

# Agricultural and its Contribution to Poverty Reduction: Evidence from Aceh, Indonesia

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**Abstract**— Aceh Province is one of the regions with the largest potential of agriculture sector in Indonesia. The agricultural sector is the main livelihood of rural communities in Aceh. The purpose of this study is to determine the role of agriculture sector to overcome poverty in Aceh Province. The results show that more than 25 percent of Aceh's economy is supported by the agricultural sector. In the absorption of labor, the agricultural sector is able to absorb more labor than other sectors. Where almost half the *people* of Aceh work in the agricultural sector. The growing agricultural sector in Aceh, also further reduces unemployment, improves the quality of community welfare, and reduces poverty. Opportunities to accelerate poverty reduction are still open when improvements are made to agricultural productivity where the concentration of the poor is present. Therefore, it is important for the government to encourage the growth of the agricultural sector in order to realize the distribution of income and welfare of society and encourage the economic growth of Aceh in the future.

**Keywords**—Agricultural, Poverty, absorption of labor, unemployment, economic growth.

## I. INTRODUCTION

Agriculture is a mainstay sector in Aceh province in an effort to improve the welfare of its people. The agricultural sector is able to absorb more jobs than other sectors. An increasingly growing agricultural industry will certainly absorb a lot of unemployment and improve the quality of its economy. The growth of the agricultural sector should be encouraged by increasing productivity and higher production, expanding irrigation networks and increasing labor productivity.

The growth of the agricultural sector will contribute greatly to poverty alleviation in the event of and equitable distribution of land ownership, new technologies that farmers can adopt, and the development of rural infrastructure that links villages to local markets and encourages farmers to diversify into the non-agricultural enterprises in rural areas. The growth of the agricultural sector not only has a positive impact on poverty alleviation through increased farm revenues but also can encourage non-agricultural.

TABLE 1. NUMBER AND PERCENTAGE OF POPULATION LIVING IN POVERTY IN THE ACEH PROVINCE, 2010-2015

| Year | Amount<br>(Thousands) |        |        | Percentage<br>(%) |       |        |
|------|-----------------------|--------|--------|-------------------|-------|--------|
|      | Urban                 | Rural  | Amount | Urban             | Rural | Amount |
| 2010 | 173.37                | 688.48 | 861.85 | 14.65             | 23.54 | 20.98  |
| 2011 | 176.02                | 718.78 | 894.80 | 13.69             | 21.87 | 19.57  |
| 2012 | 171.80                | 737.24 | 909.04 | 13.07             | 21.97 | 19.46  |
| 2013 | 156.37                | 684.34 | 840.70 | 11.59             | 19.96 | 17.60  |
| 2014 | 161.94                | 719.31 | 881.26 | 11.76             | 20.52 | 18.05  |
| 2015 | 157.57                | 694.01 | 851.59 | 11.13             | 19.44 | 17.08  |

Source: Statistics of Aceh Province, 2017 (processed)

Growth in the agricultural sector, as well as the rural non-farm economy, is needed to reduce rural

poverty and narrow the gap between rural and urban. During the period 2010-2015, the percentage of

Population Living in Poverty in urban and rural areas decreased, in urban areas decreased 3.52 percent (from 14.65 percent to 11.13 percent), and in rural areas decreased 4.10 percent (from 23.54 percent to 19.44 percent).

Poverty is seen as an economic inability to meet the basic needs of food and not food as measured by expenditure. So Population Living in Poverty are residents who have average monthly per capita expenditure below the poverty line. Therefore, poverty reduction strategies should focus on improving the productivity of the agricultural sectors. The agricultural sector has a very important role in the economy of a region. This can be seen from the very dominant contribution, the dominant contribution of agricultural sector especially in poverty alleviation, food security, and job creation.

As one of the provinces located in developing countries, Aceh Province also has characteristics that characterize the developing countries, namely the high dependence on the agricultural sector. Aceh has considerable potential in the agricultural sector because it is supported by good land conditions.

## II. LITERATURE REVIEW

Rapid economic growth can not always reduce the poverty rate in a country. Studies in Tanzania prove that the growth of the agricultural sector is driven largely by large-scale, non-poor farmers, which has no significant impact on reducing poverty in the country [1]. In agrarian countries, in its development process is more affected by the agricultural sector, where the state plays an important role to provide support to achieve high economic growth, poverty reduction, and structural economic transformation [2].

The rapid economic growth in China driven by primary sectors, especially agriculture, has been a direct cause of declining poverty since 1980 [3]. While in Brazil, poverty reduction is more influenced by the service sector or tertiary sector than the primary sector with varying impacts in various states and added with social security and social assistance transfer has also contributed largely to overall poverty reduction [4].

The contribution of the agricultural sector against poverty alleviation has proven to be highly dependent on the growth performance of the agricultural sector and the extent to which the poor participate in this sector will have a different impact on reducing poverty [5]. Where in poor countries, increased agricultural productivity in general has an impact on poverty reduction that is greater than the increase in the secondary and tertiary sectors [6].

Findings in Africa and India show that the application of technology in the wider region tends to increase profits, whereas for most farmers who work on land with small farmland size and limited market access, the rate of profit is too small it will be difficult to lift it above the poverty line and increase household food security [7]. In low-income countries in Africa many of

the challenges faced by Asian countries, and showing that these countries are difficult to get through a broad-based agricultural revolution to successfully launch their economic transformation to reduce poverty [8].

Nevertheless, a number of developing countries in East Asia have achieved rapid economic growth and poverty alleviation through the effective use of the global value chain characterized by labor movement from rural to urban [9]. In addition, in developing countries also found out-migration from the agricultural sector has resulted in more inclusive growth patterns and faster poverty reduction through agglomeration in big cities [10].

The findings in Ethiopia show that a government policy is needed to reduce poverty by intervening in policies to support agricultural productivity growth, protecting assets and increasing market access for rural households in the country [11]. Another study in Ethiopia also proves that households that grow various types of agricultural crops [12]. Diversification of crops is a very appropriate way to deal with unfavorable conditions for poor farmers [12]. In addition, Ethiopia also provides evidence that agricultural growth is the dominant variable in increasing income and poverty reduction, especially dominated by small commercial farms [13].

Meanwhile in Thailand, good cooperation between NGOs and provincial governments in the field of agricultural development to reduce poverty is an appreciated initiative, through national policies targeting the poor through a small business initiative, low technology, handicraft production hand, and rural tourism have been able to help reduce poverty [14].

Governments as agricultural policy makers should encourage agricultural research institutions to undertake a feasibility study of agriculture when determining resource allocation and assessing impacts on poverty alleviation in a country [15]. In Indonesia and Thailand, there is a policy of protection from the impacts of agricultural trade liberalization, in which urban and rural poor have the same interests in the liberalization of agricultural trade policies in these two countries [16].

## III. RESULTS AND DISCUSSION

### **The Role of Economic Sectors in Economic Development in Aceh Province**

The agricultural sector is able to contribute greatly to the economic growth of Aceh Province. This can be seen from the share given by the agricultural sector to Gross Regional Domestic Product (GRDP). The role of economic sectors in economic development in Aceh Province from 2012-2016 is presented in Table 1 below.

Based on Table 2 below, in Aceh Province as illustrated in GRDP with oil and gas based on 2010 Constant prices during 2010 to 2015, shows that more than half of Aceh's GDP comes from agriculture, forestry and fishery sector, this sector tends to increase, in 2010 its role is still around 25.19 percent to 27.65

percent in 2015, this increased is due to the increasing agricultural production, especially food crops,

horticulture and plantation crops, Livestock, and fishery.

TABLE 2. THE ROLE OF ECONOMIC SECTORS IN ECONOMIC DEVELOPMENT OF ACEH, 2012-2016 (PERCENT)

| Industrial Origin  | 2010       | 2011       | 2012       | 2013       | 2014       | 2015       |
|--|------------|------------|------------|------------|------------|------------|
| 1. Agriculture, Forestry and Fishery                                     | 25,19      | 25,28      | 25,42      | 25,93      | 26,16      | 27,65      |
| 2. Mining and Quarrying  | 15,34      | 14,56      | 13,67      | 12,64      | 11,28      | 8,28       |
| 3. Manufacturing   | 8,85       | 8,64       | 8,52       | 7,91       | 7,19       | 5,76       |
| 4. Electricity and Gas Supply  | 0,11       | 0,11       | 0,12       | 0,12       | 0,13       | 0,14       |
| 5. Water Supply, Sewerage, Waste Management and Remediation Activities   | 0,02       | 0,03       | 0,03       | 0,03       | 0,03       | 0,03       |
| 6. Construction  | 8,08       | 8,29       | 8,51       | 8,68       | 9,06       | 9,57       |
| 7. Wholesale and Retail Trades, Repair of Motor Vehicles and Motorcycles | 13,65      | 13,94      | 14,26      | 14,68      | 15,06      | 15,76      |
| 8. Transportation and Storage  | 7,28       | 7,39       | 7,50       | 7,62       | 7,70       | 7,93       |
| 9. Accommodation and Food Service Activity                               | 0,90       | 0,94       | 0,97       | 1,01       | 1,06       | 1,14       |
| 10. Information and Communication  | 3,23       | 3,25       | 3,36       | 3,44       | 3,52       | 3,62       |
| 11. Financial and Insurance Services                                     | 1,44       | 1,52       | 1,49       | 1,54       | 1,54       | 1,60       |
| 12. Real Estate Activities   | 3,10       | 3,13       | 3,16       | 3,25       | 3,44       | 3,71       |
| 13. Business Services  | 0,53       | 0,54       | 0,54       | 0,55       | 0,59       | 0,61       |
| 14. Public Administration and Defence; Compulsory Social Security        | 7,08       | 7,17       | 7,06       | 7,09       | 7,48       | 8,05       |
| 15. Education  | 1,96       | 1,94       | 1,94       | 1,97       | 2,06       | 2,21       |
| 16. Human Health and Social Work Activities                              | 2,13       | 2,15       | 2,31       | 2,40       | 2,50       | 2,67       |
| 17. Other Services Activities  | 1,11       | 1,12       | 1,14       | 1,16       | 1,21       | 1,29       |
| <b>Amount</b>  | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b> | <b>100</b> |

Source: Statistics of Aceh Province, GRDP of Aceh by Industrial Origin, 2016 (processed)

### Number of Population Living in Poverty in Aceh Province

Poverty is a situation where there is an inability to meet basic needs such as food, clothing, education, and health. Poverty can be caused by the scarcity of basic needs or the difficulty of access to education and employment. Of the 10 provinces in Sumatra, Aceh is the province with the highest Regional Revenue and Expenditure Budget but is inversely proportional to poverty and unemployment which is still the poorest province and the highest unemployed in Sumatra.

In the period of 2010, the number of population living in poverty (per capita per month below the poverty line) in Aceh reached 897 thousand people (25.53 percent), declining in 2016 as many as 49 thousand people with Population Living in Poverty in 2016 whose numbers reached 848.44 thousand people (16.73 percent). To reduce the increasing poverty rate in Aceh Province, the Government of Aceh needs to develop various industry sectors with local-based advantages in order to create added value for Aceh's peasants, in particular, the revitalization in the sectors of agriculture, plantation, and fishery, as most Acehese employment work in these three sectors.

**TABLE 3. NUMBER OF POPULATION LIVING IN POVERTY  
IN THE ACEH PROVINCE, 2010-2016 (THOUSANDS)**

| Regency / Municipality | 2010          | 2011          | 2012          | 2013          | 2014          | 2015          | 2016          |
|------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1. Simeuleu            | 18.90         | 19.04         | 18.62         | 17.80         | 17.53         | 18.12         | 17.93         |
| 2. Aceh Singkil        | 19.90         | 19.94         | 19.41         | 20.72         | 20.04         | 24.84         | 25.09         |
| 3. South Aceh          | 32.20         | 32.27         | 31.64         | 29.30         | 28.40         | 29.61         | 30.68         |
| 4. Southeast Aceh      | 30.00         | 30.16         | 29.46         | 27.78         | 27.12         | 30.14         | 29.39         |
| 5. East Aceh           | 66.50         | 66.74         | 65.37         | 64.44         | 63.03         | 63.48         | 61.63         |
| 6. Central Aceh        | 35.30         | 35.37         | 34.71         | 33.61         | 32.81         | 34.26         | 33.16         |
| 7. West Aceh           | 42.40         | 42.49         | 41.62         | 44.32         | 43.90         | 41.36         | 40.11         |
| 8. Aceh Besar          | 66.20         | 66.34         | 64.92         | 63.89         | 62.37         | 62.27         | 62.03         |
| 9. Pidie               | 90.20         | 90.39         | 88.34         | 85.80         | 83.73         | 88.22         | 90.16         |
| 10. Bireuen            | 76.10         | 76.26         | 74.79         | 73.94         | 72.22         | 73.14         | 70.44         |
| 11. Aceh Utara         | 124.40        | 124.66        | 122.18        | 115.36        | 112.70        | 111.44        | 115.05        |
| 12. Southwest Aceh     | 25.20         | 25.25         | 24.67         | 25.74         | 24.97         | 25.93         | 25.73         |
| 13. Gayo Lues          | 19.00         | 19.14         | 18.64         | 19.00         | 18.57         | 19.32         | 19.48         |
| 14. Aceh Tamiang       | 45.20         | 45.30         | 44.32         | 40.82         | 39.91         | 40.38         | 40.88         |
| 15. Nagan Raya         | 33.40         | 33.57         | 32.77         | 32.66         | 31.91         | 31.32         | 30.31         |
| 16. Aceh Jaya          | 15.60         | 15.63         | 14.83         | 14.60         | 14.24         | 13.85         | 13.10         |
| 17. Bener Meriah       | 32.10         | 32.17         | 31.55         | 30.93         | 30.25         | 29.31         | 29.82         |
| 18. Pidie Jaya         | 34.70         | 34.77         | 34.15         | 32.59         | 31.87         | 31.81         | 31.94         |
| 19. Banda Aceh         | 20.80         | 20.84         | 20.39         | 19.43         | 19.42         | 19.30         | 18.80         |
| 20. Sabang             | 6.60          | 6.71          | 6.55          | 5.92          | 5.59          | 5.86          | 5.81          |
| 21. Langsa             | 22.40         | 22.45         | 21.92         | 20.27         | 19.76         | 19.22         | 18.63         |
| 22. Lhokseumawe        | 24.00         | 24.15         | 23.54         | 22.98         | 22.48         | 23.15         | 23.28         |
| 23. Subulussalam       | 16.40         | 16.53         | 16.13         | 15.00         | 14.61         | 15.25         | 14.99         |
| <b>ACEH</b>            | <b>897.50</b> | <b>900.17</b> | <b>880.52</b> | <b>856.90</b> | <b>837.43</b> | <b>851.58</b> | <b>848.44</b> |
| <b>%</b>               | <b>25.53</b>  | <b>21.80</b>  | <b>20.98</b>  | <b>19.48</b>  | <b>18.08</b>  | <b>17.08</b>  | <b>16.73</b>  |

Source: Statistics of Aceh Province, 2017 (processed)

### **The Role of Agricultural Sector in Labor Absorption in Aceh Province**

The agricultural sector is the driving force of the Acehnese people's economy. The agricultural sector is also the main source of income for the community, especially the low education level, the impact of the low level of education is the limitation of the type of work that can be done. Based on the characteristics of the agricultural sector that do not require higher levels of education, the agricultural sector is the main source of employment for most people. The absorption of Labor in the agricultural sector is dominant compared to labor in other sectors, this condition can be observed based on Table 4 below.

**TABLE 4. THE ROLE OF AGRICULTURAL SECTOR  
IN LABOR ABSORPTION IN ACEH PROVINCE,  
2010-2015**

| Year | Number of Labor Working on Agricultural Sector | Total Labor | Share |
|------|--|-------------|-------|
| 2010 | 809.788  | 1.776.254   | 45,59 |
| 2011 | 898.225  | 1.852.473   | 48,49 |
| 2012 | 842.866  | 1.798.547   | 46,86 |
| 2013 | 848.932  | 1.824.586   | 46,53 |
| 2014 | 851.785  | 1.931.823   | 44,09 |
| 2015 | 1.318.012                                      | 2.087.045   | 63,15 |

Source: Statistics of Aceh Province, 2016 (processed)

Based on the above data can be described that almost half of the workforce in Aceh work in the agricultural

sector. This can be seen from the number of people who work in the agricultural sector since 2010 which reached 809,788 people or 45.59 percent of the total workforce working in various sectors. Furthermore, in 2011 increasing, where there are 898,225 people or with a share of 48.49 percent of the workforce working in the agricultural sector. In 2012 it is also still the first rank in the sector that absorbs the most labor, which is equal to 842,866 people or equal to 46.86 percent. Its share in employment declined slightly by 2014, to 44.09 percent. However, by 2015, the absorption of Labor in the agricultural sector is as much as 1,318,012 inhabitants or exceeds 50 percent, of which the employment rate reaches 63.15 of the number of laborers employed in various sectors.

#### IV. CONCLUSION

The growth of the agricultural sector has provided a large share of the economy in Aceh Province. More than a quarter of Aceh's economy is supported by the agricultural sector. In terms of employment, the agricultural sector also dominates other sectors. In other words, the agricultural sector is able to absorb more labor than other sectors. Where almost half the people of Aceh work in the agricultural sector. The growing agricultural industry in Aceh Province, also increasingly reduces unemployment, improves the quality of community welfare, and reduces poverty. From 2010 to 2016, the poverty rate in Aceh is declining. In 2010, the poverty rate reached 25.53 percent and decreased until 2016, to 16.73 percent.

Therefore, it is important for the government to encourage the growth of the agricultural sector in order to improve Aceh's economic growth. The growth of the agricultural sector should be encouraged by increasing productivity and higher production, expanding irrigation networks and increasing labor productivity so that the agricultural sector can provide an increasing share of poverty reduction.

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