POVERTY IN SIAK DISTRICT, RIAU PROVINCE: ITS ISSUES AND CONTRIBUTING FACTORS

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Abstract

This research aims to determine and identify contributing factors to poverty in Siak District based on poverty level guidance. This research took place at Siak District by involving 273 respondents. They are classified into several groups; very poor, poor, near poor and susceptible poor. Multinomial logit is taken as an analysis tool for the research. It describes that poor probability to each level is different and more affected by conditional factors: (i) very poor: land availability and its ownership, weather, infrastructure, public accessibility, size of the family, dependency ratio, asset ownership and job status/level; (ii) poor: social capital and ethnical background; (iii) near poor: land ownership, weather, age, and level of education; (iv) susceptible poor: social isolation, size of the family, asset ownership and job level.

Keywords: Poverty Level, Multinominal Logit, Siak District

1. INTRODUCTION

Poverty associated with the main three concepts (Krisnamurti, 2006) are (1) Poverty itself describes inability of personal or family or social group to fulfill their basic needs, (2) inequality of resource distribution to fill their daily life needs, (3) vulnerability level of personal and group to be poor or worse level condition.

Indonesia Statistical Bureau defines poverty by the condition of people who are consuming less than 2100 calories per capita a day. World Bank defines poverty by the condition of people who are living by less than $1 per day to low income countries, $ 14 a day to high income countries (developed countries) and $2 a day to developing countries.

In another hand, Indonesia Statistical Bureau has different indicators to classify poor family which divided it into 4 categories are susceptible poor, near poor, poor and very poor. The indicators include (1) wide floor of home to each member of family is less than 8 m²; (2) home floor made from soil/wood shelter/low quality materials; (3) home partition or wall made from low quality materials; (4) have no availability of proper discharge infrastructure (lavatory) and its sanitation; (5) have low accessibility to reach sanitary and clean water; (6) have no accessibility to electricity; (7) use wood and charcoal as a main material to home basic fuel; (8) power consuming frequency is less than two times a day; (9) inability to consume meat/chicken/milk in a week; (10) inability to buy a new clothes to each member of family; (11) inability to access of health treatments and services in polyclinic or puskesmas; (12) major field job of family is small farmer/fisherman; (13) low education level (elementary junior school graduate or lower) were obtained by head of household; (14) minimum asset ownership which less than Rp.500.000 or lower.

Each level of poverty has its own listed indicators: (i) susceptible poor is classified to family who fills less than 9 indicators from 14 lists; (ii) near poor is classified to family who fills 9-10 indicators and local indicators; (iii) poor is classified to family who fills 11-13 indicators; (iv) very poor is classified to family who fill 14 given indicators and local indicators.

There are 9 main points of poverty (Simeru in Krisnamurthi, 2006): (1) inability to fulfill primary needs (food/cloth/shelter); (2) have no accessibility to the daily basic needs (health, education, sanitation, clean water and proper transportatation); (3) have no guarantee or future insurance caused by no investment fund to
education and family; (4) individual or mass vulnerability; (5) low quality of human resources and low natural resources; (6) social inclusion; (7) have no accessibility to gain further labor field or proper job; (8) inability to work caused by physical or mental disorder; (9) disadvantage of social condition.

The general issue of poverty is linked to the low accessibility of natural resources. Accessibility is the main opportunity to create and boost production process. Access limitation involved the access to own technology in their hand, information, credit, health treatments and services, energy resources and telecommunication. Todaro and Smith (2006) define the cause of poverty by various limitations are; (i) scarcity of job opportunities; (ii) restricted accessibility to production factors; (iii) low level of asset ownership.

Based on case study research in Semarang Central Java, Ningsih (2011) claims that characteristic of urban poverty in Semarang caused by several factors are; low education level (elementary school or lower) were obtained by head of household and generally their field work major is farmer and they are responsible for more than 3 members of the family. In addition, there is inequality distribution of fund assistance to poverty group. In another hand, cultural dimension value, they show difference which poor people have positive cultural values include philosophy of life, positive work values, well time management and the harmonic relation between human and nature. In addition, Raihana Kaplale (2012) asserts that contributing factors to poverty dominated by several issues are; low productivity of land and plant, minimum access for further labor fields, low education level, high dependency level to natural resources or local resources, high cost of tradition or ritual process and limited access to capital (cash).

State Ministry of National Development Planning (BAPPENAS) defines poverty by several indicators which are; (1) low availability and quality of foods, (2) low quality and low accessibility to health services and treatments, (3) low quality and low accessibility to educational services, (4) job opportunities restrictiveness, (5) low level of coverage to business assets and existing income gap, (6) low accessibility to own home living and proper sanitation, (7) low accessibility to consume clean water, (8) low coverage of land ownership, (9) low quality of life environment and limit access of natural resources, (10) low coverage to self safety, (11) low level of involvement or participation, (12) higher load of demography, (13) low quality of good governance caused inefficiency and ineffectifity of public services, high corruption and low social insurance.

Most implemented poverty reduction program in Indonesia run under the flagship of Millenium Development Goals (MDGs). Through the program many projects and efforts dedicated to whom are living by less than $1 a day. MDGs focused on poverty alleviation upon the social development and economic development. Implemented program through MDGs was finished on 2015. However in some particular sectors of MDGs did not offer any advance or optimal progress. Based on various research started by 2013 to 2015 the number of dead mother and number of a dead baby in developing countries remained high by 1: 48 of the birth process. It means the number still dominated by 99% compared to developed countries by 1: 1800 of birth (Kaslam, 2015).

There is a further program to optimize previous MDGs through Sustainable Development Goals (SDGs) starts by 2016 to 2030 and hold 17 goals. The main priority of program engaged in human development which stands on three pillars is (i) education, (ii) health, (iii) environmental development (United Nation, 2015). The goal of human development is linked to long term alleviated poverty program which focuses on increasing the quality of education, health, and human life environment.

Based on data since 2006 to 2011 poverty ratio in Siak was declined. Its trend was in line with development in both province and national level. However, the percentage of poverty reduction trend in Siak seems not optimal. It was descried by 5.45% in 2006 and 5.29% in 2011. By percentage, it was declined but by the real potrait in the field many people whose have been living poor remained high. More details can be seen in Figure1.
Based on the census was held by PPLS in 2011 poverty level in Siak is classified into 4 categories: very poor (first group), poor (second group), near poor (third group), susceptible poor (fourth group) which composed by 17,300 family groups. PPLS’s data census is used as poverty data guidance by National Team for The Acceleration of Poverty Reduction (TNP2K) in Siak District, Riau Province. While in field implementation TNP2K was minimized the previous categories to three main categories (I,II,III), which the fourth group is expelled. More details can be seen in Table 1.

Table 1 shows the highest number of poor stands to susceptible poor (fourth group) composed of 9,375 family groups. In another hand, the lowest number of poor stands to very poor (first group) composed of 2,618 family groups. The details are described in Table 2.

Table 2. Number of Individual Poor in Siak District

<table>
<thead>
<tr>
<th>No</th>
<th>Kecamatan</th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minas</td>
<td>2,430</td>
<td>1,625</td>
<td>1,329</td>
<td>3,423</td>
</tr>
<tr>
<td>2</td>
<td>Sungai Mandau</td>
<td>122</td>
<td>148</td>
<td>190</td>
<td>783</td>
</tr>
<tr>
<td>3</td>
<td>Kandis</td>
<td>1,565</td>
<td>1,235</td>
<td>1,168</td>
<td>3,036</td>
</tr>
<tr>
<td>4</td>
<td>Siak</td>
<td>686</td>
<td>491</td>
<td>520</td>
<td>1,344</td>
</tr>
<tr>
<td>5</td>
<td>Kerinci Kanan</td>
<td>637</td>
<td>634</td>
<td>794</td>
<td>2,432</td>
</tr>
<tr>
<td>6</td>
<td>Tualang</td>
<td>4,330</td>
<td>3,765</td>
<td>3,381</td>
<td>7,739</td>
</tr>
<tr>
<td>7</td>
<td>Dayun</td>
<td>589</td>
<td>484</td>
<td>379</td>
<td>1,113</td>
</tr>
<tr>
<td>8</td>
<td>Lubuk Dalam</td>
<td>481</td>
<td>527</td>
<td>632</td>
<td>2,005</td>
</tr>
<tr>
<td>9</td>
<td>Koto Gasib</td>
<td>781</td>
<td>944</td>
<td>710</td>
<td>2,740</td>
</tr>
<tr>
<td>10</td>
<td>Mempura</td>
<td>442</td>
<td>316</td>
<td>388</td>
<td>1,420</td>
</tr>
<tr>
<td>11</td>
<td>Sungai Apit</td>
<td>1,755</td>
<td>1,480</td>
<td>1,036</td>
<td>2,811</td>
</tr>
<tr>
<td>12</td>
<td>Bunga Raya</td>
<td>1,279</td>
<td>951</td>
<td>679</td>
<td>1,968</td>
</tr>
<tr>
<td>13</td>
<td>Sabak Auh</td>
<td>473</td>
<td>275</td>
<td>325</td>
<td>1,088</td>
</tr>
<tr>
<td>14</td>
<td>Pusako</td>
<td>446</td>
<td>320</td>
<td>239</td>
<td>486</td>
</tr>
<tr>
<td>Total</td>
<td>16,016</td>
<td>13.19</td>
<td>11.77</td>
<td>32.38</td>
<td></td>
</tr>
</tbody>
</table>

Source: BAPPEDA Siak District, 2013

It seems similar number among the poor family group and individual while susceptible poor (fourth group) is the highest by 32,388 persons. By the whole number of the private individual who are living poor in Siak District reach 73,369 persons. Even the trend was a decline in the previous years but it does not mean implemented program is successful to boost poverty reduction.

Poverty Alleviation program both in national and local levels hold its barriers, especially in field implementation. Along the running program, the plan pro poor projects tends to focus on the economic point of view and aside the others. People are located as an object rather than a subject of development while it also ruins the empowerment principle.

One of the contributing factor cause unoptimal outcomes of the poverty program is “Top-Down” approach by minimizing the size of local government’s involvement in policy formulation. “Top-Down” strategy program
reputed fails to reflect a regional and local gap in Indonesia. As a consequence, there are high failures of the program to aim its goals and moreover, the worse thing is that the program can be stopped immediately in the middle of the process.

Mostly program is approached by state driven and money driven formula to serve the people and community. Fund assistance and social mobilisation are moved by people empowerment campaign. In another hand, political will affects the successful and sustain the agenda of poverty alleviation. While strong political and personal capture can stimulate a vulnerability of the program and its goals. The most important thing needed in sustaining the poverty program is consolidation and political institutionalization (Eko, 2012).

Based on the previous explanation then Local Medium Term Development Plan (RPJMD) in Siak District in term of 2011-2016 enclose the main mission to poverty reduction program by empowering people centered economic (ekonomi kerakyatan), empowering village economy, maximizing the labor sectors, controlling demography and creating an equal economic distribution. More details about the missions described by the following goals are: 1) increasing level of social wealth in people 2) establishing equal distribution, 3) increasing level of economic wealth in rural, 4) establishing people centered economy and boosted small medium enterprise, 5) establishing local economic enterprise as a main vital support, 6) increasing number of labor fields and higher quality of human resources, 7) increasing labor wealth standards and its services, 8) establishing good and proper administration of demography and local civils, 9) Mapping civils based on age, gender, profession, its spread, 10) establishing proper civils data information and management.

Siak government has been implementing several project under the flagship of poverty reduction program including fund supply to distribute rice assistance to poor, fund supply to support the implementation of National Programme for People Empowerment (PNPM), establish oil palm land to people, local productive economic business (UEP), rural credit based on business platform (UED-SP), empowerment program for people by group mobilization (POKMAS), cheap market, fund assistance to local group business (KUBE), establish agribusiness program and the following projects. In another hand, considering the type of people in Siak District, they do not only need more direct fund from the program, but also the following projects and strategies that can stimulate them to be more involved and create progressing results.

Welfare economics is a rational process to free people from any constraint to gain progressing results. Social welfare can be measured by several factors: levels of living, basic needs fulfillment, quality of life, and human development. In addition, Amartya Sen (1992) asserts capability approach to the measure of living standarts. He said, "the freedom or ability to achieve desirable "functionings" is more importance than actual outcomes" (Sen, 2002).

Nicholson (1992) claims that the main principal of social wealth is the maximum condition where nobody loses from the social transaction. While Bornstein (quoted in Swasono) proposes performance criteria in measuring social welfare by considering several values: output, growth, efficiency, stability, security, inequality, and freedom which have to be correlated to social preference. In another opinion, Etzioni (1999) asserts about personal privacy by adding privacy as a social license. It means private privacy is a further mandate from people/group and it is bounded by social guidance and regulation. Thus, individual position as the social creature must be highlighted in the economy, especially in the process of economic development and create social wealth.

Dye and Thomas (2005) propose that people welfare in middle-low class can be represented by their life indicators include decreasing the number of poor, increasing their quality in health services and threatment, increasing the level of education, increasing the number and quality of production. Those cover an indication progressing result to mid-low class. More specific Todaro proposes explanation by calculation formula as follows: \( W = f(Y, I, P) \). \( Y \) means income per capita, \( I \) mean imbalance/unequal, \( P \) means absolute poverty. The variable difference is significant, thus requires the detail calculation in sizing welfare.
Siak District has a potential of natural resources, proper fiscal budget to support its growth above the average of national growth. But in another side, a number of poor remains a high especially susceptible poor group. Thus, stressing focus on the complication of a poor family in the frame of the macro economy and endowment factor in Siak Distrik trigger the author to elaborate more deeply. The main purpose of the research is to analyse the contributing factors to poverty in Siak District relies on their poor level.

2. RESEARCH METHODOLOGY

Siak District is taken as a main location object of research according to several considerations. First, Siak is one of the district in Riau Province which remains has a high number of poor while in another hand its potential natural resources were huge, thus in the era of decentralization it gains higher local revenues. In addition, pragmatical reason also includes by considering the content of RPJM Siak District by 2011-2016 enclose the main mission to poverty reduction program by empowering people centered economic (ekonomi kerakyatan), empowering village economy, maximizing the labor sectors, controlling the load of demography and creating an equal economic distribution.

This research uses purposive sampling in considering the number of poor families. Some villages represent location with the highest list number of poor and anothers represent location with the lowest list number of poor. Ten samples or respondents will be taken as random sampling to each category of poor family in each village. It covered very poor, poor, near poor and susceptible poor by conditionality if one village has less than 10 of a poor family in each category. Thus, all of them will be taken as a sample object. The details about the village are described in Table 3.

Accumulative data methods use both survey and documentation. Survey is informal tools to gather any pieces of information and identify the highest proportion by the direct meeting to the respondents. Survey is supported by questionaires and it requires to elaborate some points:

a. Description about the poor family’s characters in Siak District

b. An analysis of the contributing factors affected to the existence of poor family in Siak District

c. Implication of policy tools and formulation to increase poor family’s life quality

<table>
<thead>
<tr>
<th>No</th>
<th>Region</th>
<th>Poor Categories</th>
<th>Villages</th>
<th>Number of Poor Family (Head Family)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Urban</td>
<td>Poor</td>
<td>Perawang</td>
<td>1146</td>
</tr>
<tr>
<td></td>
<td>Kecamatan Tualang</td>
<td>Fair</td>
<td>Pinang Sebatang Barat</td>
<td>301</td>
</tr>
<tr>
<td>2</td>
<td>Agriculture</td>
<td>Poor</td>
<td>Jatibaru</td>
<td>232</td>
</tr>
<tr>
<td></td>
<td>Kecamatan Bungaraya</td>
<td>Fair</td>
<td>Suak Merambai</td>
<td>33</td>
</tr>
<tr>
<td>3</td>
<td>Plantation</td>
<td>Poor</td>
<td>Kerinci Kanan</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>Kecamatan Kerinci Kanan</td>
<td>Fair</td>
<td>Buana Bhakti</td>
<td>39</td>
</tr>
<tr>
<td>4</td>
<td>Pesisir</td>
<td>Poor</td>
<td>Penyengat</td>
<td>227</td>
</tr>
<tr>
<td></td>
<td>Kecamatan Sungai Apit</td>
<td>Fair</td>
<td>Harapan</td>
<td>32</td>
</tr>
</tbody>
</table>

Secondary data are choosen from multiple documents and notes related to the topic. The documents involve data from Regional Work Unit (SKPD) Siak District especially the description data about poor family problems and its spread.

Then analysis method inserts and relies on Multinominal Logit based on poor’s level status in Siak District. Chosen Method considers about more than two categories to each probability and it was mutually exclusive. Kim and Kim (2011) made reference to McFedden (1975) assert that Multinominal Logit Model developed by logit model which responses of each variable exerts various categories by including every poor, poor, near poor, and susceptible poor. Prinzie and Poel (2008) support the previous statement by assert that multinominal logit model is designed to interpret various responses of the variable, especially the relation among relative variable and expalanatory variable. More details into the following determinant formula:
\[ Y_i = \alpha + \beta_1 D_{i1} + \beta_2 X_{i1} + \beta_3 D_{i2} + \beta_4 D_{i3} + \beta_5 D_{i4} + \beta_6 D_{i5} + \beta_7 D_{i6} + \beta_8 D_{i7} + \beta_9 D_{i8} + \beta_{10} X_{i2} + \beta_{11} X_{i3} + \beta_{12} D_{i9} + \beta_{13} D_{i10} + \beta_{14} X_{i4} + \beta_{15} X_{i5} + \beta_{16} X_{i6} + \beta_{17} D_{i11} + \beta_{18} X_{i7} + \epsilon_i \]

**Dependent Variable** consists of 4 variables as follow:

a. Y1: Very Poor
b. Y2: Poor,
c. Y3: Near Poor, dan
d. Y4: Susceptible Poor.

**Independent Variable** consists of 18 variables as follow:

a. D1, Isolation
b. X1, Land Ownership
c. D2, Weather
d. D3, Leadership
e. D4, Equality
f. D5, Infrastructure
g. D6, Distribution
h. D7, Accessibillity
i. D8, Social Capital
j. X2, Family Size Ratio
k. X3, Dependency Ratio
l. D9, Gender
m. D10, Asset Ownership
n. X4, Age
o. X5, Level of Education
p. X6, Job Status and Level
q. D11, Health Status and Level
r. X7, Ethnical Background

3. **RESEARCH OUTCOMES**

Multinomial Logit describes various and conditional types of poverty in Siak District. It covered the variables and its number. More details are described in Table 4.

Very poor seem more vulnerable to some particular factors are the availability of land, weather, infrastructure, public accessibility, family size, dependency ratio, asset ownership and job status/level. While poor category more affected by social capital and ethnical background. Near poor dominated by the issue of land availability and ownership, weather and level of education. While susceptible poor dominated by isolation, family size, asset ownership and job status/level.

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Very Poor (ME)</th>
<th>Very Poor (P Value)</th>
<th>Poor (ME)</th>
<th>Poor (P Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Isolation</td>
<td>-0.001</td>
<td>0.988</td>
<td>-0.001</td>
<td>0.980</td>
</tr>
<tr>
<td>2</td>
<td>Land Availability and Its Ownership</td>
<td>0.060</td>
<td>0.030**</td>
<td>0.025</td>
<td>0.415</td>
</tr>
<tr>
<td>3</td>
<td>Weather</td>
<td>-0.085</td>
<td>0.045**</td>
<td>-0.048</td>
<td>0.284</td>
</tr>
<tr>
<td>4</td>
<td>Leadership</td>
<td>-0.010</td>
<td>0.851</td>
<td>-0.005</td>
<td>0.918</td>
</tr>
<tr>
<td>5</td>
<td>Equality</td>
<td>-0.040</td>
<td>0.386</td>
<td>0.038</td>
<td>0.365</td>
</tr>
<tr>
<td>6</td>
<td>Infrastructure</td>
<td>-0.111</td>
<td>0.023*</td>
<td>-0.011</td>
<td>0.809</td>
</tr>
<tr>
<td>7</td>
<td>Distribution</td>
<td>-0.024</td>
<td>0.597</td>
<td>-0.033</td>
<td>0.487</td>
</tr>
<tr>
<td>8</td>
<td>Accessibility</td>
<td>0.068</td>
<td>0.094**</td>
<td>-0.015</td>
<td>0.739</td>
</tr>
<tr>
<td>9</td>
<td>Social Capital</td>
<td>0.006</td>
<td>0.888</td>
<td>-0.108</td>
<td>0.032*</td>
</tr>
<tr>
<td>10</td>
<td>Family Size</td>
<td>0.049</td>
<td>0.001**</td>
<td>0.018</td>
<td>0.245</td>
</tr>
<tr>
<td>11</td>
<td>Dependency Ratio</td>
<td>-0.078</td>
<td>0.001*</td>
<td>-0.006</td>
<td>0.772</td>
</tr>
<tr>
<td>12</td>
<td>Gender</td>
<td>0.002</td>
<td>0.962</td>
<td>0.032</td>
<td>0.468</td>
</tr>
<tr>
<td>13</td>
<td>Asset Ownership</td>
<td>-0.087</td>
<td>0.063**</td>
<td>-0.058</td>
<td>0.211</td>
</tr>
<tr>
<td>14</td>
<td>Age</td>
<td>-0.001</td>
<td>0.520</td>
<td>-0.001</td>
<td>0.622</td>
</tr>
<tr>
<td>15</td>
<td>Education</td>
<td>-0.017</td>
<td>0.418</td>
<td>-0.025</td>
<td>0.254</td>
</tr>
<tr>
<td>16</td>
<td>Job Status and Level</td>
<td>0.064</td>
<td>0.009**</td>
<td>0.005</td>
<td>0.838</td>
</tr>
<tr>
<td>17</td>
<td>Health Status and Level</td>
<td>0.025</td>
<td>0.537</td>
<td>0.049</td>
<td>0.254</td>
</tr>
<tr>
<td>18</td>
<td>Ethnichal Background</td>
<td>-0.024</td>
<td>0.290</td>
<td>0.062</td>
<td>0.007*</td>
</tr>
</tbody>
</table>

Source: Processed Data, 2015. Exp: * significant at level 5%; ** significant at level 10%

3.1. **Very Poor Family Group**

Land availability and its ownership factor have been positively affected by the marginal effect to 0.060. It means respondent with no land ownership can be classified in increasing potential to be poor by 0.060. Based on statistical data by the average very poor family group has no land ownership. Inavailability or inability in land ownership makes them less productive, thus, their profession restricted into farm labor. While more opportunity to own land can stimulate them in raising income.

Previous research belongs to Chaudry et all (2009) claim that land ownership as the main factor to expel both poor family and private from poverty. Characteristic of land availability is measured by wide of the land size owned by the family. According to the research, the highest number of poor stands to whom has no land ownership by 58.3%. 27.1% represents family whose owned the land by 1-1.5 ha. They found poverty size close to 18.9 % means the number of the family has no land ownership.
An unequal form of benefits shares in agribusiness brings them to be poorer. The form relies on negotiating process among land owner and labor. White and Wiradi assert that profit share is not only represented by equal number/nominal but also in some cases labor can gain 1/3 from the whole profit they worked for. In another opinion, Scott (1972) claims that ex colonial region in South East Asia creates a wide gap among the land owner and it brings impact to the balance of exchange disparities. Scott makes the stressing point that in some rurals region exist wider gap, moreover the labor welfare is strongly dependent on landing owner policy.

While weather factor has a negative slope to very poor family by marginal effect close to -0.085. It defines that good weather (rain, temperature, sunlight) invite the labour to raise income, increase their productivity and invite more demand of labor. Iyer and Topalova listed rain rate as the main factor affected family welfare. (Dell et all 2014). Less rain rate invites less productivity and less income. In the end, it brings family into poor or worse condition.

On the other hand, infrastructure also has a negative slope to very poor family by marginal effect close to 0.111. It indicates that increasing infrastructure will decrease their potential to be poorer. Increasing quality and quantity of infrastructure in the region will invite more accessibility to economic resources. Infrastructure can be measured by the availability of roads, irrigation pipelines, bridges and supporting buildings which connected them to the market. The more connection they made to the market, thus the more potential to be expelled from poor. Increasing demand for goods and services invites more demand for labor, productivity, and income.

Sawada et all (2010) inserts probit model in their previous research to investigate and compare correlation in employing irrigation pipelines both in the rainy season (Maha) and dry season (Yala). The research delivers an explanation that irrigation system can reduce poverty by increasing permanent income and minimize the risk of transitory poverty through their spending budget. In other words, the irrigation system can reduce the potential of harvest failures in a long term dry season and high rainy season.

Similar to Sawada, Hulten et all (2006) propose about the importance of infrastructure to the effort of poverty reduction. Since 1972 to 1992 was infrastructure massive development era in India and it took sollow growth model as guidance. Massive infrastructure covered roads and electricity lines as the main program. It invites more demand of labor and capital circulation. In addition, it also boosts the existence and number of manufacturing industries. It means there is a strong correlation between infrastructure and poor people by connected them to the market. Growth impact from massive infrastructure has a positive slope to raise income and bring them to get more wealth. Premise explanation also similar to Besley and Burges (2003).

Winters (2014) supports the previous argument by assert that infrastructure quality is a vital part of the process of wealth transmission. Infrastructure facilities are interconnecting people by means it also interconecting their economic cycle and giving a chance to create international trade. Infrastructure can raise income by specialization, boost economic scale, and in the end, it will stimulate to create full employment. Shortly, the main purpose of infrastructural development is in line with poverty reduction.

Public accessibility has a positive slope to poverty by its marginal effect value close to 0.068. It means increasing number of public accessibility possibly raise poverty rates. The closer they are to the public facility means closer they are to be poor. It relies on their characteristic of spending budget. In other words, the existence of public facilities will lead to a behavioral change of consumption. Public facility existences include hospital, government administration office, and the modern market will raise their consumption. Easier accessibility means an easier way to spend more expenditure. Moreover, an expensive transportation to hold public facilities also brings them to be poorer.

Canto et all (2014) assume that there is a strong correlation between poverty and people health. Poor people are potential to be sick and vulnerable to the spread disease because of less nutrition and their inability to get closer into health treatments and services. Low food accessibility also contributes to raising poverty. Thus, they claim that friendly cost
Transportation must be implemented at the first in supporting the works of public and food facilities.

Family size also has a positive slope to poverty by marginal effect value close to 0.049. It describes the bigger size of a family member is more vulnerable to be poorer than smaller size of a family member. The bigger size of a family member means more costly and more unable to fill their daily needs properly. Most respondents work as a small fisherman and farm labor without contract support, thus, they can not raise their salary. Imbalance limit salary to cover high cost needs brings them to be poorer.

Dependency ratio has negative slope by marginal effect value close to -0.077. It means increasing dependency will decrease their potential to be poorer. Dependency ratio value can be obtained from comparing a number of a family member with a job to the member without a job. In the case of this research, a number of a family member with the job more than a member without a job, thus probability to be poorer is decrease. Work participation ratio is one of a component of employment. Iyer and Topalova (2014) propose that work participation ratio is significantly affected to decrease poverty number. It means a number of family member belong to the job, it gives bigger chance to raise income and fill their proper daily needs. Shortly, by gradual, it will decrease the number of poor.

Asset ownership has a negative slope to very poor family by marginal effect value close to – 0.087. It means the more they gain and own asset it potentially decreases their vulnerability to being poorer. It similar to Beverly and Stephan (2014) who argue that a number of asset and capital can help poor in gradually to leave poverty.

In a life cycle hypothesis is explained that individual tend to gain and accumulate their capital as long as they belong to a job with a maximum income then they will spend it in retired time. It means saving asset can help them to survive when they are no longer belong to the job and it potentially decrease to be poor.

Job status has a positive slope to very poor family by its marginal value close to 0.064. Mostly respondents work as freelance farm labor with few salary and burden for the unbalancing cost to fill their daily needs. Thus, they can be poorer.

Tambunan mentions several reasons behind the high poverty phenomenon in the agricultural sector. First is low productivity of farm which the number of labor farmer more than the size of land, capital, and technology, thus their low income in line with low productivity. Second, their education level is average low which urban area cover 5.5 years and rural cover 4.3 years. Low education level has correlated to low creativity of farmers and it caused low employment rates.

3.2. Poor Family Group

Social capital has a negative slope to the poor family by marginal effect value close to – 0.108. It describes that respondents whose handling social capital better than respondents whose not. Listed social capital includes trust and social networks which can help them leave poverty. Social capital stimulates them to be more linked to the community thus they gained bigger chance to raise income by wider networking, open for the business chance, get a better job and also open for better information.

Walby (2009) claims that poverty is dynamic and complex, thus social capital is highly demanded to insert in this case. Christakis and Fowler (2010) also mention that listed social networking as a family, friendship, and informal worker communities are vital to be improved and developed. Halpem (2010) also supports the argument and listed social capital as a vital asset owned by an individual. Social capital can help them in sharing profit, information, and idea. Thus, social capital invites for both social and economic advantages.

In another hand social capital is easier in theory than its practice. Brook Lyndurst Consultancy (2010) claims that the practice of social capital relies on culture, local values and norms of believe in society, thus, the practical can be vary to each society. It also related to the ethnical background which its marginal effect value close to 0.062. Most dominated ethnic can be found in this research is Melayu by means their potential to be poor is higher than other major ethnic such Jawa and Batak. Mostly people in Melayu ethnic group in this research are found as poor and low education level.
Glichrist dan Kyprianou (2011) insert ethnical background as main part of culture, history, and language. Goodhart (2004) quoted in Putnam (2007) add that multivarious ethnical background will cause lower charge of social capital than the monoethnical background. DCLG (2010) supports through his research. He found that culture is inevitable relation existed in the community. His previous research proves that British were not linked to the other ethnic except their own. They deny for more complex interaction and integration thus, there was low interaction among ethnical groups, low assimilation of value/culture and low share information.

Table 5. The Outcomes of Multinominal Logit to Near Poor Group and Susceptible Poor Group

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Near Poor</th>
<th>Susceptible Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ME</td>
<td>P Value</td>
<td>ME</td>
</tr>
<tr>
<td>1</td>
<td>Isolation</td>
<td>0.003</td>
<td>0.960</td>
</tr>
<tr>
<td>2</td>
<td>Land Ownership</td>
<td>-0.070</td>
<td>0.035*</td>
</tr>
<tr>
<td>3</td>
<td>Weather</td>
<td>0.053</td>
<td>0.076*</td>
</tr>
<tr>
<td>4</td>
<td>Leadership</td>
<td>-0.032</td>
<td>0.602</td>
</tr>
<tr>
<td>5</td>
<td>Equality</td>
<td>-0.036</td>
<td>0.511</td>
</tr>
<tr>
<td>6</td>
<td>Infrastructure</td>
<td>0.008</td>
<td>0.873</td>
</tr>
<tr>
<td>7</td>
<td>Distribution</td>
<td>-0.016</td>
<td>0.785</td>
</tr>
<tr>
<td>8</td>
<td>Accessibility</td>
<td>-0.075</td>
<td>0.174</td>
</tr>
<tr>
<td>9</td>
<td>Social Capital</td>
<td>0.004</td>
<td>0.946</td>
</tr>
<tr>
<td>10</td>
<td>Size of Family</td>
<td>0.001</td>
<td>0.945</td>
</tr>
<tr>
<td>11</td>
<td>Dependency Ratio</td>
<td>0.029</td>
<td>0.221</td>
</tr>
<tr>
<td>12</td>
<td>Gender</td>
<td>0.036</td>
<td>0.500</td>
</tr>
<tr>
<td>13</td>
<td>Asset Ownership</td>
<td>-0.001</td>
<td>0.982</td>
</tr>
<tr>
<td>14</td>
<td>Age</td>
<td>0.005</td>
<td>0.031*</td>
</tr>
<tr>
<td>15</td>
<td>Level of Education</td>
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<td>0.006*</td>
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<tr>
<td>16</td>
<td>Job Status</td>
<td>0.014</td>
<td>0.624</td>
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<tr>
<td>17</td>
<td>Health Status</td>
<td>0.001</td>
<td>0.983</td>
</tr>
<tr>
<td>18</td>
<td>Ethnical Background</td>
<td>0.003</td>
<td>0.908</td>
</tr>
</tbody>
</table>

Source: Processed Data, 2015. Exp: * significant at level 5%; ** significant at level 10%

3.3. Near Poor Family Group

Land availability has a negative slope to near poor family by marginal effect close to 0.070. It describes that no land factor affect their probability to be poor decrease to 0.070 percent. Major respondents of this group are not only involved in farm sector but also in service sectors include a builder, mechanical worker, porter at the traditional market to gain higher income.

It is similar to the previous research belongs to Both (2004) which asserts that narrow land will encourage them to hand another job outside farm sector and gain a higher salary. Mostly respondents are freelancer labor both in the farm sector and outside because farm sector tends to create temporary work terms based on the kind plantation of farmer investment.

Weather shows positive slope too by marginal effect value close to 0.053. It means that unsupported weather causes the bigger potential to them to be poorer. In this research, mostly respondents spread on some work function such fisherman, rubber plantation labor, oil palm farmer labor which that kind of job far away from good accessibility and supporting infrastructure. In another hand, those jobs rely on the weather. Here, the weather has a strong point to affect their economic cycle through productivity. Duflo and Pande (2007) offer a solution by creating barrage solution in water management. Thus, water management can be the solution to boost productivity when the weather changes.

Iyer dan Topalova (2014) propose different argument by the claim that there is a weak direct correlation among weather and poverty. Poverty tends to be measured through lowest income distribution. High rainy season only transmits its effect to their model of consumption and it always in line with income. Low productivity caused by bad weather and the season will encourage them to deliver crime scene action to cover their lower income of current job. Cole et al. (2012) propose that high rainy season create potential disaster to farm sector such a flood and it affects to harvest failures or lower productivity output and of course it affects their income. Shortly, they have not linked among weather and poverty, but they tend to build a link between weather and income.

Weather is not only cover both dry and rainy seasons but also about temperature changes which contribute to farm productivity. In the previous research belongs to Dell et all (2012 and 2014) were taking location in India,
he found that temperature changes affect to whole farming production. Riau as taken location of this research is a region with high potential for fire attack for years, especially in the wild forest or land. Fire and its hot smoke ruin local economy and even the daily activities of local people. It assumes as causing reason to lower income and create potential growth number of poor.

Age has a positive slope to near poor family group by its marginal effect value close to 0, 0005. Work involvement rates affected by age and its cycle. Type of their informal major job such as farm labor, fisherman, and oil palm labor is highly required for physical appearance and strength. It describes increasing age is contribute to the growth of poor. The older they mean the lower ability to do more productive and it brings impact to their lower income.

Chaudry et all (2009) argue the previous statement. He said that the role of head family’s age affects the condition of a whole family member. In his previous research he found that poor rates and its level indicate to be lower when the head of the family is in a proper condition (more mature age), handle more job experiences and higher achievement of income. It was quite different with this research outcome based on a different kind of object. Major respondent of research is farm labor by means their life cycle relies on physical strength and age.

In other hand increasing the age to respondent whose handling worked force will encourage them to be more active and productive. Galadima (2014) implies that worked force productive group among 20-65 years old by average on 40 years old. It indicates that they remain to have an active involvement and maximum ability to work. Age distribution in this research has affected to IFAD – CBARDP program which purpose to serve and deliver a better life through following projects.

The level of education has positive slope too by its marginal effect value close to 0,0067. Major education level to respondent is dominated by the elementary junior graduate. It means that potential to be poorer is higher than respondent whose handling a higher level of education. Human capital can be built both physic and non-psychic investment. The physic investment includes factory buildings, employee residents/houses, instruments, and materials. While non-physic investment includes education, training, migration program, health treatments and services and labor fields. In other words, the non-physic instrument also namely human resource investment while in return they gain a cost by return called wages or income. Sawada et all (2010) imply that head family whose gain a higher level of education and age level tend to gain better use and operation of irrigation pipelines.

They also make stress point to the role of education to wealth level. They assume that head family whose gain a higher education is highly more demanded to the higher position level of the job. It means that higher education contributes to raising an income and potential to decrease the poor number in the rural.

Raihana Kaplale (2012) supports the previous statement by asserting the importance of education level to decrease poverty. Shortly, her previous research mentioned about contributing factors of poverty and put education level as one of the vital reason of the poverty existence. Beside she adds the factor of lower productivity, narrow labor fields, highly dependent on natural resources, higher tradition cost and limited accessibility to handling cash.

3.4. Susceptible Poor Family Group

Isolation positively contributes to its marginal effect value close to 0,111. It indicates that respondent whose living at isolation region is potential to be poorer or worse. In other words, they are more susceptible to be very poor because of limited access. It similar to previous research belongs to Cate et all by put Papua New Guinea as taken location of research. Papua New Guinea is a region that has a lot of isolated places by its natural contoure. It caused to the minimum accessibility of transportation, public services, and limited labor fields. Those conditions make people who lived there remain poor.

In another hand, the size of the family has negatively impact to them by its marginal effect value close to – 0,0069. It indicates that respondent with bigger size of the family will decrease their potential to be poorer. The bigger size of the family means more members whose handling jobthus they could raise and gather income to fill their daily needs.
While dependency ratio is also low and it was unsignificantly affected to this group. It is caused by more member of the family involve to the labor fields and there is no age limitation to work, especially in the farm sector. Galadima (2014) also points out that family group highly depends on working participation program that was held by IFAD-CBARDP to improve their life quality which focused on individual assistance to whom work in the farm sector.

Chaudhry et all (2009) propose that poverty can be measured based on the internal condition of the family by calculated their living cost based on the number of family member. Based on this research can be found that susceptible poor family close to the family with 7-8 members or there is 4 % family whose include to the susceptible level of poor from total population. Then 26 % represents family whose handling cost more than 8 members.

Asset ownership also has a positif impact to this group by its marginal effect value close to 0,146. It means a higher number of asset ownership will decrease their potential to be susceptible poor. An asset can be mentioned as a long term capital survival. But it will be different when increasing asset also boosts of increasing consumption. When consumption rate is uncontrolled, then increasing asset would change their life style and can be sensitively brought them into poor. It is different with the susceptible poor family close to the family by calculated their type of job outside farm sector to be more vary type of job beside farmer/farm labor. The more vary type of job outside farm sector to be offered can diminish unemployment. Thus, they can raise more income.

4. CONCLUSIONS

Siak Distrik has the conditional type of poverty which is each level and status of poverty has its own specific contributing factors. The very poor family group is more affected by land ownership, weather, infrastructure availability, public service accessibility, asset ownership and job status. While the poor family is only dominated by social capital and ethnichal background. It is different to near poor group that holds more complexity factors include land availability, weather, age level and level of education. While the susceptible poor group is more sensitive to isolation, the size of family, asset ownership, and job level.

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