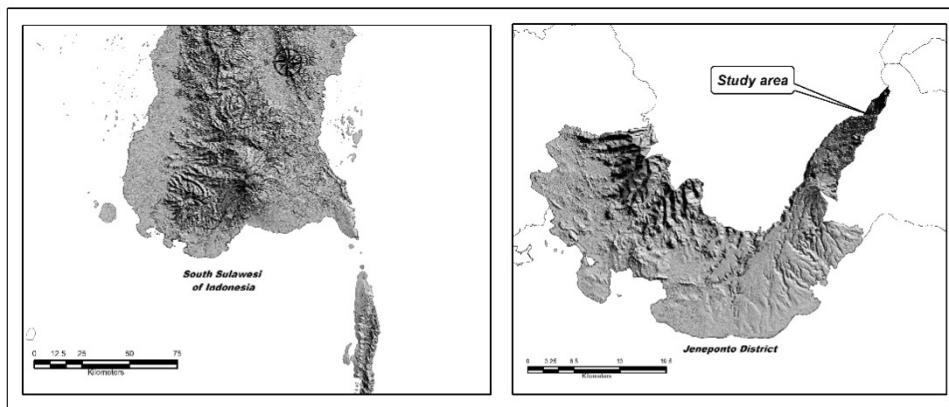
Coffee farming in Indonesia is generally labor-intensive; many coffee farmers are women and young people. But there is a bias in the spinning policy in the social service approach in agriculture, which only focuses on male farmers [4]. Therefore, sustainable agricultural development is not just thinking about how technology is applied in the agricultural sector but long before that, thinking about how regeneration in this sector is prepared to continue agricultural development, in this case it will refer to young farmers. What has not been done so far is how to prepare the young generation of farmers to lead agriculture in the future. The agricultural sector which has been characterized as a scourge for the majority of Indonesian people who work in this sector, seems to have an element of intent to be impoverished.

At present support and concrete steps for joint commitment are urgently needed to foster the enthusiasm of young farmers. The development of the young generation of agriculture is an effort to grow and increase the interest, skills and entrepreneurial spirit of the young generation in agriculture. The target of government policy towards the development of young generation is directed in order to equalize perceptions and actions taken and support for the youth development program of agriculture, the integration of youth development program of agriculture between stakeholders, the creation of an entrepreneurial professional young farmers [5] and access to capital farming [6].

## 2. Materials and methods

### 2.1. Study area

The location of the study was carried out underdeveloped are in South Sulawesi, especially in Jeneponto Regency, a mountainous area where the location had superior coffee commodities is potential to be developed. This study was conducted from February to May 2019.



**Figure 1.** Location of study area.

## 2.2. Data analysis

This study aims at examining the perception of young farmers towards their future and parents' perception of the future of young farmers in farming business development. This census study involved 187 families of coffee farmers who had children at the productive age and involved in agricultural activities at the age range of 15 - 35 years, who were then interviewed separately. The standard age of young farmers was based on WHO standards and the Ministry of Agriculture of the Republic of Indonesia. WHO defines youth ' as the 15-24 year 's age group. While 'Young People' covers the age range of 10-24 years. There are about 350 million adolescents comprising about 22% of the population in the countries of the South-East Asia Region (SEAR) [7]. Agriculture Young Generation is the young generation of agriculture with a maximum age of 35 years, loves agriculture, is interested in agriculture, participates and / or is involved in agricultural activities [8].

Data analysis used correlation test and factor analysis used statistical software for social SPSS 23.0 and discussed descriptively. Spatial correlation scheme of influence spatially could be interpreted on socio-spatial maps using the spatial processing program of ArcGIS 10.4.0. Characteristics of the spatial autocorrelation according to Kosfeld [9], that is: (1) If there is any systematic pattern in the spatial distribution of a variable X, it is said to be spatially auto-correlated; (2) If nearby or neighboring areas are more alike, this is positive spatial autocorrelation; (3) Negative autocorrelation describes patterns in neighboring areas that are unlike (e.g. by competition); (4) Random patterns exhibit no spatial autocorrelation.

The measurement of spatial autocorrelation for spatial data can be calculated using the Moran's Index (Moran Index) method. In this study the method of analysis is only limited to the method of the Moran's Index (Moran Index). The Moran Index (Moran's I) is the most widely used method for calculating spatial autocorrelation globally. This method can be used to detect the beginning of spatial randomness. This spatial randomness can indicate the existence of patterns that cluster or form trends towards space [9].

## 3. Result and discussion

### 3.1. Farmer 's characteristics

The characteristics between young farmer and their parents can be seen in the following table:

**Table 1.** The farmer characteristics.

Variable	Parents		The Young Farmers	
	Frequency (People)	Percentage (%)	Frequency (People)	Percentage (%)
<b>Age</b>				
14-25	2	1.32	128	84.77
26-35	20	13.25	23	15.23
36-45	40	26.49	0	0.00
46-55	30	19.87	0	0.00
>55	59	39.07	0	0.00
Total	151	100.00	151	100.00
<b>Education Level</b>				
Unschooling	18	11.92	32	21.19
Elementary	107	70.86	35	23.18
Junior High School	12	7.95	40	26.49
Senior High School	9	5.96	35	23.18
Associate's Degree (D3)/Bachelor (S1)	5	3.31	9	5.96

Total	151	100.00	151	100.00
<b>Variable</b>	<b>Frequency (People)</b>		<b>Percentage (%)</b>	
<b>Income</b>				
>1 Billion	34		22.52	
1-2 Billion	67		44.37	
>2 Billion	50		33.11	
Total	151		100	
Farmers' Average Income in a Month (Rp)	2,035,000			
<b>Number of Family Member</b>				
< 4 Members	67		44.37	
> 4 Members	84		55.63	
Total	151		100.00	

The characteristic based on age describes that the percentage of parents' age was 39.07% above 55 years old, meanwhile the percentage of the young farmers' age was 84.77% in the age range of 14-25 years old, this age was at school age. The proportion of the parents' characteristic based on their education is 70.86% and it is only able to take education up to elementary school level even 11.92% of them did not have education at all, meanwhile the percentage of young farmers at Junior High School level was 26.49%. Low education in the area was one of the problems that would affect the underdevelopment of farmers' mindset.

The average income of the farmers was Rp. 2,035,000. This was more than the Regional Minimum Wage, but if seen Generally, most of the farmers' income was still less than the regional minimum wage, which was 66.89%. It can be concluded that there was a gap of the farmers' income in the area.

### 3.2. Farmers' perceptions towards agriculture in the future

Measuring the farmers' perceptions towards the future of agriculture, researchers used three variables that represent the data. As an introduction, the researchers did a T-test to measure the differences between the two age groups to this variable. The results of this test can be seen on the following table:

**Table 2.** Farmers' perceptions towards agriculture in the future.

Variable	Perceptions			
	Parents		Young Farmers	
	The mean	Std	The mean	Std
Working on another field is better than farming **	4.59	0.81	2.59	1.09
The parents support the young farmers to continue the family agricultural business <i>ns</i>	1.98	1.12	2.11	1.21
There is still hope to develop agricultural business in their village **	3.62	1.24	4.42	0.06
Total				

*ns*: No Significant, \* significant at level 0.05, \*\* significant at level 0.01

Farmers' perception towards the variable "there are still hope to develop agricultural business in their village" found that there is no significant difference between the perception of parents and young farmers. It means that both groups have the same perception that the support from parents is lack. Meanwhile, the next two variables which say that working on another field is better than farming and there is still hope to develop agricultural business in their villages found that there is a significant

difference between the two groups. The parents build a strong perception that working on another field is much better than the agricultural sector, meanwhile the young farmers express different perceptions, they think that all sectors are equal, the sectors do not have any differences. The young farmers are more optimistic about the development of agricultural business in their villages and being different from the parents' perception that is pessimistic about the agriculture in the future.

Next, the researchers tried to see the comparison between the differences in the behavior of the two groups to what extent their strengths had access to agricultural business and information.

**Table 3.** Comparison between parents and young farmers towards the accessibility.

Variable	Accessibility			
	Parents		Young Farmers	
	The mean	Std	The mean	Std
An access to agricultural business **	4.47	0.82	3.89	1.09
An access to information **	2.32	1.07	4.23	0.74

ns: No Significant, \* significant at level 0.05, \*\* significant at level 0.01

The researchers presumed that all variables on the table have a strong correlation in building perception of both groups. Based on the t-test, the researchers found that the variables showed significant differences between the groups. The parents are stronger than the young farmers in terms of agricultural business, meanwhile the young farmers stronger than the parents in terms of information access.

**Table 4.** Prediction of the factors that is affected farmers' perception towards agriculture in the future.

Factors	Model Summary			
	Parents (a)		Young Farmers (b)	
	t	Sig	t	Sig
Income	.065	.949	-.999	.921
Age	.508	.612	.285	.776
Education (b **)	.203	.839	2,684	.008
Family Dependent	-.771	.436	.715	.476
Access to agricultural business (a **)	4,633	.000	678	.999
Access to information (b **)	.187	.852	6,980	.000

ns: Non-Significant, \* significant at level 0.05, \*\* significant at level 0.01

Prediction of the influencing factors that build perception of the farmers towards the future of agriculture were affected by many factors. In this study, the researchers found that the main factors which build the perception of the parents are strongly affected by the way they have a strong access to agricultural business. (significant in level 0.01).

The access to agricultural business is measured according to how far the farmers society knows the potential of the resources that they have, starting from planning, agricultural production until the financial management activity. All the activities are strongly dominated by the parents who indicate that making decisions of agricultural business is still carried out by the parents. Agricultural business systems that have been run by farming society almost have no changed from generation to generation. This group still considered that the activity in this sector needed a hard work, drained much energy and time. Technological development in the farming area has not been felt by the farmers to facilitate their work.

In social regulation, especially in a village, the amount of income is not the main factor to determine the social level of population but the type of their job. Working at another sector such as an institution or a company will be better for some people than being a farmer although the income from the institution or company is low. It becomes one of the problems of farming in Indonesia, the inability of the government to change the social perception of the farmers who place the farming

sector as the lowest level of society, although this sector is considered able to support farmers' needs. As the result, many farmers have decided to leave this sector.

For the young farmers, parents' trust in terms of land management is the main problem faced by Indonesian people. The young farmers from all around the world see secure access to land as fundamental to entering farming, yet they face greater challenges than adults. Young reported that the principal mechanism for accessing land is through inheritance [10]. Measurement of the young farmers who are considered as an adult is not their age, but more on their independence which can be seen when the young farmers have their own family. This condition can be said as the long term of the young farmers to have fully access the land. Land transfers often occur at a later age and young people have to wait many years before inheriting their share of the family land, if at all [11].

Agricultural development specialists and policymakers around the world are concerned that young people are not interested in remaining in rural areas and taking up farming. Agriculture is rarely the first choice of many who study it. Agriculture holds no prestige and young people taking it up as a livelihood are not considered success stories in their communities [12]. Are there enough young people committed to creating a viable future for themselves in the sector? A study in Uganda indicates that young people in agriculture are often looking for ways to get out of the profession [12]. Young farmers' perception in a certain area is not interested in staying at the agriculture sector. It is not because they have a high level of education but their perspective has been changed as they leave their village, even though they have the ability to develop farming sector in the village and have many alternatives that they have gotten from their education when studying in a city. This is one of the examples that researchers found in the study area, where young coffee farmers have high perception about the development of agriculture in their area, their mindset is still isolated and uninfluenced by many alternatives. Their inability to access higher education out of town has positive value towards the perception in the developing agriculture sector. Another thought in a study, suppose that a new generation of school leavers and college graduates do wish to make their futures in 'the great work of social production' in the agri-food sector, and suppose rural schools encourage and support them in this, what are their chances of acquiring a farm when they are ready for it? Today's rural young men and women, even if interested in farming, are confronted by the narrowing and sometimes complete closure of access to land. This may be due to one of which is simply local social structures which give the older generation control of land resources, and make them reluctant to transfer this control to the next generation [13]. This became the biggest challenge for the young farmers.

Wealthy countries are just beginning to understand what we have lost when manual work becomes devalued and disappears as a component of educational curricula [14]. Indonesia as a developing country that was rich in natural resources which was included in the agricultural sector and this was the biggest source of employment should have more support by the government. How to prepare young people for the future agriculture. It started since early stage introduction. education system should be integrated with the agricultural curriculum to be the main thing, the introduction of modern agricultural technology and the motivation for agriculture education were steps that could be taken to change the perception of young people from an early age. They are reformers of the future of agriculture; those who will lead the family's farming business need concrete support. The educational sector must have stronger links with youth and major employers in the agricultural sector. This is the only way universities and technical training schools can ensure that their curricula remain relevant to a changing sector [12].

Before entering the digital era, schools as education facilities were the only access to knowledge; however, after entering the digital era, access to knowledge is wide open. People can access from various sources wherever and whenever. In this study, measure access to information and technology seen from the ability of young farmers and parents to use technology in accessing information. The parameters used are ownership of technologies such as mobile phones and the ability to use them to access information. The use d of Several application features such as WhatsApp, Facebook, Instagram, YouTube and searching sites like Google and Yahoo were part of the instrument.

The agricultural system is cultivated by the farming society so far it is still in the scale of farming and has not yet developed into a scale of farming business that was sustainable. Therefore, from generation to generation even though the farming business was Able to support the farmer's family but not to the welfare of farmers further. In this case, farming was the activity of cultivating land for farming to get income, meaning that if the farmers did not work or try to do something because of sickness or something else, then the business will also stop. This was different from the farming business where the farming business was more oriented to businesses that had been rooted in the scheme of partnerships with its supporting subsystems such as input and marketing subsystems, so it provided a guarantee of sustainable business. The farming also business system stores into account commodities that were feasible to be cultivated based on land suitability and were feasible in terms of market demand. Agribusiness commodities were commodities that could be developed on a commercial scale so these commodities must be able to meet in quantity so available land exists and biophysical suitability levels meet, the equitable distribution of planting of commodities within the region is also a concern for supporting commercially standardized productivity [15].

The fact that poverty is identical to the farming society has changed the social perception towards the perspective of the farming society today. The inability to maximize natural resource management and minimal human resource capacity complements the poverty polemic of the farming society.

### 3.3. Spatial autocorrelation

The beginning of spatial randomness revealed spatial schemes such as clustered, dispersed, or random. Positive spatial autocorrelation indicates that adjacent locations have similar values and tend to be in groups. Negative spatial autocorrelation reflected that adjacent locations have different values and tend to spread. There is no spatial autocorrelation determined random locations scheme [16].

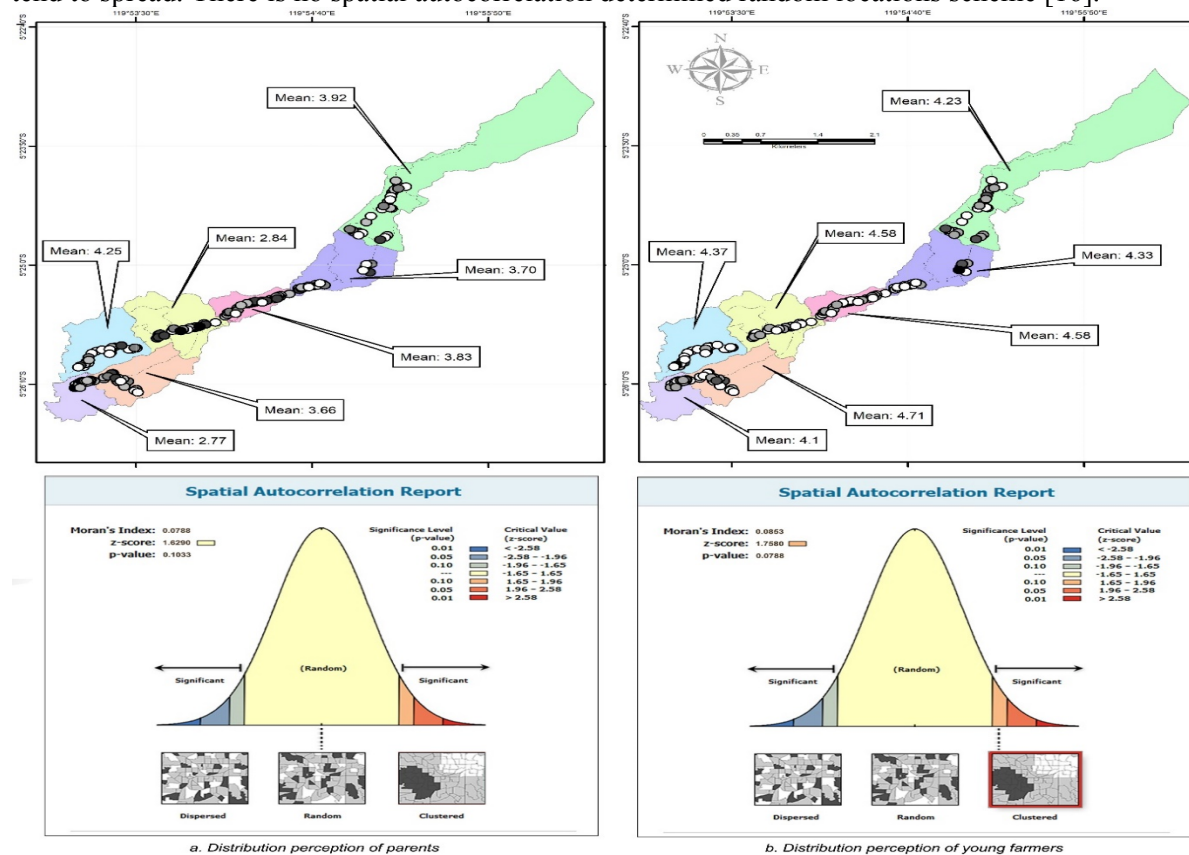


Figure 2. Spatial autocorrelation: distribution of farmers perceptions for the future of agriculture.

The result of autocorrelation test by using Moran's I shows that there is autocorrelation and spatial relations on the diffusive of perceptions of young farmers but not to parents' group (Fig. 02).

With the spatial autocorrelation coefficient, we can measure the proximity of locations and the similarity of the characteristics of Reviews. For proximity of locations, we calculate the distance between points. For similarity of the characteristics of these locations, we calculate the differences in the attributes of spatially adjacent points [15].

#### 4. Conclusions

Parents' perception is strongly influenced by how they have strong access to farming, this group still assumes that activities in this sector require hard work, time consuming and energy, and identical with rough work and unclean. It builds social perception where more income is not the main benchmark in determining the social class of society, but rather the type of livelihood. The decisions taken by parents that work as a farmer for their children are based on moral perceptions. The parents assume that work as a farmer is still considered low in the social strata even though the income generated is in a decent category.

In contrast to the parents' perception, young farmers are more optimistic about the future in developing business in agriculture by seeing the potential and agricultural resources they have. The perception of young farmers is formed not entirely because of high education, but the ability to access information is a factor forming the perception of groups of young farmers, low education does not correlate with their ability to access information. Based on these results, we conclude that differences in perceptions exist as a result of differences in age backgrounds, perspectives, and characteristics. Poverty that has been trapping the farming society for long time has changed the social perception towards the perspective of the current farming society, so there is a perception for farmers that leaving the agricultural sector is the best way to leave poverty.

#### Acknowledgment

Thank you to the Ministry of Research and Technology for providing research funding and to the research and development center of Hasanuddin University's natural resources with the support of facilities for this research.

#### References

- [1] Setkab RI 2019 *Membangun Indonesia dari pinggiran Desa* URL: <https://setkab.go.id/membangun-indonesia-dari-pinggiran-desa/>. Posted at 24 June 2019
- [2] Susanto H 2015 *Desa Ujung Tombak Pembangunan* (Pusat Penelitian Lembaga Ilmu Pengetahuan Indonesia (P2E-LIPI). Investor Daily Indonesia)
- [3] Rustinsyah R 2019 The significance of social relations in rural development : A case study of a beef-cattle farmer group in Indonesia *J. Co-op. Organ. Manag.* **7**
- [4] Prihandono I and Relig F H 2019 International Certification as a Mechanism for Protecting the Human Rights of Indonesian Coffee Farmers *Environ. Policy Law* **49**
- [5] Regulation of Minister of Agriculture No 07/Permentan/OT.140/1/2013 Tentang Pedoman Pengembangan Generasi Muda Pertanian
- [6] Arsyad M, Hasnah and Lumoindong Y 2019 Farmer's motivation to save money in bank Rakyat Indonesia: An application of logistic regression *Int. J. Innov. Technol. Explor. Eng.* **8** 375–81
- [7] World Health Organization 2019 *Adolescent health and development* URL: [http://www.searo.who.int/entity/child\\_adolescent/topics/adolescent\\_health/en/](http://www.searo.who.int/entity/child_adolescent/topics/adolescent_health/en/)
- [8] Widiyanti E Setyowati N and Ardianto D T 2018 Young generation's perception on the agricultural sector *IOP Conference Series: Earth and Environmental Science* **200** (1)
- [9] Kosfeld R Eckey H F and Dreger C 2002 *Regional convergence in unified Germany: A spatial econometric perspective* (Univ. Fachbereich Wirtschaftswiss)
- [10] MIJARC/IFAD/FAO 2012 Summary of the findings of the project implemented by MIJARC in collaboration with FAO and IFAD: 'Facilitating access of rural youth to agricultural

- activities. The Farmers' Forum Youth session.
- [11] FAO 2014 *Youth and agriculture: Key challenges and concrete solutions*. (Food and Agriculture Organization of the United Nations (FAO) in collaboration with the Technical Centre for Agricultural and Rural Cooperation (CTA) and the International Fund for Agricultural Development (IFAD))
  - [12] Paisley C 2014 Involving Young People in Agricultural Development: why it's critical for the sustainability of the sector *Palawija Newsletter* **31** 1-12
  - [13] White B 2012 Agriculture and the Generation Problem: Rural Youth, Employment and the Future of Farming. *IDS Bulletin* **43** (6)
  - [14] Crawford M 2011 *The Case for Working with Your Hands: Or Why Office Work is Bad for Us and Fixing Things is Good* (London: Penguin Books)
  - [15] Junais I Samsuar S Useng D Ali H M and Syarif A 2019 Integration of Socio-Spatial Approach in Land Use Planning for Agribusiness Commodities: A Case Study of Under developed Districts in South Sulawesi, Indonesia. *Open Journal of Social Sciences* **7** 147-159.
  - [16] Lee J and Wong S D 2001 *Statistical Analysis with Arcview GIS* (New York: NJ: John Willey & Sons. Inc.)