International Journal of Recent Engineering Research and Development (IJRERD)
ISSN: 2455-8761
www.ijrerd.com || Volume 03 – Issue 07 || July 2018 || PP. 25-32

Transformation of Farming Activity Due to the Change of Land Use in Small Islands (Case Study in Romang Island, Southwest Maluku Regency, Indonesia)

August Ernst Pattiselanno[1] and Jusmy Dolvis Putuhena[2]
[1]*Agribusiness Department, Faculty of Agriculture, Pattimura University, Ambon*
[2]*Forestry Department, Faculty of Agriculture, Pattimura University, Ambon*

Abstract: The extent of Indonesian estate area had been increasing for years, and high concentration of this estate was found in the eastern region of the country. Maluku was known as an archipelagic region in the eastern part of Indonesia, and it experienced great enhancement on the estate. However, small islands were often identical with the development of mining activity. Romang Island in Southwest Maluku Regency had been known as the location of foreign investment for mining exploration. This research, therefore, was aimed to analyze land transformation process and farmer activity in Romang Island. Primary data were collected through questionnaire distributed to 150 respondents. Respondents were randomly selected from Hila and Solath Villages. Depth interview was done with key informants from each village to obtain secondary data. Result of research indicated that farmland transformation has brought positive impact on society. Such land transformation was already done by 102 respondents (68 percents), but it was rejected by 48 respondents (32 percents) who all of them are coming from Solath Village. Most respondents who transformed their land, around 73.5 percents, entirely supported the existence of the investing firms, while few of them, precisely 26.5 percents, were indirectly supporting investment activity by still growing vegetables before selling it to the firms. Farmer activity was also changed with land transformation. Most farmers, 60 percents of total, began to work as daily porter at the investing firms. There were 10 percents of total farmer who work as regular employee at the firms. Few others, 8 percents, rented the boats for field inspection, while the rest of 22 percents were working as construction worker (masons and carpenters). Their income was improving and better than before.

Keywords: transformation of farming activity, small islands, Romang Island, change of land use

Introduction

1. Background

Land width for plantation in Maluku was increasing every year. If compared to the rice field, plantation was dominant in Maluku because the culture of the community was greatly relying on plantation. The community was not yet familiar with farming intensification, and the preference was waiting for harvest from plantation. Plantation land width in Maluku on 2009 was 790,341 ha, and it increased to 790,709 ha on 2013.The increase of land width was more less 1 %, meaning that it was still lower than other provinces in Indonesia (the Ministry of Agriculture, 2014). Referring to similar data, especially for Southwest Maluku Regency, plantation land width was declining along with the width of shifted-farming. Land width for field-rice was not yet intensified.

The decline of land width for plantation described the reduction of farming activity in Southwest Maluku Regency. Romang Island was one island in this Regency. Interestingly, this island was known by foreign investors as a lucrative investment area for gold and mineral mining. The investment had been on the stage of exploration. Before investment flow entered, Romang Island community relied their livelihood on general farming (fishery and animal husbandry were included). General farming provided the community with various outputs, such as non-wood yields from the forest (clove, nutmeg, sago, honey), hunting-based yields (wild boar, cuscus, owl), crops (rice, corn, vegetables), livestocks and poultries (chicken, pig, goat, cattle, and horse), plantation harvest (clove, coconut, super nutmeg, orange, betel), marine fishery (fish, sea shell, turtle, sea cucumber), and sea grass cultivation.

Foreign company entered Maluku as potential investor but it forced community to convert its typical farming activity into non-farming. New activity emerged including baggage carrier or porter and also boat rent service provider. It was prospective jobs recalling the fact that huge number of persons would enter into and go from Romang Island. Therefore, it would be important to see how far was the occurence of land transformation and community activity in Romang Island.

2. Problem Formulation

Martinez (2016) found that the bigger population growth and also the increasing area width for pasture, cereal crop, annual planting, and plantation, were higher in the area with better access to the market. Better transportation infrastructure, zoning regulation, farming saving-loan mechanism, and risk of climate variability, had significant impact on configuration of farming landscape. However, Amato et al (2016) insisted that negative development was happening after industrialization of plantation, and the consequence of this issue included the decline of land productivity and the degeneration of environmental quality. Community asked a question about the validity of gold mining exploration in Romang Island. Both local printed and electronic media in Maluku had covered news about the negative impact of mining activity on physical environment in Romang Island and also the community. The current research gave focus on land transformation and the conversion of community from farming to non-farming activities. Friss and Nielsen (2016) in Laos observed that investors had created a local brokerage network that facilitated direct negotiation of land trading at village level, and it allowed investors to avoid governmental intervention. Such informal acquisition process was fast and succesful, and it changed the land-use. Almost similar finding was shared bySantana-Coldero et al (2016), and it was stated that different land-use would give different impact on environment and socio-economical demand of the immediate community. Research by Bieling, Plieninger, and Schaich (2013) was one of important references about how influential was the change of land-use and land-cover to the welfare of human. Community considered this reference as hot topic for discussion. Some previous researches found this topic attractive because it was related to the fact that the activity of mining would absorp workforces. The opportunity of activity shift was quite dominant, and land ownership might change in various forms in Romang Island. The problem of research would be: how was the process of land transformation and community activity in Romang Island?

3. Research Objective

The objective of research was to analyze land transformation and community activity in Romang Island, Southwest Maluku Regency, Maluku Province.

Methodology of Research

1. Time, Location of Research, and Sampling Method

Research was done in Romang Island, Southwest Maluku Regency, with the sample of two villages. The sample was purposively selected, Hila Village and Solath Village. The selection was made based on the existence of investment activity in the region of Hila Village, and Solath Village was the closest area to Hila Village in term of residence. The community of both villages did the activity that was dominated by general farming, although this activity shifted to non-farming activity. Research was done in two months, December2016 toJanuary 2017. From village sample, there were around 100 respondents taken from Hila Village and 50 respondents from Solath Village. All respondents were chosen with simple random selection, resulting in total of 150 respondents. Key informants were determined from each village to explore the answers of the respondents.

2. Method of Data Collection and Data Analysis

Primary data were collected by questionnaire given to respondents (Babbie, 2004; 184) and deep interview with key informants (Debus and Noveli, 1996). Secondary data were obtained with participative observation (Denzimdan Lincoln, 1994; Babbie, 2004) in which the author must engage directly into daily life of the community by hearing and discerning what the community as research subject had said and done.

Data analysis was using Simple Tabulation to describe the condition and characteristic of research location. The processed data were displayed into table and diagram to facilitate the analysis.

Result and Discussion

1. Land Ownership and Land Use

As required by tradition of Romang Island, any parties who wanted to use the land must have with them permission and consent from custom land owner (sovereignty). It prevailed for individual and company without exception. Community perspective asserted that legal permit from the government was not adequate and the company must also receive consent from custom land owner.

The consent from indigenous sovereign would allow farmers and island inhabitants to use the land but this land could not be owned (land was prohibited from being converted into property right). Therefore, the house-afforded individuals were mostly building their house in Ambon than in Romang Island because what had been settled in Ambon could be registered as household asset. At certain events, including custom ceremony, land user was required to pay tribute to land owner. The payment took several forms, such as participating to

serve for the ceremony, or contributing the production output to be consumed in the ceremony. It was a debt-payment mechanism as the sign of appreciation for the allowance to use the land. The low land at the southeastern part of the island (Hila Village region) contained with lime and stood on the composition of coral and limestone. Banana grew well on lime soil because such type of soil provided nitrogen for the plant. Southwestern part of the island, precisely at Jerusu Beach plain, was filled with dacite and diorite rocks. Its topography was coarse with quite few flat spots. In general, the access to this flat spot was difficult. The flat area was only confined to the coastline, whereas the gorge was steep and the highland remained at high altitude.

1.1. Forest, Plant Type, and Shifted-Farming

Romang Island was still covered by natural forest although farmers and forest workers started to penetrate deeper into the forest to enlarge their farming. High quality wood was collected, including iron wood and maharara wood. Natural forest provided good habitat for forest nutmeg, clove, galam, bamboo, rattan, and honey, and was also the house for any forest-based non-wood resources that fulfilled the livelihood of poor household. All these resources must be managed for its sustainability.

Soil surface of Hila Village and Solath Village was stony. Therefore, soil depth would become a constraining factor when farmers attempted to enhance plantation. Coconut usually required deep penetration into the soil to produce strong rooting. However, the suitable soil was only found on the beach or on the hardly afforded valley. The fertile area to cultivate coconut was definitely needed.

Plantation was a life share for permanent management. In Hila Village, plantation was a set of cultivation comprising of clove, coconut and super nutmeg. Plantation could also be enlarged to include clove, nutmeg, super nutmeg, cacao, sago, bamboo and bettel. In Romang Island, the characteristic of shifted-farming was planting the primary plant once a year. Land was planted with dry-land rice, corn, cassava, sweet potato, banana, sago, and chilli. The peak of hot season was around August and September. In such months, farmers began opening new land and were prepared for planting. In general, one household could manage one or two hectares of rice, and it could be harvested once a year. Cassava, banana, and vegetable were also planted by the interval of rice. Corn was planted separately, and became one of main food. Sago was the other main food, but it was also useful for patching the roof and being used as construction material. Most farmers only planted main food, and therefore, vegetables were quite few in Romang Island.

1.2. Coastaline Residence

Flat spot facing the coast was only the minority part of Hila Village because the majority of its topography consisted of steep slope. Quite few plain land in Hila Village was a main reason why villagers moved to Oerleli. The distance from plantation to residence was a factor constraining agricultural productivity. For instance, there was potential farmland in the highland or at the mountain part, but the road to access this land was steep and rocky. In Oerleli, many plain lands were accessible.

Oerleli was a place where coconut was dominant, and only few parts of Oerleli were planted with cashew. Despite this composition, still corn, rice, cassava and sweet potato was consumed as main food. Earlier, the residence of Hila Village was set up in the coastline, but it then moved to the highland for security reason. Hila Village only had quite few plain land other than the beach. The slope of the hill was arranged into terraces for shifted-farming. One area was extensive enough for building airport completed with plane anvil. Above the terraces, there was woody slope with steep gorge. The type of land and cultivation pattern of Hila Village was almost similar to Solath Village. The fundamnetal difference of the remote villages was that Solath Village had bigger harbor and the community benefited from cultivating sea grass on the coast.

Farmland transformation occured in both sample villages. Result of research showed that some farmers had transformed their land directly for the interest of company investment (66.7%). All respondents in Hila Village did this. The investment interests could be opening the land for mining exploration and also building the road into epxloration area to the coast of Hila Village. At Solath Village, most respondents (27 persons or 54%) transformed their land into vegetable plantation. This plantation was indirectly related with the fulfillment of livelihood for the employee of the investing company. Of 150 respondents, 102 persons (68%) did land transformation, while 48 others (32%), who all of them stayed in Southwest Maluku Regency, did not undergo land transformation. It was explained inthe following table.

Table 1.Farmland Transformation by Respondents

No	Reason of Land Transformation	Number of Respondent (Person)	Percentage (%)
1	The interest of investors to build the road to the location.	35	34.3
2	The interest of investors to do exploration.	40	39.2
3	The interest of planting vegetables.	27	26.5
	Total	102	100.00

Source: Data and Result of Research (Processed, 2016-2017)

Table above described that most respondents (73.5%) related their reason of land transformation directly to the interest of investment from the mining company. It aligned with research by Jiang, Deng, and Seto (2013) who stated that urban expansion was related with the declining intensity of farmland usage. Investment activity was early step for urban expansion, and it gave important impact on the increase of non-farming activity. It contrasted with the finding from Palmisano, Govindan, Boggia, Loisi, De Boni, and Roma (2016) that the community should not only concern with social and economical issues. The sustainability of environment must come into consideration when community went toward industrialization. This condition was not yet reviewed in specific research. The community indeed always gave higher priority on social and economical issues rather than environmental sustainability. The review of Boron, Payán, MacMillan, and Tzanopoulos (2016) in Columbia Village had concluded that farmland expansion must be restrained by giving attention to the issues of biological diversity and rural development. However, it was not certain whether the investment in research location was a part of rural development. This issue was also reviewed. Stupak (2016) revealed that the hardiness during transition after the collapse of Soviet Union had forced Ukraina to be unsuccessful in developing new law or enforcement mechanism to activate land protection. CBLAR Program in Afganisthan was successful to improve the security of land ownership among households because the program was implemented at the right context and supported by national and international donors (Murtazashviliand Murtazashvili, 2016).

Also noted in the table, few farmers (26.5%)did land transformation with indirect relation to the company interest. Vegetable farming gave farmers important chance because this commodity was sold for the consumption to the company employee. Therefore, land transformation from plantation to horticulture (vegetable farming) was indirectly related to the company interest.

2. Marine Resource

2.1. Sea Grass

Sea grass cultivation was a relatively new economic but such work had been popular because sea was the open resource for almost all communities. Sea grass was potential work to be a step stone as more apportioned development. It provided income that was equivalent to coconut farming. However, sea grass required several supporting environmental conditions, and one of them was low wave level. Only some spots in the coastline would be utilized as sea grass farming. For instance, in Hila Village and Oerleli, sea grass could be developed because the coastline was not supporting.

The cultivation of sea grass had been attempted in various places but the suitable location was declining. At least, this location had turned into that was not supportive to cultivation environment. The closed harbor in Solath Village was the best location for sea grass cultivation but it was challenged by problems of sedimentation and the infiltration of freshwater to the coast. In Hila Village, the southern environment of the village was not supportive to sea grass cultivation because sea wave was too strong which prevented sea plants from growing.

2.2. Fishers

Because all members of community were living by the coast, thus, fishing was relatively easy. At eastern or western parts of the coast, fishers catched tuna, lalosi, flying fish, red scout, stone head fish, and other species. However, their haul was very limited. A reason of this was the lacking of feasible boat, the unfavorable fishing season, the lacking of local market to sell the haul, and the damage of sea resources due to irresponsible activity and excessive exploitation.

3. Community Livelihood

3.1. Livelihood Activity

Livelihood activity in Romang Island was various with very extensive resources. This activity took several forms and mostly was emphasized on meeting the daily needs. It included: collecting non-wood materials from the forest (clove, nutmeg, sago, and honey), hunting (capturing wild boar, kuskus, and owl),

forest-based farming (rice, corn and vegetable), maintaining livestock and poultry (chicken, pig, goat, cattle, and horse), plantation (clove, coconut, super nutmeg, orange, betel), marine fishery (fish, sea shell, turtle, sea cucumber), and sea grass cultivation. Some members of community worked as regular staff of the company. Their jobs included porter (mostly was found in Hila Village), salary staff, trader, shop keeper, skilled worker (house builder and boat maker), and service provider (boat rent provider).

However, most of them were troubled with managing their farming. Several problems were obvious such as: the small market share for their local product; the long distance access to their field and plantation; the uncontrolled presence of pest and disease against plants and livestocks; the lacking of fishing gear; the low minimum wage; and the low selling price for the production output (mostly was set by the buyer).

The livelihood activity of sample villages was not much different. Some livelihood activities was more advancing at certain places, and the remote community had smaller chance to do this activity. In Akualu, most inhabitants worked as farmers, but some of them got side income from breeding goats and cattles, fishing, cultivating sea grass or opening small kiosk. Fish and livestock could be relied on for meeting the livelihood. Only few persons worked as civil servant with fixed salary. Plantation was also the prospective job in Akualu. Different from other site, Oerleli was more isolated, and income-making activity was very limited. But, it still provided various livelihood activities such as collecting the coconut, cashew, nutmeg and honey; processing copra; farming; and fishing.

3.2. Collecting The Result of Land Resources, Farming and Plantation

The most important forest resource of non-wood type in Romang Island was nutmeg, clove, honey, bamboo, rattan and candle nut. Collecting forest nutmeg was done by men and women, but clove was usually collected by men. Forest nutmeg harvest was very important for the poor household because it was quite benefiting economically. One person might get IDR 1 million – IDR 1.5 million in two or three months. It was very promising income but it only could be obtained once a year. Clove was also a valuable forest product but it was only harvested once in a year. Honey was only collected twice a year – on May and June, and then also on October and November. There was a market that was available to export materials to other islands. In eastern part of island coast, only one season allowed community to go fishing and collecting sea shells, and it was usually ahead of the end of the year.

Almost all inhabitants of Romang Island worked as farmers. Most of them had personal land but lacked of incentive to improve their method of fixed-farming and was quite hesitant to convert into fixed-farming. Anyway, farmers had freedom at certain degree to open new farmland. Rice and corn were harvested once a year. Field was shifted to other area in the next year. Fertilizer was neglected because it did not match with the existing plant type.

Traditionally, villagers bred pig as main source of animal protein but chicken, goat, cattle and horse were begun to be another optio. Livestock and poultry were bred in herding method, and in general, the animal was health although avian influenza and other chicken disease had spread in Jerusu. Breeding pig and chicken was done for household consumption or for the interest of custom ceremony or church event. In 1985, the government had allocated cattles for all households in Kour-Atuna. There were 200 cattles remaining and it was kept only by few households.

In more remote area, including Solath and Oerleli, the community relied more on natural resource harvest than cultivation. Reason might be that the village was hardly to afford that made the transport of production becoming more difficult. Solath Village was the most remote village and the most difficult one even to afford with boat – although it could still be afforded by feet. Besides the plantation around these villages, some were located quite far from the village. Coconut plantation provided perpetual supply but it could be harvested at certain season (month) because copra production was only scheduled on twice or three times a year. Besides coconut, there were small plantations for nutmeg, cashew, orange, sago and betel tree.

3.3. The Change of Livelihood Strategy

Nutmeg harvest was not anymore attractive to the community in Hila Village, except for the poor. Copra was still dependable but it was not anymore main commodity. Sea grass production could be harvested faster and it was preferred than copra that was often cheap in sale. There was a tax of IDR 1,000 for every kilogram of copra the community had produced. This tax overwhelmed Romang Island community. As a result, sea grass was becoming main livelihood activity in Romang Island and it was done regularly by the households.

Sea grass required daily care, and thus, other work was only additional or seasonal matters. Because the community was quite poor, the additional job was also important, including capturing fish and turtle for daily meal (or sold in small quantity), collecting sea cucumber and sea shells (once a year, based on season), collecting forest nutmeg (once a year, based on season), collecting honey (two seasons a year), making boat (one boat was charged for IDR 4 millions).

Workforce who was absorbed by investors in Hila Village was 25 persons whereas the freelance counted for 125 persons. Oerleli Sub-Village did not witness such absorption but 10 persons were freelancers of the investing company. The company still attempted to give opportunity to the community but the community must consider the requirements for the company, especially in relation with the discipline of employee. If both sides agreed, then the recruitment of workers would benefit community and company. The support from the governments of Village, District and Regency was needed to ensure that collective agreement was made for mutual progress. The potential conflict in paying restitution could be minimized through a mutual understanding between community and government. Discipline was main requirement because the company had experienced a hardiness. The undisciplined local employee had forced the company to give them a similar level of income as the discipline employee had. The community needed to identify their strength and weakness, and it must be exploited continously through company support to produce mutual benefits.

Result of research indicated that the change of community activity from farming to non-farming was evident. This change was shown in the following table.

Table 2.The Change from Farming to Non-Farming Activity

No	Reason of Activity	Number of Respondent (Person)	Percentage (%)
1	Freelance laborer (porter)	90	60
2	Regular employee	15	10
3	Provider of boat rent	12	8
4	Bricklayer and carpenter	33	22
	Jumlah	150	100

Source: Data and Result of Research (Processed, 2016-2017)

It was dislayed in the table above that all respondents changed their livelihood activity. Mining investment triggered this activity change. As shown in Table 1, there were 75 respondents (50%) transforming their farmland to meet the interest of investors. Their land was previously planted with coconut and the harvest was processed into copra. The copra was sold to the Collector Trader in Hila Village at IDR 1,300 – 1,500 per kilogram. The average production of 75 respondents reached 200-300 kg per harvest with three harvest periods in a year. Copra price gave farmers IDR 280,000 – 420,000 per harvest. It would mean that in three months, farmers could obtain such income with potential monthly expense reaching IDR 70,000- 105,000. This income was very far from minimum living standard, if referring to Regional Minimum Wage of Maluku Province in 2016 that attained for IDR 1,750,000.

The shifting of activity from farmer to luggage carrier (porter) in the company had given a change toward the better income. Being porter, individuals could receive wage at IDR 96,000 per day. In a month, averagely, every individual did working for 22 days. Monthly income was IDR 2,200,000. This improvement was seen from the change of the house from semi-permanent, even in hut category, to permanent house. Children were schooled out of Romang Island. It was a progress if compared to previous trend when the graduate from Junior High School only found difficulty to continue the education at Senior High School or even the college. Most households tried to improve the education of their children by sending them to the college in Kupang (East Nusa-Tenggara) and Ambon (Maluku). It became a fact that land transformation would be followed by the transformation of the activity from farming to non-farming, and it gave positive impact on community life.Besides being freelancer, the immediate inhabitants with suitable education could be employed as company staff at the compatible work. Some community members had worked as the staff at mining engineering, computer operation, and administrative work. Regular employee had different income based on its competence. Surely, their income was feasible and higher than Regional Minimum Wage of Maluku Province.

Boat rent service was also good option because community activity was increasing with the presence of company in Romang Island. This boat was used by the community who must take a journey to another village such as Solath, Jerusu, and Rumah Kuda. Land road was not available, and journey by feet must take quite long time and also be very exhausting. The increase of community income, especially for whom worked in the company, had also increased the development of housing. The presence of company opened job opportunity for physical development of company facility. Therefore, skilled individuals such as bricklayer and carpenter might change their job as the provider of bricklayer and carpenter. Their monthly income was averagely set around IDR 1,400,000 – 1,600,000. Their income depended on the service level provided and the number of building constructed. In a month, a house was completed either for total change or only renovation. Their income was still below Regional Minimum Wage of Maluku, but it was more feasible than their income in farming sector. Despite the shift into non-farming activity, the inhabitants still planted tubers and corn as food source for the household. This reality justified the fact that these crops were still maintained to defend household food. When

the income from company-related jobs was stopped, community should not lack of food. At least, livelihood strategy was still preserved by each household to meet daily needs. Similar reality was indicated by Chanamutoand Hall (2015). Farmers, mainly women, were vulnerable to the climate change. Farming activity was easily affected by weather and it might cause the shifting to breeding activity. The breeding activity allowed rural women to minimize the negative impact of the climate to incerase the sustainability of household food. Therefore, each household would do a radical action especially when their household food security was threatened.

The presence of investment company had opened great opportunities. The restitution for land-use and the harvest of plants were allocated to the activity supporting the company. Money was utilized as the working capital in developing farming commodity through continuous farming, and the production was processed into food commodity for company employees. The remaining was used for household consumption. Small farming activity for vegetable was not only found in Hila Village but also in Solath Village and Oerleli Sub-Village. Such opportunities must be utilized by the company and the selected works were not useless. The community did the work by a realization that commodity could be helpful in meeting community needs in general and household needs in particular. If the company built a collective work with community, it was ensured then that community income would increase continously, the sustainability of food consumption was maintaned, and the demand of company for food commodity was locally afforded.

Conclusion

The concusion of research was explained as following:

1. Farmland transformation was occured becuse the company gave positive impact on the community. Respondents who did land transformation were 102 respondents (68%) whereas 48 respondents (32%), all in Solath Village, did not undergo land transformation. Some respondents with land transformation, 73.5% of them, transformed their land directly for company interest, while 26.5% of them did it with indirect relation to company interest. The positive impact of land transformation was enormous, including the provision of periodic income because community could work as freelancer in the company, the renovation of house into permanent type, and the supply of funding for obtaining higher level education.
2. Farmland transformation was followed by the transformation of community activity from farming to non-farming. Previous dominant activity was farming, but the presence of company had shifted farmers to another job. Those worked as daily freelancer (porter) for the company were 60%, those who worked as regular employee in the company were 10%, those who provided boat rent service was 8%, and those worked as brick layer and carpenter were 22%. All of them had better income. Despite this improvement, these individuals still planted tubers and corn as the food source for the household.

References

[1]. Amato,D. D, M. Rekola, M. Wan, D. Cai, A. Toppinen., 2016. Effects Of Industrial Plantations On Ecosystem Services And Livelihoods: Perspectives Of Rural Communities In China. Land Use PolicyVolume 63, Pages 266-278
[2]. Babbie, Earl., 2004. The practice of social research. Publisher : Belmont, CA : Thomson / Wadsworth.
[3]. Bieling Claudia, Tobias Plieninger, HaraldSchaich., 2013. Patterns And Causes Of Land Change: Empirical Results And Conceptual Considerations Derived From A Case Study In The SwabianAlb, Germany. Land Use PolicyVolume 35, Pages 1-426 (November 2013).Pages 192-203
[4]. Boron, Valeria, Esteban Payán, Douglas MacMillan, Joseph Tzanopoulos,GeorgiosTsantopoulos., 2016. Achieving Sustainable Development In Rural Areas In Colombia: Future Scenarios For Biodiversity Conservation Under Land Use Change. Land Use PolicyVolume 59, Pages 27-37
[5]. Chanamuto, Nicola J.C.andStephen J.G. Hall., 2015. Gender Equality, Resilience To Climate Change, And The Design Of Livestock Projects For Rural Livelihoods. Journal Gender& Development, Volume 23, 2015 - Issue 3: Resilience Pages 515-530, Published online: 13 Nov 2015
[6]. Debus, Mary and Novelli, Porter. 1996. Methodological Review: A Handbook for Excellence in Focus Group Research. Washington D.C: Academy for Educational Development.
[7]. Denzindan Lincoln, 1994. Handbook of Qualitative Research.Publisher: Thousand Oaks : Sage Publications.

[8]. Friis, Cecilie and Jonas Østergaard Nielsen., 2016. Small-Scale Land Acquisitions, Large-Scale Implications: Exploring The Case Of Chinese Banana Investments In Northern Laos. Land Use PolicyVolume 57, Pages 1-812 (30 November 2016). Pages 117-129
[9]. Jiang Li, Xiangzheng Deng, Karen C. Seto., 2013. The impact of urban expansion on agricultural land use intensity in China. Land Use Policy, Volume 35, Pages 1-426 (November 2013). Pages 33-39
[10]. Kementerian Pertanian, 2014. Konversi Lahan Pertanian di Indoensia.Laporan Pusat Studi Pembanguan Kementerian Pertanian Republik Indonesia
[11]. Martinez,Raymundo Marcos, Brett A. Bryan, Jeffery D. Connor, Darran King., 2016. Agricultural Land-Use Dynamics: Assessing The Relative Importance Of Socioeconomic And Biophysical Drivers For More Targeted Policy. Land Use PolicyVolume 63, Pages 53-66
[12]. Murtazashvili, Ilia and Jennifer Murtazashvili., 2016. Can community-based land adjudication and registration improve household land tenure security? Evidence from Afghanistan. Land Use PolicyVolume 55, Pages 1-812 (September 2016).Pages 230-239
[13]. Palmisano Giovanni Ottomano, KannanGovindan, Antonio Boggia, Rosa VivianaLoisi, Annalisa De Boni, Rocco Roma., 2016. Local Action Groups And Rural Sustainable Development. A Spatial Multiple Criteria Approach For Efficient Territorial Planning. Land Use PolicyVolume 59, Pages 12-26 (31 December 2016)
[14]. Santana-Cordero,Aarón M., María L. Monteiro-Quintana, Luis Hernández-Calvento., 2016.Reconstruction Of The Land Uses That Led To The Termination Of An Arid Coastal Dune System: The Case Of The Guanarteme Dune System (Canary Islands, Spain), 1834–2012, Land Use PolicyVolume 57, Pages 1-812 (30 November 2016). Pages 73-85,
[15]. Stupak, Nataliya, 2016., Impact of Agricultural Transition on Soil Protection in Ukraine: The Role of Institutional Change. , Land Use PolicyVolume 55, Pages 1-812 (September 2016). Pages 86-97