Strategic Area Development to Reduce Poverty and Regional Gaps in The District

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Abstract
Developing strategic areas utilizing existing potential will increase regional economic growth, overcome regional disparities, and reduce poverty. This study aims to determine the efficiency of district strategic area development in reducing regional disparities and poverty rates in Dharmasraya Regency for the 2016-2020 period. The results of the Data Envelopment Analysis (DEA) analysis, using the assumption that input changes are directly proportional to changes in output, show mixed results. Efficiency calculations show that investment, infrastructure, and business empowerment significantly reduce poverty and regional disparities in Dharmasraya Regency. This condition shows that developing strategic district areas can reduce regional disparities and poverty rates in Dharmasraya Regency. This research implies that it can assist the government in reducing poverty in Dharmasraya Regency by allocating funds for industrial development, expanding investment, and providing financial assistance for developing community-based creative businesses. If appropriately implemented, poverty in Dharmasraya Regency will be reduced.

Keywords:
regional economy; regional development; strategic area

How to Cite:
INTRODUCTION

Poverty and regional disparities are problems that often occur in Indonesia. The poor have a low standard of living which directly affects their health, morale, and self-esteem. Poverty reflects a condition where a person cannot fulfill his basic needs to the fullest because there is no cost for it (Nugroho & Dahuri, 2016). According to Maxwell, poverty is described by limited income and consumption, low human dignity, social isolation, lack of ability, vulnerability to political and economic changes, and non-fulfillment of basic needs. Poverty is still a common problem, especially in developing countries (Gilbert, 2014; Zaini et al., 2018).

One indicator of poverty is the low income of the community (Angel et al., 2018; Gereke et al., 2018; Hohberg et al., 2018; Ikemi et al., 2018; Nugroho & Dahuri, 2016; Sun et al., 2018). BAPPENAS (National Development Planning Agency) stipulates that one indicator of poverty is the low level of public access to employment and business opportunities. The poor, according to the World Bank, are people who earn US$ 1.9 per capita per day. According to the Central Statistics Agency (BPS), the poor are people who only get an average annual income of Rp. 362,000/capita/month or Rp. 12,000/capita/day. Also, based on the data and criteria from BPS, per capita income in rural areas is lower than in urban communities.

Long-term regional development emphasizes the introduction of the potential of natural resources to increase economic growth. In addition, the development of regional potential is able to improve community welfare (Kumari & Devadas, 2020), reduce poverty, and overcome regional development problems. Regional development is strongly influenced by local resources (Babkin et al., 2017; Zasada et al., 2018), markets, labor, investment, government capabilities, transportation, communication, and technology. Regional development that prioritizes regional superior potential will increase economic growth, employment opportunities, and sustainable productivity. Regional potential in the form of regional superior commodities is expected to be able to influence regional development, as well as a prime mover for regional socio-economic development (Chulaphan & Barahona, 2018; Zasada et al., 2018). Moreover, infrastructure sector, especially transportation, has an important role in the context of physical-environmental, social, cultural, political, and other development (Zasada et al., 2018).

The district’s strategic areas have various terminology. For example, Special Economic Zones (Anwar, 2014; Beliakov & Kapustkina, 2016; Ezmale & Rimsane, 2014; Girma et al., 2019; Lipták et al., 2015), Economic Zones (Bozhko, 2018; Jiang et al., 2018; Yujin & Zhiyong, 2013), Special Economic Zone (Krishnasamy et al., 2018), and also called Border Zone / Potential Border Zone (Uttama, 2014). Various strategies have been carried out to develop an area including the development of regional potential (Bozhko, 2018). One of them is by promoting policies that support investment (Anwar, 2014; Ezmale & Rimsane, 2014; Uttama, 2014). Other strategies include tax incentives (Anwar, 2014; Beliakov & Kapustkina, 2016; Ezmale & Rimsane, 2014; Lipták et al., 2015), infrastructure development (Anwar, 2014; Ezmale & Rimsane, 2014; Girma et al., 2019; Glinskiy et al., 2017; Yujin & Zhiyong, 2013), ease of
managing institutions and bureaucracy (Beliakov & Kapustkina, 2016), and also the development of technologies that promote and participate in increasing the potential of the area (Anwar, 2014).

Economic growth in Dharmasraya Regency, West Sumatra Province, and Nationally experienced a slowdown in economic growth. If in 2011, the economic growth in Dharmasraya Regency, West Sumatra Province, and Nationally had almost the same percentage, ranging from 6.34% to 6.56%. This continued until 2015. After 2015, economic growth in Dharmasraya Regency, West Sumatra Province, and Nationally experienced a slowdown. GRDP growth shows the lowest economic growth compared to 2015 and previous years. Compared to the economic growth of West Sumatra and national growth, the economic growth of Dharmasraya Regency is still relatively higher. Dharmasraya Regency is the result of the division of Sawahlunto Sijunjung Regency based on Law Number 38 of 2003 which was promulgated on January 7, 2004. As a new region, special attention needs to be paid to regional potential.

If measured by Gross Regional Domestic Product (GRDP), the GRDP growth rate in Dharmasraya Regency averaged 5.66% from 2014 to 2018. Although this is a healthy number, the growth rate of each sector remains inconsistent. Agriculture, forestry and fisheries are the industries that contributed the most to Dharmasraya’s GRDP between 2014 and 2018, with an average contribution of 29.6%. This is inseparable from land use in the agricultural sector of 87.31%, of which 58.01% is allocated for the plantation sub-sector and 2.25% for rice fields. Meanwhile, the fisheries sector of Dharmasraya Regency produced 201.80 tons of fish in 2017 while the forestry sector covered an area of 74,487.71 hectares. The clean water supply, waste management, waste and recycling sectors are included in the sectors that provide the smallest contribution to GRDP, which is 0.013%. When compared with the GRDP of West Sumatra; agriculture, forestry, and fisheries are also sectors that provide the largest contribution to GRDP on average, which is 23.2%. In addition, the sectors with the lowest average GRDP contribution are the provision of clean water, waste management, waste and recycling with a contribution of 0.10%, followed by the provision of electricity and gas with a contribution of 0.11%. When the economy of Dharmasraya Regency grows, it is determined by the condition of a greater contribution, but this is not in accordance with the growth rate which remains inconsistent and even begins to decline.

Prior to this study, a comparative study of 97 countries had been carried out using the DEA model for the period 1981-2004 using the Malmquist Index (Tsuneyoshi et al., 2012). In addition, the nature of inequality that affects capital accumulation and performance growth from 1965 to 1990 is also measured using the DEA index. Despite the benefits of DEA, the drawbacks of this method are considered quite significant (Goryushina & Mesropyan, 2012), because a meaningful score cannot be obtained from a single set of inputs and outcomes. Therefore, the current study offers specific techniques for implementing DEA to meet the demands of regional strategic planning. The results of this study also provide an attempt to eliminate the shortcomings noted by the DEA and provide analytical information for the strategic planning decision-making process.
This method is considered as a very effective approach for DEA application in certain cases (Wojcik et al., 2019).

Several different poverty reduction programs around the world agree that ensuring the socio-political inclusion of the poor and vulnerable, improving social security, and improving livelihoods, along with other activities such as facilitating gender empowerment, promoting socio-economic growth opportunities, improving health care facilities, and the provision of better education; is very important to reduce poverty of the poor and vulnerable as a whole. These poverty reduction programs, will continue to be instruments for policy makers and development institutions; despite the fact that these programs show varying degrees of success in different countries and regions due to the unique economic and socio-cultural circumstances of these locations. Despite significant investments, there are poverty reduction projects that continue to fail to achieve their goals (Yalegama et al., 2016). By the year 2000, the failure rate of World Bank development projects in Africa had risen to more than 50% (Ika et al., 2012). Because of this, identifying context-specific characteristics that are critical to the success of initiatives aimed at alleviating poverty is extremely crucial.

There is some extensive literature dealing with the conceptual dimensions of poverty reduction. The available literature highlights the need to develop capacity and provide social security, as well as to organize high quality community organization-based microfinance, with a focus on economic growth, and ensuring good governance. On the other hand, the existing literature has nothing to do with the comparative performance of the above-mentioned methodologies. Therefore, this study attempts to address this gap. This study assesses the effectiveness of this method using DEA-based simulations while advocating an integrative approach that incorporates action on all aspects to eliminate the multidimensional character of poverty in order to meet regional strategic planning needs. Furthermore, this study attempts to contribute to the DEA literature in two ways. First, knowledge capture and sample adequacy; Second, the resilience of dynamic system models.

Based on the previous research above, which revealed that DEA and principal component analysis are still limited. Component analysis techniques can be used, for example creating an index that measures urban competitiveness, and calculating regional competitiveness using DEA. Furthermore, because the analysis of inequality and poverty in Dharmasraya Regency has received less attention, the researchers are interested in discussing topics related to this topic in depth. This study describes a methodology that identifies the main features of the DEA system in the context of developing strategic areas to reduce poverty and regional disparities, causal relationships, and poverty reduction policy scenarios using DEA-based simulations. This study presents a research contribution to the extant literature relating to DEA and poverty reduction. Therefore, this study aims to determine the efficiency of strategic area development in reducing poverty and disparities between regions in Dharmasraya Regency.
METHODS

The approach used in this research is a combination of qualitative and quantitative methods. The qualitative method was carried out through observation at the research site. Information is collected from various agencies related to the development of superior commodities and strategic districts. Information and data collected are related to budget allocation for the development of superior commodities in strategic areas. The quantitative method uses research results related to the factors that influence regional development carried out in various regions/countries.

The data used in this study were taken from various sources such as from the Regional Government Annual Report, projections from BAPPEDA, and data related to the economic condition of Dharmasraya Regency from BPS. Data analysis was performed using Data Envelopment Analysis (DEA) as an analytical tool. All DEA data is processed using STATA software for windows. The unit of analysis used as the output variable is a) regional disparities and b) poverty levels. The input variables are a) infrastructure, b) empowerment of business actors, c) investment, and d) institutions. The Decision-Making Unit (DMU) is an observation year, which is a five-year period between 2016 and 2020.

DEA is an efficient method for evaluating multi-input and multi-output decision-making units (DMUs) without prior identification of functional relationships, objective weights, and examination of invalid components within the DMU. In other words, DEA maintains the same input and output of DMUs while employing the effective sample. Existing research calculates efficiency using a DEA model with poor (undesirable) outcomes (Bongo et al., 2018).

When evaluating efficiency, DEA identifies a unit of reference that can assist in determining the reasons for and solutions to inefficiencies, which is a significant benefit in management applications. In addition, DEA does not require a more detailed statement of the shape of the function, which reflects the relationship between the production and distribution of observations. DEA theory contains a number of value principles that form the basis for management procedures, which include:

a) Efficiency ratio is relative, DEA maximizes efficiency for each economic unit compared to a random sample of other units. This can be used to identify economic units that might benefit from improved management.

b) DEA shows an ideal economic unit with a value of 100% and a less efficient one with a value of 100%. In addition, there are multiplayer metrics that serve as the basis for management improvements.

c) DEA produces a cross-efficiency matrix that describes the efficiency of an economic unit when various inputs are used and produces different outputs when other economic units are used.
RESULT AND DISCUSSIONS

The local government has established a number of macroeconomic indicators that will be used as benchmarks for development success in the current year, as part of the overall implementation of development in the current year. The macroeconomic indicators show in Table 2. In the context of implementing the current year’s development, local governments have established several macroeconomic indicators that will be used as benchmarks for the success of development. Based on the GRDP at current prices (ADHB), it is known that its value always increases from 2018 to 2020. However, the AHBK GRDP value shows a slight decline in 2020, this is due to the Covid19 pandemic which began in January 2020. GRDP 2020 is indeed higher than in 2019 but the number of economic transactions in 2020 has decreased compared to 2019.

Table 2. Macroeconomic Conditions of Dharmasraya Regency in 2018 to 2020 and projections for 2021 to 2022

<table>
<thead>
<tr>
<th>No</th>
<th>Business Field</th>
<th>Realizations</th>
<th>Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Value of GRDP ADHB (On the Basis of Current Price)</td>
<td>9,917,01  10,344,51  10,242,19  11,322,72</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value of GRDP AHBK (On the Basis of Constant Price)</td>
<td>7,208,33  7,560,32  7,454,96</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>GRDP per capita of ADHB (On the Basis of Price Applies)</td>
<td>41,052,193  41,782,680  40,482,967  42,830,000  43,810,000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Poverty Level</td>
<td>6,42  6,29  6,23  6,14  6,08</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Economic Growth</td>
<td>5,32  4,94  -1,39  2,50  2,90</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Gini Ratio</td>
<td>0,26  0,28  0,28  0,270  0,265</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Open Unemployment Rate</td>
<td>4,02  5,06  5,31  5,25  5,00</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Human Development Index (HDI)</td>
<td>70,86  71,52  71,51  71,66  71,82</td>
<td></td>
</tr>
</tbody>
</table>

Source: Dharnasraya in Figures for 2021, and Projections of Bappeda in 2021

Gross Regional Domestic Product (GRDP) per capita shows the average income of all residents in a region. GRDP per capita is calculated by dividing GRDP at current prices (ADHB) by the entire population. Gross domestic product per capita is expressed as income per capita. This indicator is used to determine the prosperity and level of development of a region. The higher the per capita income, the more developed the region and the higher the average income of the population. The results of the analysis suggest that the Gross Regional Domestic Product (GRDP) per capita of Dharmasraya residents is higher than the national average. However, its GRDP is still lower than the average for the province of West Sumatra. During 2020, poor economic growth due to the COVID-19 pandemic had an impact on the decline in GRDP per capita in 2020.
The poverty rate is the percentage of the entire population living below the poverty line. What is meant by "poverty" are those whose average per capita expenditure per month is below the poverty line (GK). Poverty is defined as an economic failure to meet basic food needs, not as food that is assessed in terms of cost. Each year, BPS determines the poverty rate based on this procedure. In 2020, the Dharmasraya Regency poverty line is set at IDR 477,421 per person/month.

The poverty rate in West Sumatra Province and Dharmasraya District is lower than the national average. The poverty rate in Dharmasraya Regency has decreased over the past five years, dropping from 7.16% to 6.23% in 2020. Despite negative economic developments in 2020 due to the Covid-19 pandemic, poverty has not increased in Dharmasraya Regency. The reason is that poverty data in Dharmasraya Regency is based on the latest BPS data, March 2020. As a result, this condition has not been able to adequately define the impact of Covid-19.

The GRDP growth rate of Dharmasraya Regency with the GRDP growth rate of West Sumatra Province and National GRDP at constant prices from 2016 to 2020. Since 2017 there has been a decline in economic growth at the national, provincial, and district level Dharmasraya. The impact of the Covid-19 outbreak that took place since the first quarter of 2020 even had an impact on negative GDP growth in 2020.

Negative economic growth occurs in more than 70% of countries in the world. As a result of this situation, several economic sectors experienced negative economic growth and community economic activity declined. However, there is anticipation that this influence will wane and fade in 2021, resulting in positive economic developments. Strategic planning is needed to improve the economy of an area affected by the pandemic.

The open unemployment rate (also referred to as TPT) in Dharmasraya District is much lower than the national average as well as the West Sumatra province average. Between 2017 and 2020, the number of TPT in Dharmasraya always increases. However, between 2019 and 2020, TPT increased significantly at the provincial and national levels in West Sumatra, but not as much as at the Dharmasraya District level. According to the analysis of this data, the increase in the unemployment rate in Dharmasraya is solely due to the increase in the number of job seekers who have just finished their studies.

Table 3 describes the HDI development of Dharmasraya Regency from 2016 to 2020 compared to HDI conditions at the provincial and national levels in the same period. During the five-year period 2016-2020, Dharmasraya Regency’s HDI is projected to grow. However, there was a slight decline as we approached 2020 due to the Covid-19 condition which had a significant impact on both the economic and social components of society. The only one of the four indicators that causes the HDI to fall is per capita expenditure; However, the other three indicators do not have a major impact on HDI.
Table 3. Comparison of Human Development Index of National, West Sumatra Province and Dharmasraya Regency of 2016-2020

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator</th>
<th>Unit</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>National HDI</td>
<td>Index</td>
<td>70.18</td>
<td>70.81</td>
<td>71.39</td>
<td>71.92</td>
<td>71.94</td>
</tr>
<tr>
<td>1</td>
<td>Life Expectancy at Birth (UHH)</td>
<td>Year</td>
<td>70.9</td>
<td>71.06</td>
<td>71.2</td>
<td>71.34</td>
<td>71.47</td>
</tr>
<tr>
<td>2</td>
<td>Average length of school</td>
<td>Year</td>
<td>7.95</td>
<td>8.1</td>
<td>8.17</td>
<td>8.34</td>
<td>8.48</td>
</tr>
<tr>
<td>3</td>
<td>Expectations of school length</td>
<td>Year</td>
<td>12.72</td>
<td>12.85</td>
<td>12.91</td>
<td>12.95</td>
<td>12.98</td>
</tr>
<tr>
<td>4</td>
<td>Adjusted per capita expenditure (000 IDR/ Person/ Year)</td>
<td>10,420</td>
<td>10,664</td>
<td>11,059</td>
<td>11,299</td>
<td>11,013</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>West Sumatera Province HDI</td>
<td>Index</td>
<td>70.73</td>
<td>71.24</td>
<td>71.73</td>
<td>72.39</td>
<td>72.38</td>
</tr>
<tr>
<td>1</td>
<td>Life Expectancy at Birth (UHH)</td>
<td>Year</td>
<td>68.73</td>
<td>68.78</td>
<td>69.01</td>
<td>69.31</td>
<td>69.47</td>
</tr>
<tr>
<td>2</td>
<td>Average length of school</td>
<td>Year</td>
<td>8.59</td>
<td>8.72</td>
<td>8.76</td>
<td>8.92</td>
<td>8.99</td>
</tr>
<tr>
<td>3</td>
<td>Expectations of school length</td>
<td>Year</td>
<td>13.79</td>
<td>13.94</td>
<td>13.95</td>
<td>14.01</td>
<td>14.02</td>
</tr>
<tr>
<td>4</td>
<td>Adjusted per capita expenditure (000 IDR/ Person/ Year)</td>
<td>10,126</td>
<td>10,306</td>
<td>10,638</td>
<td>10,925</td>
<td>10,733</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Dharmasraya Regency HDI</td>
<td>Index</td>
<td>70.25</td>
<td>70.4</td>
<td>70.86</td>
<td>71.52</td>
<td>71.51</td>
</tr>
<tr>
<td>1</td>
<td>Life Expectancy at Birth (UHH)</td>
<td>Year</td>
<td>70.3</td>
<td>70.44</td>
<td>70.73</td>
<td>71.1</td>
<td>71.33</td>
</tr>
<tr>
<td>2</td>
<td>Average length of school</td>
<td>Year</td>
<td>8.23</td>
<td>8.24</td>
<td>8.25</td>
<td>8.46</td>
<td>8.47</td>
</tr>
<tr>
<td>3</td>
<td>Expectations of school length</td>
<td>Year</td>
<td>12.39</td>
<td>12.4</td>
<td>12.41</td>
<td>12.42</td>
<td>12.43</td>
</tr>
<tr>
<td>4</td>
<td>Adjusted per capita expenditure (000 IDR/ Person/ Year)</td>
<td>10,781</td>
<td>10,851</td>
<td>11,189</td>
<td>11,431</td>
<td>11,273</td>
<td></td>
</tr>
</tbody>
</table>

Source: BPS Dharmasraya Regency (2021)

From an economic perspective, mining has proven to be effective in improving the economic welfare of the people of Dharmasraya Regency, West Sumatra as a whole, especially those with customary rights along the riverbanks in the area. On the other hand, Mining facilities, contribute to the widening of the wealth gap between rich and poor, as only those who have the necessary capital and production equipment can derive full benefits from mining (Meutia et al., 2022).

Strategic area is an area whose development is prioritized for regional development by utilizing the potential of the existing area. Based on the above study, the factors that influence regional development are infrastructure, business empowerment, investment, technology, labor, the role of the government, and superior commodities. The indicators used are: a) infrastructure, b) empowerment of business actors, c) investment and d) institutions as input variables; while, a) poverty rates and b) regional disparities as output variables.

Determination of district development efficiency, to encourage poverty reduction and solve inter-regional problems in Dharmasraya Regency, is carried out by setting budget allocations for strategic area development. The input variable concerns the
relationship between local government budget allocations and the input of each variable. The proportion of budget allocation concerns the relationship between strategic area development and GRDP. The output indicator variable for the poverty level is the number of poor people. The indicator variable for regional disparity is the income per capita of the people in Dharmasraya Regency. This study determines the efficiency of district strategic area development from 2016 to 2020.

The infrastructure budget allocation is made through the opening of new roads, road construction, road pavement, rigid concrete, drainage, construction, and repair of bridges. The budget allocation for the empowerment of business actors is carried out by conducting empowerment programs in the field/plantation, training for agribusiness actors, and mentoring. Budget allocations are made through the provision of oil palm and rubber seeds, provision of fertilizers, and assistance in opening new land. Institutional budgeting is carried out through programs for developing rural economic institutions, improving farmer institutions, managing Village Unit Cooperatives (KUD), district agricultural extension operational costs, and improving farmer institutions. The variable number of poverty used is the percentage of poor people compared to the total population. The regional disparity variable uses the percentage of regional per capita income compared to the Gross Regional Domestic Product (GRDP) of Dharmasraya Regency.

Table 2 shows the percentage of input variables and output variables. The table shows the percentage of poverty reduction between 2016 and 2020 due to a decrease in the number of poor people in Dharmasraya Regency. Regional disparities are significantly reduced. The decrease in regional disparities is caused by the increase in the income per capita of the community. Budget allocations for infrastructure fluctuated in 2020 due to road network improvements and construction of new roads.

Table 4 shows the percentage of input variables and output variables from Dharmasraya Regency from 2016-2020.

<table>
<thead>
<tr>
<th>Year</th>
<th>Poverty Rate</th>
<th>Regional Disparity</th>
<th>Infrastructure</th>
<th>Business Actor Empowerment</th>
<th>Investment</th>
<th>Institutional</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>9.868985</td>
<td>0.000475</td>
<td>1.009475</td>
<td>0.043342</td>
<td>0.622595</td>
<td>0.053549</td>
</tr>
<tr>
<td>2017</td>
<td>8.983174</td>
<td>0.000461</td>
<td>1.008194</td>
<td>0.041789</td>
<td>0.714839</td>
<td>0.051742</td>
</tr>
<tr>
<td>2018</td>
<td>7.783985</td>
<td>0.000448</td>
<td>1.029053</td>
<td>0.041358</td>
<td>0.887185</td>
<td>0.050342</td>
</tr>
<tr>
<td>2019</td>
<td>7.223363</td>
<td>0.000436</td>
<td>0.988894</td>
<td>0.041476</td>
<td>0.00010</td>
<td>0.049236</td>
</tr>
<tr>
<td>2020</td>
<td>6.314393</td>
<td>0.000425</td>
<td>1.084902</td>
<td>0.040825</td>
<td>0.348359</td>
<td>0.048074</td>
</tr>
</tbody>
</table>

Source: Regional Government of Dharmasraya Regency, Processed Data 2020
Data processing uses the assumption of Constant Return to Scale (CRS) Data Envelopment Analysis (DEA) that changes in input are directly proportional to changes in output. This shows the efficiency of developing district strategic areas against regional inequality. In 2016, 2018, and 2020 showed ‘efficient’ results. The years 2017 and 2019 show close to ‘efficient’ (coefficient close to 1). The calculation results show that the development of strategic districts is able to overcome the gaps between regions in Dharmasraya Regency. In 2019, the efficiency is 0.9950 (close to 1). The budget allocation for investment and infrastructure is smaller than the previous year and the following year. In 2017 the efficiency was 0.9990. The infrastructure budget allocation is smaller than the previous year and the following year.

Table 5 shows the efficiency of developing district strategic areas in poverty reduction in 2016 and 2018 showing efficient results. In 2017 showed inefficient results (0.8290). In 2019 showed inefficient results (0.7720). In 2020 shows almost efficient results (0.9440). The calculation results show that the development of district strategic areas shows the least efficient results in 2019 (0.7720). This inefficiency is caused by the small budget allocation for infrastructure and investment. The development of strategic district areas in 2017 showed inefficiency due to small investment and infrastructure budget allocations. In 2020, efficiency almost reached 0.9440 (close to 1) because the budget allocation for empowering business actors was smaller than in previous years.

The results of the study show the efficiency of developing district strategic areas against regional disparities and poverty. The four variables used are infrastructure, business empowerment, investment, and institutions. Infrastructure and investment are the most influential variables. The variables of investment, infrastructure, and empowerment of business actors greatly affect poverty reduction in an area. The results of this study are in line with Brunner (2013) who stated that infrastructure development and investment are very important in reducing disparities between regions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Disparity</th>
<th>Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>2017</td>
<td>0.9990</td>
<td>0.8390</td>
</tr>
<tr>
<td>2018</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>2019</td>
<td>0.9950</td>
<td>0.7720</td>
</tr>
<tr>
<td>2020</td>
<td>1.0000</td>
<td>0.9440</td>
</tr>
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Source: Processed Data, 2020

Poverty in a developing country like Indonesia seems to be an endless topic of conversation. There are several variables that are developing and are expected to continue
to grow, including poverty from a community perspective. Poverty is a condition where individuals are unable to improve their economic standard because they are hindered by a person or group of people, or by government laws that do not support the economic life of the community. Due to the lack of social networks and support structures, one cannot exploit the potential to increase one’s productivity.

Policy instruments that are not in line with regional development will have little impact on meeting the needs of the community, including the economic sector, which will have an impact on the spread of poverty. Public facilities and infrastructure are provided by the government as a service to the community, and these facilities and infrastructure are grouped in a system that allows all members to contribute to meeting the needs of the community. Agricultural commodities are exposed on a large scale in agropolitan areas that have the necessary infrastructure, institutions, processing/marketing, and other sectors to support the development of commodity centers. Regional development is exposure to the economic scale of fishery commodities in agropolitan areas that have the necessary infrastructure, institutions, processing/marketing, and other sectors to support the development of commodity centers. The notion of agropolitanism is often seen as a way to reduce poverty by improving the city’s economy, among others, through efforts to improve agricultural areas and aquaculture. Utilization of agricultural resources which include aquaculture and superior commodities, development of public infrastructure, agribusiness infrastructure, socio-economic infrastructure, and development of environmental sustainability; all of these things are important for the successful development of agropolitan areas.

Comprehensive poverty reduction requires multiple stakeholders; namely, the central government, local governments, business people, and the community (Chamidah et al., 2020; Nguyen & Nguyen, 2019) to jointly find forms of poverty reduction and realize accelerated poverty reduction in Indonesia. Indonesia. This can be done by formulating four principles. The first principle is to improve and develop social protection systems (Aspinall, 2014). In addition to facing high potential for social vulnerability, Indonesia is also faced with the phenomenon of aging population growth in its demographic structure. It is feared that it will cause an economic burden for the younger generation or a high dependency ratio. The second principle in poverty reduction is to increase the access of the poor to essential services.

The third principle is the effort to empower the poor with the aim of increasing the effectiveness and sustainability of poverty reduction (Chamidah et al., 2020). In poverty reduction efforts, it is very important not to treat the poor as mere objects of development. The importance of implementing a strategy based on this principle in considering poverty is also due to inequality and a non-pro-poor economic structure (Holtemöller & Pohle, 2020; Luo et al., 2020; Suriyanti et al., 2020). In addition, income inequality causes the output of economic growth to be uneven across all groups of people (Shao et al., 2016).

Development that involves and benefits all aspects of society is the fourth precept,
which is described as development that involves and benefits all elements of society simultaneously. Participation is the operative word in all aspects of implementing development programs (Chamidah et al., 2020; Pouw & Gupta, 2017; Pouw et al., 2020). Information from various countries shows that poverty can only be eradicated if the economy improves quickly. As a result, economic expansion must be able to create large numbers of productive jobs.

To develop a dynamic economy, a conducive and stable business climate must be created, both in terms of implementation and policy (Chamidah et al., 2020; Murdifin et al., 2019; Nazir et al., 2020). Increasing economic growth and equity is the main goal of national development, with the ultimate goal of maintaining national stability. Development planners must pay attention to the context of the area where development operations are carried out because the community is a very important aspect in the success of national development (Chamidah et al., 2020).

In addition to the low standard of living, the implementation of regional development is motivated by the need to achieve sustainable national economic growth in the long term (Cheng et al., 2021; Luong et al., 2020). The implementation of regional development is expected to improve the standard of living of the population, and become the basis for the economic development of a developing country. The attention of economists and local community planning professionals in the process of economic growth and equitable development is focused on the most critical issues in regional development efforts, which are the most significant concerns in regional development efforts (Lyubimov, 2017).

The results of this study are in line with the research conducted by Thabrani et al. (2019) which concludes that the efficiency level between health service areas in West Sumatra Province has been running on an average of low-medium in the range of 60%. In each model, the level of efficiency between regions shows a significant difference. Short-term health care output (health level) is significantly more unequal than long-term health care output (life expectancy). In addition, the calculation of the efficiency level shows that the city level area has a lower efficiency level than the district level location. Every year, districts and regions with moderate levels of efficiency show variations in input consumption. This study provides data and index weights not only for input factors such as indicators, sub-indicators, and variables, but also for output factors.

In the end, the most weighted input factor variable is Life Expectancy. Even so, experts believe that regional development strategies have a significant influence in terms of production, with Work Productivity receiving the greatest weight. Meanwhile, the percentage of the poor population has the lowest weight of production factors. Regions that have high competitiveness values in West Sumatra Province are more likely to become municipalities. The competitiveness rating of West Sumatra Province is determined more by input factors than by output considerations. This also shows that the input variables are more significant in this province than the output factors.
Moonen et al. (2016) describe that relevant and specific local context information is needed by policy makers to implement efficient, effective, and fair policies for their communities. Therefore, this research contributes to closing the information gap that exists at the local level in Dharmasraya Regency.

To support regional economic development, the development of alternative economic sectors is very important. Selection was carried out using the findings of a stakeholder analysis and a perception survey. Stakeholder perceptions are relevant because regional development must be based on active community involvement, private sector participation, and improved relations between the community and government.

The determination of four criteria for the development of an economic sector is carried out by assessing: (1) the sector is a relatively superior sector in many sub-districts, (2) the sector is a competitive leading sector in many sub-districts. districts, (2) the sector is able to absorb a large number of workers, and (4) the sector is the sector that is most chosen based on the perception of stakeholders. Based on the results of the DEA analysis, it can be concluded that in order to increase regional economic development in coastal sub-districts, the sectors that need to be developed in order of priority are as follows: (1) the agricultural sector; (2) processing industry; (3) trade sector; hotels and restaurants; and (4) electricity; gas; and the water supply sector.

The findings from the fourth hypothesis test are in accordance with previous research (Arnia & Efrida, 2013), which found that the greater the value of the human development index, the lower the poverty rate. The same research finding was reached by (Zuhdiyaty & Kaluge, 2017), who found that the human development index (HDI) had a negative effect on poverty.

Moreover, Badrudin (2012) implies the failure of government policies in poverty reduction. The facts show that efforts to eradicate poverty on a large scale and evenly across all regencies in the past have ended in failure. This is because the plan ignores precise and specific poverty metrics based on certain elements, such as regional economic performance as measured by GRDP, socio-cultural characteristics, and policy and expenditure management. These determinants are very important to increase the effectiveness of the overall development program.

The results show that regional development requires infrastructure (Glinskiy et al., 2017; Krishnasamy et al., 2018; Sutriadi et al., 2015), investment (Ezmale & Rimsane, 2014; Uttama, 2014), and increased human resources for addressing regional disparities (Kumari & Devadas, 2017), and reducing poverty levels. In line with Badrudin (2012), overcoming regional disparities is very dependent on the ability of the region to manage natural resources and existing human resources, supported by technological developments (Anwar, 2014). Regional development requires promotion and investment policies, opening up economic activities, integrating central and regional programs, building mutually inclusive development, and developing cross-country cooperation (Uttama,
Regional development can improve living conditions, increase opportunities for poor areas, and reduce poverty (Lipták et al., 2015).

DEA-based port efficiency improvement is followed by step-by-step selection of benchmarking objectives by Park et al. (2012). DEA is widely used to analyze the effectiveness of port terminals and to develop benchmarking tools. However, this study does not include minimizing the resources required to select benchmarking objectives and does not provide clear guidance on which resources should be prioritized for efficiency gains. To address this issue, they suggest a DEA-based step-wise benchmarking technique that can select benchmarking objectives by assessing input reductions and output expansions, as well as prioritizing resources for efficiency improvements. They proposed a comparative distance minimization model and sensitivity analysis using the DEA approach to achieve this goal. A comparison of 30 major international ports was carried out to demonstrate the efficacy of this method. Industrial applications show that this new technique can be a more realistic and effective comparison tool for terminal ports.

In particular, research on poverty disparities and regional disparities, as well as infrastructure disparities, which focused on factors that drive inequality as well as geographic classification and correlation between dependent and independent variables has been carried out by (Marinho et al., 2017). Casual variables are emphasized as necessary and sufficient conditions that must exist to obtain results on outcome variables that are superior to the results of certain combinations of variables that may occur in the field. Qualitative comparative analysis methods for research on regional poverty and inequality can contribute to and increase knowledge by enabling researchers to see not only correlations between variables, but also comparisons of combinations between variables.

Dharmasraya Regency that has reached the highest level of efficiency is projected to continue to climb towards greater economic growth. Meanwhile, for regions that have not reached the maximum level of efficiency, it is expected to reduce input consumption while increasing output. Although statistically there are differences in the amount of regional original income between Dharmasraya Regency and other Regencies, this is mainly due to differences in the number of natural resources utilized by each region, as well as differences in infrastructure, human resources, social relations, bureaucratization, politics, cultural, and geographical conditions between regions. The existence of disparities in resources and other conditions does not provide obstacles to achieving maximum production. Therefore, it is necessary to take steps to monitor and analyze the use of each input in order to avoid waste, which can lead to inefficiency. It is also important to develop a strategy to allocate revenue generated to sectors that are on track and as needed, to achieve 100% efficiency in the future.

In general, the findings of the DEA-based simulations matched the most critical concepts defined by the participants, which were represented by greater relative weights. This demonstrates the participant’s in-depth understanding of the subject matter as
well as the robustness of the system. Scenarios are described as “reasonable depictions of how the future might unfold based on a coherent and internally consistent set of assumptions. It also represents uncertainty as the range of possible outcomes. In fact, designing randomized control trial experiments along each poverty reduction approach and applying the efficacy of each approach described above using different micro-econometric models may be necessary to establish precise causal pathways of the various poverty reduction approaches.

DEA-based simulation results show that in the context of poverty reduction; high quality community organizations should provide microfinance, improve the capacity of the poor while providing a social safety net for the poor and vulnerable, ensure good governance in community organizations and the institutions that support them, continue to diversify livelihood options, and provide markets for small producers. These findings suggest that the various approaches to poverty reduction are relatively complementary and must be implemented simultaneously to achieve comprehensive poverty reduction. However, compared to market-based alternatives, variables such as a) solid governance within community organizations and supporting institutions, b) high quality community organization-based microfinance, and c) skills enhancement combined with social security; seems to work better. There is a lot of literature on radical approaches such as land reform, decentralization, and poverty reduction that have not been discussed in this study. However, the findings of this study lead to the conclusion that multidimensional poverty reduction requires a multifaceted and integrated approach to poverty reduction. The findings of this study will clearly assist in improving the design, management, and implementation of poverty reduction programs in developing countries.

CONCLUSION

The effect of developing district strategic areas in reducing regional disparities shows the following results: In 2016, 2018, and 2020 showed efficient results, while in 2017 and 2019 showed almost efficient results (0.9990 and 0.9950, respectively) due to the small allocation of investment and infrastructure budgets. The effect of developing district strategic areas on poverty reduction shows the following results: 2016 and 2018 showed efficient results. 2017 and 2019 showed inefficient results (0.8390 and 0.7720, respectively) due to very small investment and infrastructure budget allocations. Moreover, in 2020 it showed results that were close to efficient (0.9440), as evidenced by the small budget allocation for empowering business actors.

Local governments must establish a greater strategic will to overcome poverty. In addition to the availability of resources, budget management also needs to be improved to increase organizational productivity. Efforts to promote good governance must also be carried out simultaneously with poverty reduction efforts. All development actors within the central and local governments, universities, non-governmental organizations, private businesses, and international organizations must also support and participate
in efforts to achieve success. Participation and cooperation are expected to encourage the development of universal views, agreements, and synergies in poverty reduction initiatives due to increased participation and cooperation.

REFERENCES


Kumari, R., & Devadas, V. (2017). Modelling the Dynamics of Economic Development


