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# Agricultural Investment and Role of Commercial Farming in Benishangul-Gumuz Region: Evidence from Ethiopia

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#### **Abstract**

Agricultural investment remains the top strategy of the Ethiopian government to contribute to the national economy by changing the traditional farming to modern agriculture. In Benishangul-Gumuz regional state in the last two decades, a substantial amount of land has been transferred to domestic and foreign investors by both regional and federal governments. Hence, this study has aimed to generate information for better understanding of the system and the options available to promote the current agricultural investment and trend of agricultural investment to seize the challenges and harness the existing opportunities. The results revealed that found that the commercial farming is constrained by different factors; these includes lack of access to infrastructures (like electricity and irrigation facilities), unavailability of farm equipment (like combine harvester, thresher and cleaner), inadequate policy incentives, lack of access to improved crop varieties and livestock breeds, lack of access to market, low and volatile price of their produce, were mentioned among the others. On the other hand, availability of storage of grains, road, and mobile network access, ownership of tractor, fair interest rate and access to credit were mentioned as opportunities for the commercial farmers. Moreover, currently, commercial farming is contributing employment (temporary and permanent jobs) and marketing opportunities and income tax payment to the local community and the government. Therefore, we suggest that to tackle the challenges and seize the opportunities in commercial farming, quick government support in areas of infrastructure development, research and development and linking commercial farming with local and international markets is needed.

**Keywords:** Agricultural Investment; technology; Benishangul-Gumuz

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# 1. Background and justification

Now days, the global focus tends towards the agricultural sector in general and the acquisition of large tracts of farmland in particular (Moreda, 2013). As a result, several private and sovereign investors from a range of countries in the Gulf, Asia and Europe have been involved in large - scale land acquisitions in sub - Saharan Africa and former Soviet countries to cultivate food crops and bio-fuels for the export markets (Castel and Kamara 2009, Cotula et al. 2011, Cotula et al. 2009, FAO 2010, Visser and Spoor 2011).

Ethiopian government have welcomed large scale commercial farming considering an opportunity for transforming agricultural sector, which hitherto has been dubbed as 'backward,' subsistence - based smallholder farming, particularly through technology transfers, the expansion of local infrastructure, rural employment generation and towards achieving national food security (Salami et al., 2010, von Braun and Meinzen - Dick 2009). Hence, the government have been substantial in terms of promoting investor - friendly land market environments such as very small land rents, tax waivers, limited restrictions on production and exports, and so on (Moreda, 2013). Thus, Ethiopia is recently transferring agricultural land to domestic and foreign corporate investors. Ethiopia owns about 51.3 million hectares of arable land, out of which only about 11.7 million hectares are currently being utilized and this agricultural land potential is assumed to exist in the peripheral lowland areas (MoARD 2010). Accordingly, these earmarked lands for investment is found mainly in lowland areas of Benishangul - Gumuz, Gambella, Oromia and SNNP administrative regional states. These regions have in particular become the main destinations for many of the investors for vast commercial farming.

The government recognized the importance of land as a key strategic resource. As a result, the government set up a centralized institutional structure for controlling the administration of land that is earmarked for agricultural investment. To this end, Agricultural Investment Support Directorate (AISD) was established in 2009. More specifically, AISD has been created to administer agricultural investment lands for the smooth functioning and transfer to both foreign investors as well as to large domestic investors requesting lands measuring 5000 hectares or more. Estimates of land transferred to investors varied from source to source and time frame, World Bank report (2010) notes that the total amount of land transferred to investors in Ethiopia from the period 2004 to 2008 amounted to 1.2 million hectares (Deininger and Byerlee 2011). The Oakland Institute estimates that the total amount of land transferred to investors, as of January 2011, reaches roughly 3.62 million hectares (Oakland Institute 2011:18). It was estimated that a total of 3.5 million hectares of land is already transferred and 7 million hectares of land are projected to be transferred by the end of 2015 (Rahmato, 2011:37).

Ethiopia's potential with respect to commercial agriculture is largely untapped, and the current status of agriculture is a source of major concern as the sector is dominated by smallholders, often solely engaged in



subsistence agriculture, while the agribusiness sector is in its infancy (Bonaglia *et al.*, 2007). Subsistence agriculture is not a viable activity to ensure sustainable household food security and welfare (Pingali, 1997). Therefore, Ethiopia needs to achieve accelerated agricultural development along a sustainable commercialization and ensure overall national development. However, the transformation process, besides designing different strategies, requires the government and development agencies of ensuring that commercial farming and small holders are well integrated into the market system and benefiting from or contributing to the process of commercialization.

Therefore, this paper focuses to generate information for better understanding of the system and the options available to promote the current agricultural investment and trend of agricultural investment to seize the challenges and harness the existing opportunities.

#### 2. Materials and Methods

#### 2.1. Study area and Site Selection

The study was conducted in the Benishangul - Gumuz regional state, which is one of the nine regional states of the Federal Democratic Republic of Ethiopia. It is located in the north western part of the country between 09°17′ - 12°06′North latitude and 34°10′ - 37°4′ East longitude. The region shares an international boundary with both South and North Sudan in the west. Administratively, the region is divided into three zones (namely; Metekel zone, Assosa zone and Kamashi zone), which are further divided into 20 districts. According to the 2007 Census report, the population size of the region was 670,847 (CSA 2008), with a population density of about 14 persons per square kilometer. Most of the region's population lives in rural areas (86.5%), out of which the overwhelming majority is comprised of indigenous ethnic groups, while the non - indigenous groups reside mainly in towns (MoFA 2010).

The land - use pattern of the region's landmass is predominantly comprised of bushes and shrubs (77.4%), while forestland constitutes about 11.4%. Further, cultivated land, grazing land and marginal land constitutes about 5.3%, 3.2% and 2.3%, respectively. While the region generally lies between an altitude of 580 and 2731 meters above sea level (masl), its largest part is in the lowlands situated below 1500 masl. In this regard, about 75% of the region is classified as lowland.

This study was done at Assosa Zone and Mao-Komo special district. The sampled investors were selected from Assosa, Bambasi, Mao-Komo and Homosha districts for which large numbers of agricultural investors are found in the areas, though the investors were not willing to give information for the intended research.

## 2.2. Type of Data and Method of Data Collection

The study reviewed and analyzed existing secondary data with emphasis on agricultural investment, commercial farming, and trends in agricultural investment at regional levels. Published and un-published reports and journal articles, documents were critically reviewed and primary data on the type of agricultural investment, technological requirements and challenges and opportunities of commercial farming was collected from the sampled investors. To supplement the primary data, key informants discussions through structured and semi-structured questionnaires were also held with investors and experts.

# 2.3. Data management and Analysis

Results are based on the data collected from 15 voluntarily commercial farmers found at Assosa zone and Mao-Komo special district. The data were collected in 2013/14 from Assosa, Bambasi, Homosha and Mao-Komo districts. Information and data, which collected were compiled and analyzed using appropriate statistical methods. The quantitative and qualitative data was analyzed based on descriptive and narrative analysis technique, respectively. Interpretation of qualitative data and information was done by sorting out, ranking, grouping and triangulation.

## 3. Result and Discussion

#### 3.1. Type of investment categories

Benishangul-Gumuz region has one of the earmarked lands in Ethiopia for different investment types. The major acquisitions of land for investment in the region is mainly for commercial investments. For this reason, about 824 projects requested investment license for commercial agriculture. Furthermore, numerous number of investment projects namely; hotel, services, education, construction, clinic, industry and minerals are also mentioned as investment alternatives.

Accordingly, about 824, 96,60,30,14,9, 5 and 5 agricultural investment, hotel, services, education, construction, clinic, industry and minerals investment projects respectively have got license for investment in Benishangul-Gumuz Region. Agricultural investment followed by hotels, services, education (school), construction, clinic (health) with limited industry and mineral investment projects have been given license. It indicates that agricultural investment projects are much higher than other investment alternatives. This intern



implies that, much work needs to be done to help these investment projects to contribute to the national economy and minimize the adverse consequences of these projects to environment due to the fact that Benishangul-Gumuz region has vast natural forest coverage and to keep these natural scenes.

#### 3.2. Characterization of the commercial farming

According to the regional Bureau of environment report (2013), about 824 commercial investments have been given license from the regional investment Bureau. Most of the projects (about 88.23 %) were owned by private individuals followed by private partnership/share company/corporate, which was 5.44 %. However, about 6.43 % of the licensed agricultural project type were unknown. This shows that there is weak data management/recording system during the project permission and implementation processes.

Table 1: Agricultural Investment type

| Investment type                   | Freq. | Percent |
|-----------------------------------|-------|---------|
| Private individual                | 727   | 88.23   |
| Private partnership/Share company | 45    | 5.44    |
| Unknown                           | 52    | 6.43    |
| Total                             | 824   | 100     |

Source: Regional Bureau of Environment and Land Administration, 2013 compiled by the Authors

The survey results also showed about 71.43% of the respondents were private individuals and 21.43 % was private partnership (Share Company) and the remaining 7.14% was public farms (table 2). This implies that most of the commercial farms are dominated by private individuals.

Table 2: Type of sampled commercial farms

| Type of ownership                 | Percent |
|-----------------------------------|---------|
| Private individual                | 71.43   |
| Private partnership/share company | 21.43   |
| Public                            | 7.14    |
| Total                             | 100     |

Source: survey results, 2015

# 3.3. Type of commercial farms and agricultural investments in the region

According to the regional Environment and Land Use Administration Bureau 2013 report, out of 824 licensed projects, about 84.95 % were engaged on farming (i.e., cereals, pulses and oil crops). More of the projects were engaged on gum and resin, pulse, oil and fiber crops, mixed farming (crop and livestock production). Table 3: Types of agricultural projects licensed staring from 1994-2013

**Type of Service** Frequency Percent Agro processing 2 0.24 Alcohol and beverage 1 0.12 Crop production 700 84.95 Fruits and vegetables 4 0.49 Pulse, oil and fibber crops 23 2.79 Mixed farming 17 2.06 Livestock, by products and fattening 14 1.7 **Poultry** 4 0.49 Fishery 1 0.12 2 Animal health and forage production 0.24 8 0.97 Integrated agriculture (agro-forestry, irrigation etc) 47 Gum and resin 5.7 Aromatic and Medicinal plants 0.12 824 100

Source: Regional Bureau of Environment and Land Administration, 2013 compiled by the Authors

Integrated agriculture (including agro forestry, and irrigation), fruits and vegetables, poultry, agro processing and animal health and forage production also licensed agricultural investment projects (table 3). Thus, it indicated that most of the agricultural investment acquisitions were for crop production followed by gum and resin. However, due to the sever livestock diseases occurrence at the region, livestock commercial farming investments were very few and accounts to lesser extent.

The survey results (table 4) indicates that most of the commercial farms, 71.43% and 35.71 % have been participated at grain and cash crop production, respectively and few of them (21.43) was engaged at seed multiplication, vegetables production and shoat fattening.



Table 4: Type of farm and size

| Type of farm                 | Frequency (percent) | Average farm size (in ha) | Rain-fed (in ha) | Irrigated (in ha) |
|------------------------------|---------------------|---------------------------|------------------|-------------------|
| Grain production             | 71.43               | 150.57                    | 144.857          | 5.71              |
| Seed production              | 7.14                | 5.57                      | 5.28             | 0.28              |
| Vegetables                   | 7.14                | 0.5                       | 0.00             | 0.00              |
| Pulse, Oil and fibber crops  | 35.71               | 28.57                     | 24.28            | 3.64              |
| Shoat fattening              | 7.14                | 0.71                      | -                | -                 |
| Poultry farm                 | 7.14                | 4.28                      | -                | -                 |
| Natural gum production       | 7.14                | 0.78                      | 0.78             | 0.00              |
| Horticultural crops (pepper) | 28.52               | 7.57                      | 7.57             | 0.00              |

Source: survey results, 2015

# 3.4. Trends of Agricultural Investment in Benishangul-Gumuz Region

In the region, the acquisition of land by investors for agricultural investment has increased. Based on data from various sources, the land acquisition for agricultural investment showed rapid increase in the number of projects from year to year starting from 1994-2013. As a result, graph below depicts that certified agricultural investment increases since 2002-2011 while starting 2012 up to 2013; it showed a radical decrease. The reason for increase in agricultural investment in the region is mentioned as availability of huge arable lands which is suitable for agricultural production. Thus, the agricultural investment is expected to have great return in transforming the substance based smallholder farming, particularly through technology transfers, expansion of local infrastructure, rural employment generation. However, the impact of these projects is not yet studied and it is unclear whether the projects are working effectively and efficiently in order to support the GDP and the national demands as well. The actual deliverables of the agricultural investment projects was not measured and there was neither legal frame work that governs commercial farming nor control and or support the effectiveness nor efficiency of the investment projects. This implies that the government should strongly work on the investment feasibility studies, experiences shared from operational commercial farming and monitor the process of agricultural investments for their contribution to the regional and national economic growth.

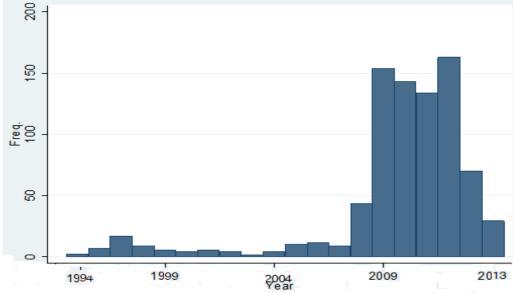


Figure 1: Trends of investments (agricultural investment) Source: Authors computation, 2015

The graph shows the increasing trends in investment starting from 1994 up to 1996 and decreasing up to 2003 and then slightly increasing until 2007. Finally, it sharply increases and remains almost on the same range for the consecutive for years and showed a radical decrement in the last two years. The decrease in investment projects for the past two years may be due to the fact that the investment bureau wants to evaluate and know the status of the certified investments. However, many agricultural projects remain malfunctioned for unknown reasons and due to system problems.

As illustrated in table below, out of 824 investment projects, about 26.86 % were operational. However, more of the investment projects were not operational due to; land was not transferred to the investors, their license were cancelled, though transfer has been done the investment projects were not functional, and the status of the remaining projects were not known. However, land has been transferred for about 462 investment projects until



2013.

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Table 5: Status of agricultural investment projects

| Status           | Frequency | Percentage |
|------------------|-----------|------------|
| Operational      | 221       | 26.82      |
| Land not given   | 296       | 35.92      |
| Discontinued     | 7         | 0.85       |
| Cancelled        | 111       | 13.47      |
| Non-operational  | 13        | 1.58       |
| Returned License | 4         | 0.49       |
| Unknown status   | 172       | 20.87      |
| Total            | 824       | 100        |

Source: Regional Bureau of Environment and Land Administration, 2014 and compiled by the Authors

#### 3.5. Availability and Access to Infrastructure

Availability and access to infrastructures like electricity, irrigation, storage, road and communications plays a vital role in facilitating and assisting in transporting, storing and exchanging information in agricultural investment process. However, the survey results revealed that about 57.14% of the commercial farms did not have access to irrigation facilities while the remaining 42.86% of the farms own irrigation scheme mainly for grain production (table 7).

Table 6: Access to Agricultural infrastructures

| T                      |           | Perce | ntage |
|------------------------|-----------|-------|-------|
| Type of infrastructure |           | Yes   | No    |
| Irrigation             |           | 42.86 | 57.14 |
| Storage                |           | 92.86 | 7.14  |
| Electricity            |           | 14.29 | 85.71 |
| Road (gravel road)     |           | 100   | 0     |
| Telephone              | Land line | 0     | 100   |
| -                      | Mobile    | 85.71 | 14.29 |

Source: Survey results, 2015

As Assosa area is humid agro-climatic zone it is hotspot for disease and pests and some of the commercial farms used irrigation to produce cash (pulse and oil) crops in order to minimize disease infestation during the rainy season. Agricultural products are very sensitive to environmental factors like sunlight, rain fall (humidity) and room temperature. According to the survey results, about 92.86 % of the farms own storage while 7.14 did not possess storage facility. As a result, the regulated and standardized storage may help to commercial farms to store their products till the market price becomes attractive during the supply shortage time.

## 3.6. Farm equipment owned by the farms

Farm machineries have an advantage to ease agricultural works in terms of time and quality. Table 8 below showed that about 92.86% of the sampled farms own tractor while 7.41% did not own tractor for cultivating their land. About 92.86% of the farms do not own combine harvester whereas only 7.14% owns combine harvester. Moreover, 71.43 and 14.29% of the farms have thresher and cleaning machineries respectively while 28.57 and 85.71% of them did not.

Table 7: Type of Farm Equipment ownership

| Type of Farm Equipment owned | Yes   | No    |
|------------------------------|-------|-------|
| Tractor                      | 92.86 | 7.14  |
| Combine harvester            | 7.14  | 92.86 |
| Thrasher                     | 71.43 | 28.57 |
| Cleaning facility            | 14.29 | 85.71 |

Source: Survey results, 2015

# 3.7. Employment opportunities

Currently only 221 projects were functional and created job opportunities for 42, 186 employees at the regional level (table 8 below). This implies that if proper mentoring and positive exposures is created for the proper implementation of the projects, employment opportunities will be created at the regional level. More specifically, commercial farms would help to create employment opportunities for trained human resources and illiterate personnel as casual and daily labourers. Thus, it provides labour market opportunities for individuals especially in developing countries which are characterized by relatively high availability of cheap human capital.

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Table 8: Functional farms and employment opportunities created at the regional level

| No. | District     | Functional projects | <b>Employment opportunity</b> |
|-----|--------------|---------------------|-------------------------------|
| 1   | Menge        | 7                   | 1552                          |
| 2   | Guba         | 64                  | 13162                         |
| 3   | Dangur       | 17                  | 6231                          |
| 4   | Yaso         | 18                  | 2415                          |
| 5   | Wonbera      | 6                   | 486                           |
| 6   | Kurmuk       | 4                   | 1380                          |
| 7   | Oda          | 9                   | 1827                          |
| 8   | Agalo meti   | 3                   | 770                           |
| 9   | Assosa       | 15                  | 195                           |
| 10  | Bambasi      | 19                  | 2008                          |
| 11  | Bulen        | 1                   | 32                            |
| 12  | Belogingafoy | 11                  | 1405                          |
| 13  | Sherkole     | 12                  | 3534                          |
| 14  | Sirba        | 2                   | 325                           |
| 15  | Mao-komo     | 18                  | 4407                          |
| 16  | Mandura      | 3                   | 690                           |
| 17  | Homosha      | 3                   | 381                           |
| 18  | Pawe         | 8                   | 1316                          |
| 19  | Kamashi      | 1                   | 70                            |
|     | Total        | 221.00              | 42,186.00                     |

Source: Regional Bureau of Environment and Land Administration, 2015 compiled by the Authors

As a result, the survey results revealed that on average about 6 and 1.93 persons both male and female permanent employees respectively with maximum of 28 individuals were hired by the commercial farms. The results further indicates that on average about 82.83 and 41.07 male and female daily labourers respectively with minimum of three and maximum of 700 were employed at the farms. In addition to this, on average about 1.36 and 0.14 male and female professionals (degree level) were hired by the farms. Thus, the descriptive results further suggest that, in countries like Ethiopia with limited access to farm machineries and mechanized farms, commercial farms provides employment opportunities directly by providing income to individuals hired at the farms and indirectly by engaging in grain and seed marketing and processing.

Table 9: Type of employment opportunities created by commercial farms

| Type of ampleyment        | Gender |        | - Minimum    | Maximum |  |
|---------------------------|--------|--------|--------------|---------|--|
| Type of employment        | Male   | Female | - Millinulli | Maximum |  |
| Permanent employees       | 6      | 1.93   | 0            | 28      |  |
| Casual workers            | 82.93  | 41.07  | 3            | 700     |  |
| Professional/Degree level | 1.36   | 0.14   | 0            | 10      |  |

Source: survey results, 2015

# 3.8. Policy incentives

The government of Ethiopia has created good investment incentives in order to attract commercial farming throughout the country. These investment incentives include exemption of import tax of farm equipment's, vehicles and income tax. The survey result indicates that about 71.43% of the commercial farms have started income tax payment. However about 28.57% of them did not. Moreover, about 14.29 and 21.43% of the farms has got import tax exemption of farm equipment's and vehicles, respectively. Though the commercial farms are expected to be mechanized.

Table 10: Policy Incentives provided to the farms

| Variable                                 | Yes   | No    |
|--|-------|-------|
| Import tax exemption of farm equipment's | 14.29 | 85.71 |
| Import tax for vehicles                  | 21.43 | 78.57 |
| Income tax payment                       | 71.43 | 28.57 |

Sources: survey results, 2015

#### 3.9. Technology requirement, source and productivity levels

#### **3.9.1.** Crop production

Majority of the investors are engaged on grain production especially on major cereal and cash crops. For instance, the survey results showed that about 42.86 hectares of land was allocated for rain fed maize production and about 166.15 quintals were harvested. However, productivity were low and yield reduction would be occurred due to



different factors like striga infestation, poor field management and use of traditional seeds and practices.

Table 11: Crop type and market share

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| Cuan tuma   | Area planted (ha) |           | Quantity harvested (qt) |           | Gross farm income in Birr |
|-------------|-------------------|-----------|-------------------------|-----------|---------------------------|
| Crop type   | Rain-fed          | Irrigated | Rain-fed                | Irrigated |                           |
| Maize       | 42.86             | 0.00      | 166.15                  | 0         | 588365.4                  |
| Sorghum     | 24.29             | 0.00      | 27.00                   | 0         | 504617.8                  |
| Rice        | 0.71              | 0.57      | 17.14                   |           | 26285.71                  |
| Soybean     | 10.14             | 0.00      | 108.00                  | 0         | 106550                    |
| Spices      | 0.93              | 0.00      | 3.71                    | 0         | 3342.857                  |
| Groundnut   | 0.5               | 0.00      | 9.64                    |           | 5785.71                   |
| Natural gum | 57.14             | 0.00      |                         | 0         | 85714.29                  |
| Forage      |                   | 1.07      | 4.61                    |           |                           |

Source: survey results, 2015

From our survey results, the second most cultivated crop is sorghum and on average 24.29 ha of land was allocated for sorghum production. On average, about 27 quintals were harvested from the cultivated area and the productivity 1.11 quintal per hectare. Moreover, 10.14 hectare of soybean was cultivated by the farms and 108.00 quintals harvested and its productivity was about 10.65 quintal per ha. Furthermore, rice, pepper, spices, and silage were among the cultivated cereal, oil and horticultural crops that land allocated in very limited.

#### 3.9.2. Access to improved varieties

The survey result revealed that 42.86% of the farms adopted improved varieties while 57.14% did not adopt any kind of improved varieties. It further indicates that the source of these improved varieties were from private, public seed enterprises, and imported directly from abroad. In addition, the survey results indicates that about 21.43% of the agricultural investors face problems of access and use of improved varieties while 78.57% of them did not. Furthermore, it is indicated that only 7.14% of the investors access the volume of seed they prefer while 92.86% have lack of access to adequate preferred improved seeds on time. This implies that the investors seriously have lack of access to different improved varieties spatially and temporally in the study area.

Table 12: Access to improved varieties/seed

| Source of seeds                     |                          | Percent |       |
|-------------------------------------|--------------------------|---------|-------|
| Source                              | e of seeds —             | Yes     | No    |
| Access to improved crop varieties   |                          | 42.86   | 57.14 |
| Research system                     |                          | 7.14    | 92.86 |
| Public seed enterprises             |                          | 14.29   | 85.71 |
| Private enterprise                  |                          | 42.86   | 57.14 |
| Imported from abroad                |                          | 7.14    | 92.86 |
| Problems of access and use of impro | oved varieties           | 21.43   | 78.57 |
| Volume of seed the investor prefer  |                          | 7.14    | 92.86 |
| Timely access improved seed         |                          | 7.14    | 92.86 |
| Faire price                         |                          | 14.29   | 85.71 |
| Appropriate improved varieties      |                          | 35.71   | 64.29 |
| Recommended agronomic practices     |                          | 42.86   | 57.14 |
| 3 1                                 | Research                 | 21.43   | 78.57 |
| Source of recommendation            | Public extension package | 14.29   | 85.71 |
|                                     | Adopted from abroad      | 7.14    | 92.86 |

Source: survey results, 2015

According to the survey results, about 35.71% of the investors have accesses of appropriate improved crop varieties while 64.29% were used local varieties. Furthermore, about 42.86% have knowledge and applied recommended agronomic practices gained from different sources. Thus, investors have gained recommended agronomic practices from research centers/institutes, public extension package and adopted from abroad. This further indicates that there is a huge gap in consulting researchers and experts technically and this may lead the investors to be unprofitable and leave investment.

# 10. Role of commercial farms in improving local livelihood options

Commercial farming has an important role for the local communities in different ways. These includes; input supply (seeds/seedlings, leasing farm implements etc), marketing (including contract farming, buying agricultural products produced by the farmers, service provision, etc..), employment opportunities, capacity building, and local development support activities.



Table 13. Roles of commercial farms in improving local likelihood options in the region

| Cataman           | Activities   |       | Percentage |  |
|-------------------|--|-------|------------|--|
| Category          | Activities   | Yes   | No         |  |
|                   | Sale improved seeds to local farmers   | 7.14  | 92.86      |  |
| Input supply      | Leasing of equipment to local farmers  | 28.57 | 71.43      |  |
|                   | Sale seedling of improved fruits to local farmers                              | 14.29 | 85.71      |  |
|                   | Engaged contract farming with surrounding farmers                              | 35.71 | 64.29      |  |
| Montrotina        | Buying agricultural products from local farmers                                | 35.71 | 64.29      |  |
| Marketing         | Provide value addition services to surrounding farmers (cleaning, milling etc) | 71.43 | 28.57      |  |
| Employment        | Providing priority of employment to local farmers                              | 85.71 | 14.29      |  |
| Capacity building | Support local farmers through training provision                               | 35.71 | 64.29      |  |
| Local development | Construction of all-weather road to the farm                                   | 71.43 | 28.78      |  |
| support           | Construction of drinking water in the farm                                     | 14.29 | 85.71      |  |

Source: survey results, 2015

The survey results revealed investors have given a service on leasing of equipment to local farmers, selling seedling of improved fruits and improved crop varieties respectively (table 15). This implies that the commercial farmers are engaged in input supply services to the lesser extent. As a result, the commercial farmers have an advantage to fill the huge demand and supply gap in technology transfer and providing/producing improved seeds to local farmers and much work is needed to give technical backup from experts, researchers and stakeholders. Moreover, commercial farms are expected to play key roles in marketing aspects. Accordingly, commercial farmers were provided value addition services to the farmers (activities related to clearing, milling etc.,), buying agricultural products and contract farming with the surrounding farmers respectively. These efforts of commercial farms should be strengthened to create linkage among the local farmers and commercial farmers in production and marketing activities to benefit the smallholder farmers from agricultural investment activities. Commercial farming has also a great contribution in creating employment and builds capacity to the local farmers. The survey results showed that they have created job opportunities and provided training to local farmers. However, the social, cultural, and environmental and other problems associated with commercial land during transfer of land to the commercial farmers needs further investigation as the smallholder farmers in the study area are totally dependent on land and its natural resources for their survival. Moreover, emphasis needs to be given in technology and knowledge transfer of commercial farmers to the local community.

## 3.10. Challenges and opportunities of commercial farming

Agriculture requires transformation of the subsistence oriented agricultural production system to commercial farming. To achieve the expected contribution not only to the local community but also to the economic growth of the nation, the major challenges and opportunities of the commercial farms were identified.

Table 14: Challenges and opportunities of commercial farming

| Farms priority problems                           | Share of Percents |         |               |
|---|-------------------|---------|---------------|
|   | Major problem     | Problem | Not a problem |
| Physical access to markets (markets)              | 64.29             | 14.29   | 21.43         |
| Access to vehicles for transporting their produce | 28.57             | 21.43   | 50.00         |
| Low price of own products                         | 71.43             | 28.57   | 0.00          |
| Volatile price of own products                    | 57.14             | 42.86   | 0.00          |
| Difficulty in finding customers                   | 50.00             | 7.14    | 42.86         |
| Land tenure problem                               | 7.14              | 50.00   | 42.86         |
| Loan repayment                                    | 0.00              | 14.29   | 85.71         |
| High interest rate of loans                       | 0.00              | 7.14    | 92.86         |
| Sufficient irrigation                             | 21.43             | 21.43   | 57.14         |
| Access to credit                                  | 0.00              | 28.57   | 71.43         |
| Access to storage facility including cold storage | 21.43             | 14.29   | 64.29         |
| Access to farm inputs                             | 14.29             | 42.86   | 42.86         |
| Availability of farm inputs                       | 14.29             | 28.57   | 57.14         |
| Poor government support                           | 64.29             | 28.57   | 7.14          |
| Pests and livestock diseases                      | 42.86             | 21.43   | 35.71         |
| Access to training                                | 71.43             | 14.29   | 14.29         |
| Licensing bureaucracy                             | 42.86             | 14.29   | 42.86         |
| Quality standards                                 | 21.43             | 50.00   | 28.57         |

Source: survey results, 2015



The survey results revealed that, about 71.43% of the commercial farmers have lack of access to training on entrepreneurship, crop and livestock production, improved technologies and farm machineries (table 16). Thus, it shows that capacity building on entrepreneurship would have direct and or indirect effect in transferring knowledge and technology to the surrounding smallholder farmers. Therefore, training should be given in their investment areas so that competition, profitability, innovativeness and capacity of these commercial farmers would be enhanced and improved. According to the survey results about 71.43% of the commercial farmers replied that low price of the agricultural products was the major challenge. The main reasons for low price of own product were mainly the commercial farmers produces products with low market price like sorghum, maize and paddy rice.

Moreover, these commercial farmers were not able to consult stakeholders on identification of cash crops, yield of major crops, soil type, available agricultural technologies and rainfall distribution of their investment areas. Thus further lead them to either produce agricultural products with low price or to follow traditional farming system like that of smallholder farmers. As a result, awareness creation on the profitable agricultural enterprises type (crop and livestock business), farm records, major crops grown and agricultural technologies available would have a vital role to alleviate the problem. The survey results further shows that there is poor regional government support, volatile price of own prices and difficulty in finding customers. This shows that the regional government in monitoring and evaluation of agricultural projects, giving technical supports in production and marketing activities is poor. The local community complain the commercial farmers during the land transfer and implementation periods in the study areas. Furthermore, the price of the agricultural produces owned by the commercial farmers is highly volatile due to the fact that most of the commercial farmers are not market oriented and their production system is traditional as most of the commercial farmers produce non-commercial traditional crops. Moreover, the commercial farmers are not equipped with the necessary standardized storage and market intelligence facilities to enable them to exploit the seasonality of price variation. Therefore, supporting the commercial farming in providing market information, and modern agriculture thereby widening the insights and inspiration of the commercial investment is highly imperative.

The survey results further showed that the sampled respondents replied that there is low interest rate of loans, no loan repayment problems, access to credit, access to storage facilities, availability of farm inputs and irrigation and access to vehicles for transportation of their produce were the major opportunities. Consequently, harnessing the opportunities and seizing the challenges of the commercial farming is highly important in order to transform the agriculture sector in study area.

#### 4. Conclusions

Agricultural investment remains the top strategy of the government to contribute to the national economy by changing the traditional farming to modern agriculture in Ethiopia. Therefore, this paper has focused on generating information for better understanding of the system and the options available to promote the current agricultural investment and trend of agricultural investment to seize the challenges and harness the existing opportunities in Benishangul-Gumuz regional state.

Benishangul-Gumuz region has one of the earmarked lands in Ethiopia for different investments and large scale farming is given priority by the government. The government envisages continuing accelerated growth of the agricultural sector by promoting the participation of the private sector in agriculture so as to foster economic growth. Hence, the number of registered and licensed agricultural investment trends in the region shows a tremendous increase from year to year. However, there is no appropriate and clear agricultural investment projects monitoring and evaluation system. Hence, much works needs to be done to help this investment projects to contribute to the national economy and minimize the adverse consequences to the environment due to the fact that Benishangul-Gumuz region has vast natural forest coverage and to keep the natural scene.

Most of the commercial farms were engaged on crops (i.e., cereals, pulses and oil crops), gum and resin, pulse, oil and fiber crops, mixed farming (crop production, livestock production and fattening), livestock, livestock products and fattening. Small portion of the agricultural investment requisition also includes integrated agriculture (including agro forestry, and irrigation), fruits and vegetables, poultry, agro processing and animal health and forage production. Thus, it indicated that most of the agricultural investment acquisitions are for crop production followed by gum and resin. However, due to the sever livestock diseases occurrence at the region, livestock commercial farming investments are very limited.

Generally, we have found that most of the agricultural projects are engaged in production activities. However, we suggest that the agricultural investment projects should be linked with the smallholder farmers. The livelihoods of the smallholder farmers would enhanced by engaging in technology and knowledge transfer, creating market linkages and synergy among actors engaged directly or indirectly in supporting and facilitating agricultural investment projects. Furthermore, research should be done on the potential environmental, social and economic impacts of commercial farming in the region. Finally, strong performance monitoring and evaluation of the commercial farming, and experience sharing among the commercial farmers is very important.



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