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Wetland Conversion in Indonesia: Determinant Factors, Impact on the National Food Availability, and Its Solutions

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Abstract. Wetland is one of the production factors which non-replaceable for rice cropping. Rice not only has a strategic role in food security, but also in economic security, and national politics. Wetland conversion phenomenon that occurs not only adversely affect the availability of food, but also to the socio-economic and environment. Analysis of the wetland conversion phenomenon in Indonesia are important, especially regarding the determinant factors, the impact of wetland conversion to national food availability, and the solutions that can be offered to overcome, both technically and systemic solutions. It was simultaneous equations econometric model, estimation model was using 2-Stage Least Square (2-SLS) method. Types of data used were secondary data (time series) of the year 1990-2010. Wetland conversion data were disaggregated by Java and outside Java. Recommendations that can be offered, i.e.: focussing development should be directed to the outside Java to make it more equitable and fair; optimizing the potential of existing rice land, and applicating the law firm. This wetland conversion issues must be addressed in *'holistic-integrated-systemic'*. There should be repositioned state paradigm. Political economy shows the function of the state and its political will in creating a fair, independent, prosperous and leading society civilization.

Keywords: determinant factors, food availability, land conversion, leading civilization, systemic solutions

1 Introduction

Wetland has a strategic function because it is a major provider of food for the Indonesian people, as well as the biophysical environment optimal for rice crops. Statistics data show that wetland in Indonesia (not included in Maluku and Papua), recorded in 1980 covering an area of 7.7 million hectares. In 1990 the wetland increased to 8.3 million hectares. During the years 1980-1990 the wetland tended to increase by 7.86%, whereas in 1990-2000 decreased by 9.41%. These was due to the occurrence of wetland conversion, resulting in an area of 0.8 million ha of wetland in a decade. Area of wetland in 2009 recorded 8.1 million hectares, which meaned an increase of 7.08% over 2000-2009. The extent of the increase was possible because of not taking into account the conversion of wetland as a result of the rapid development (Wahyunto, 2009). If disagregated by area, then the area of the existing wetland in Java around 40.33%, and the remaining 59.67% are outside Java (BPS, 1981-2011). Wide growth rate of wetland in Java and outside Java in recent years is presented in Table 1.

Table 1 The growth rate of wetland in Java and outside Java, 2005-2009 (%)

Wetland Types	The Growth Rate of Wetland per Year (%)			
	2005-2006	2006-2007	2007-2008	2008-2009
a. Irrigated Wetland				
- Java	-0.41	0.32	0.59	0.16
- Outside Java	0.42	2.14	3.79	2.84
- Indonesia	-0.02	1.18	2.12	1.46
b. Non-irrigated Wetland				
- Java	0.88	-0.15	1.06	-2.93
- Outside Java	1.80	0.45	1.15	0.98
- Indonesia	1.57	0.30	1.13	0.00

Source: BPS (2005-2009), processed.

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Based on extensive data of raw paddy fields in the last three decades, the average conversion of rice fields in Java at 8,346.65 hectares per year and outside of Java 2,269.75 hectares per year, so the vast raw converted wetland on average each year, reaching area of 10,616.4 hectares per year (Purbiyanti, 2013). Transfer function (conversion) of agricultural land was essentially the result of competition in land use between agriculture and non-agricultural sectors (Irawan, 2008). The competition for land use arising from the three economic and social phenomena, namely: 1) population growth, 2) economic growth, and 3) an imbalance between supply land resources is limited and land demand is infinite.

Wetland conversion that occurs not only adversely affects the availability of food, but also to the economic and social environment. Domestic food availability derived from production plus imports minus the need for consumption of feed, seed, and scattered, as well as exports. Availability of rice at the rate of growth in 2005-2009 was 3.5%; with a significant rate in 2008-2009 was 2.95% (DKP, 2011). But not so with the availability of rice per capita is likely to decrease due to the population growth rate is still very high (approximately 1.49% per year or about three million people per year) when compared with the growth rate of rice availability. Rate of uncontrolled land conversion and obstacles in increasing rice productivity (*leveling-off*) are the main factors that undermine food security program (Irawan, 2005). The rate of growth of per capita availability of rice is presented in Table 2.

Table 2 The rate of growth in per capita availability of rice, 2006-2010

Description	Year				
	2006	2007	2008	2009	2010
▪ Availability of rice (000 ton)	30,841.00	32,312.00	34,166.00	35,174.00	35,420.20
▪ Population (000 jiwa)	223,791.32	227,176.25	23, 612.37	234,100.47	237, 641.33
▪ The rate of growth in per capita availability of rice (%)	-0.01	0.03	0.04	0.01	-0.01

Source: DKP (2011), processed.

During these rules/regulations relating to the conversion of agricultural land has been a lot made . But until now controls the conversion of agricultural land has not been optimal. Problems in the field is too complex, so that policy is made must be systemic. Three fundamental constraints of the reason regulation of land conversion control difficult to implement are: 1) policy is contradictory; 2) the limited scope of the policy; and 3) planning consistency constraints (Nasoetion, 2003). Another drawback that there are: 1) the object of farmland protected from conversion processes defined by the physical condition of the land, but the land's physical condition is relatively easy engineered, so the conversion can take place without violating applicable regulations; 2) there are more regulations and appeal does not include clear sanctions, penalties and the determination of both the magnitude of the party subject to sanctions; 3) in the event of conversion of agricultural land which is not in accordance with the applicable regulations is difficult to trace the institution most responsible for cracking due to permit conversion is a collective decision of various agencies (Simatupang & Irawan , 2002).

National food security requires agricultural land with sufficient quantity and quality on an ongoing basis. As one of the key factors in agricultural production systems, the availability of land is still a major challenge in the development of agriculture to this day because it is limited. Therefore, conversion of paddy fields is a serious threat in efforts to achieve food security which leads to self-sufficiency. Indonesia currently ranks 4t^{h} in the number of the world population. This gives the consequences of the high demand for food consumption, especially rice which is still a staple food for 98% of Indonesia's population. So it can be said that rice not only has a strategic role in food security, but also in economic security, and national politics (Suryana *in* Kusumaningrum *et.al*. 2008). To that end , an analysis of the phenomenon of conversion of paddy fields in Indonesia are important, especially regarding the determinant factors, the impact of wetland conversion to national food availability, and the solutions that can be offered to overcome, both technically and systemic solutions.

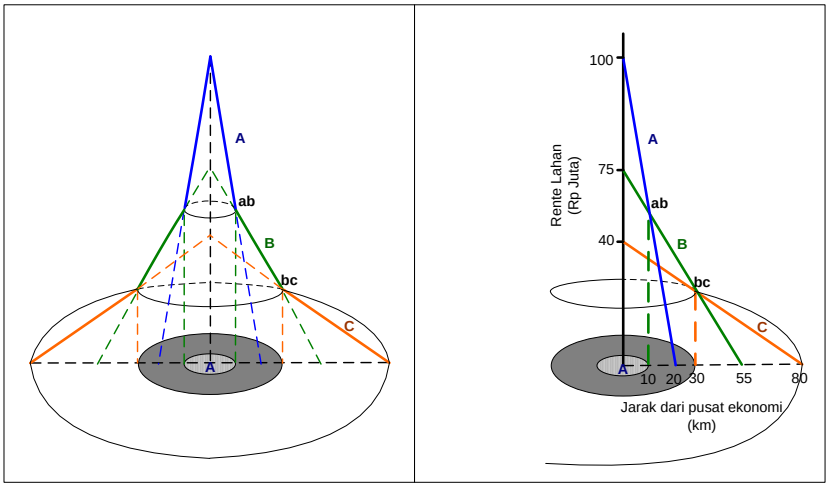
2 Research Method

2.1 Land Rent Theory

Because the data of new wetland and wetland conversion is unknown, then the data is shown as *net wetland conversion* by wetland changes across years that are *negative*. Wetland conversion is considered very dilemma. The one hand, economic growth needs land for non-agricultural use as a logical consequence of the development of the region, which will lead to the allocation of land uses that generate economic surplus (*land rent*) higher (Barlowe, 1978). But on the other hand, the wetland is an important production factor

whose function can not be replaced by another, in which the wetland conversion to non-agricultural use will reduce the capacity of national food production.

According to the concept of Von Thunen, land rent value is not only determined by its fertility but is a function of its location. Von Thunen assumes that the difference in space (the friction of space) can be compensated by site rent cost and transportation. Figure 1 illustrates the relative level of land rents based on use value (utility), the highest and best use with different distance from the central market. Von Thunen approach likens the economy is a city center surrounded by a homogeneous quality land. The resulting land use can be presented as the rings that form concentric circles around the city (Barlowe, 1978).

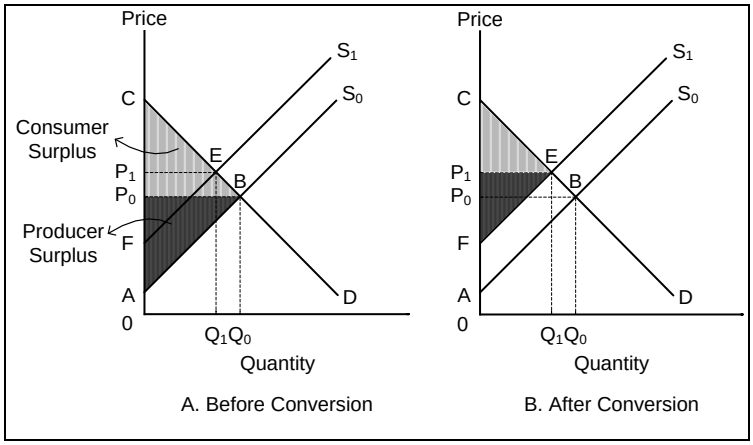


Source: Barlowe (1978)

Fig. 1: Determination of locational rent function according to Von Thunen Model.

2.2 Impact of Wetland Conversion on the National Food Availability

Wetland conversion decreases wetland area (rice cropping intensity assuming fixed). Wetland reduced and the productivity of rice production had *leveling-off*; resulted rice production declined, so the domestic supply of rice was decreased, ceteris paribus. If there is a decrease in supply, the supply curve will shift to the left (Henderson & Quandt, 1980). A decrease in supply is illustrated from Q_0 to Q_1 resulted in a shift in the supply curve from S_0 to S_1. Furthermore, the supply curve shifts to the left lead to an increase in price of paddy (rice) from P_0 to P_1 (Fig. 2). Increase in consumer prices led to a response by reducing the requirement for paddy (rice) that, as a result of declining consumer incomes. Domestic supply paddy (rice) which has been reduced by the amount of shrinkage rice describes the availability of rice for national food consumption. Decreasing of national food availability also reduce the welfare (producer and consumer surplus).



Source: Ghatak and Ingersent (1984)

Fig. 2: Impact of Wetland Conversion on Welfare.

2.3 Type and Source Data

Type of data used is time-series of the year 1990-2010 by the upward trend in wetland conversion. Wetland conversion data disagregated by: Java and outside Java. The data are obtained from:the Ministry of Agriculture, the Ministry of Commerce, the Central Statistics Agency, and other related publications.

2.4 Model Formulation and Analysis Procedures

2.4.1 Model Specification

The model constructed in this study is a system of simultaneous equations econometric model is divided into two blocks, namely: 1) block of wetland conversion, and 2) block of the national food availability. Simultaneous equations model consists of variables endogenous and predetermined. Mathematical equations built into the model, among others:

A. Block of Wetland Conversion

1 Wetland Resources in Indonesia

$SDSI_t = \sum (LBS_{it} + LBB_{it} - KLS_{it})$ …….. (3.1)

wherein:

$SDSI_t$ = Total wetland resources in Indonesia (ha)
LBS_{it} = Area of raw rice (ha)
LBB_{it} = Area of opening new fields (ha)
KLS_{it} = Wetland conversion (ha)
i = Province in Indonesia

2 Wetland Conversion

$KLSI_t = a_0 + a_1 HBEI_{it} + a_2 DSNP_{it} + a_3 PDRB_{it} + a_4 JPDK_{it} + a_5 KLSI_{it-1} + U_1$ …….. (3.2)

wherein:

$KLSI_t$ = Total conversion of wetland in Indonesia (ha)
$HBEI_{it}$ = Retail price of rice (USD/kg), deflated by CPI Indonesia (base year 2005 = 100)
$DSNP_{it}$ = Request wetland for non-food use, proxy of the contribution of the sektor/non-food subsector to GDP (%)
$PDRB_{it}$ = Gross Regional Domestic Product (U.S. $ Billion), Indonesia deflated by the CPI base year (2005 = 100)
$JPDK_{it}$ = Total population (soul)
$KLSJ_{t-1}$ = Lag of total wetland conversion (ha)
U_n = Errors

B. Block of Food Availability

1 Total Harvested Rice Area

$LAPI_t = b_0 + b_1 HGTT_{it} + b_2 HJTP_{it} + b_3 HURE_{it} + b_4 HTSP_{it} + b_5 HPES_{it} + b_6 KUT_{it} + b_7 LAPI_{t-1} + U_2$ …….. (3.3)

wherein:

$HGTT_{it}$ = Price of grain at the farm level Java (Rp / kg), deflated by the price index of the Indonesian merchant base year (2005 = 100)
$HJTP_{it}$ = Price of corn at the producer level Java (Rp / kg), deflated by the price index of the Indonesian merchant base year (2005 = 100)
$HURE_{it}$ = Price of Urea in Java (Rp / kg), deflated by the consumer price index base year Indonesia (2005 = 100)
$HTSP_{it}$ = Price of fertilizer TSP in Java (Rp / kg), deflated by the consumer price index base year Indonesia (2005 = 100)
$HPES_{it}$ = Price pesticides in Java (Rp / liter), deflated by the consumer price index base year Indonesia (2005 = 100)
KUT_{it} = Credit farming in Java (Rp.juta), deflated by the price index of the Indonesian merchant base year (2005 = 100)
$LAPI_{t-1}$ = Lag of rice crop area in Java (ha)

2 Rice Productivity

$YPPI_t = c_0 + c_1 JPUH_{it} + c_2 JCH_{it} + c_3 TEKN_{it} + c_4 LASI_{it} + c_5 YPPI_{t-1} + U_3$ …….. (3.4)

wherein:

$YPPI_t$ = Produktivitas padi di Indonesia (ton/ha)
JCH_{it} = Jumlah curah hujan di Indonesia (mm/tahun)
$TEKN_{it}$ = Teknologi, yang diproksi dari luas areal intensifikasi di Indonesia (ha)
$LASI_{it}$ = Luas areal irigasi di Indonesia (ha)
$YPPI_{t-1}$ = Lag bedakala produktivitas padi di Indonesia (ton/ha)

3 Paddy Production, Rice Production, and Amount of Shrinkage Rice

$PPDI_t = LAPI_t * YPPI_t$ …….. (3.5)
$PBRI_t = PPDI_t * AK_t$ …… (3.6)
$JBSI_t = PBRI_t * PS_t$ …….. (3.7)

wherein:

$PPDI_t$ = Production of rice in Indonesia (tons)
$PBRI_t$ = Production of rice in Indonesia (tons)
$JBSI_t$ = The amount of rice for seed, shrinkage, etc. in Indonesia (tons)
AK_t = Paddy to rice conversion rate (0.63)
PS_t = The proportion of rice for seed, shrinkage, etc. (0.10)

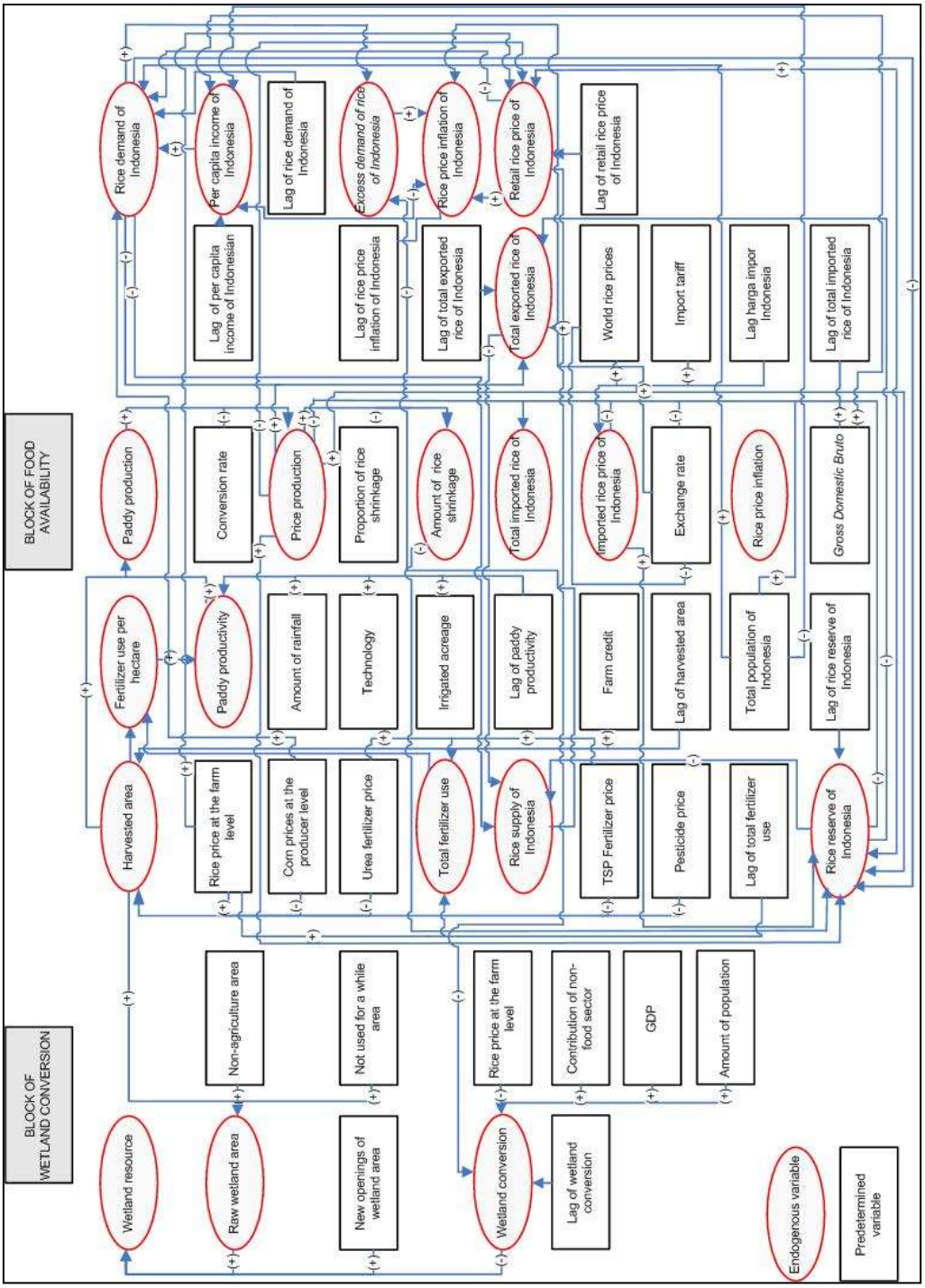
4 Rice Availability in Indonesia

$QSBI_t = PBRI_t - JBSI_t + JMBI_t - QDBI_t - CADBIt - JXBI_t$ …… (3.8)

wherein:

$QSBI_t$ = Total rice availability in Indonesia (ton)

For detail, mathematical equations built into the model and hypotheses of each variable are presented in Fig. 3, which is a chart of the relationship of endogenous and predetermined variables.



Source: Purbiyanti (2013), modified.

Fig. 3: Chart of the relationship of variables in the model.

2.4.2 Analysis Procedure

Analytical procedures performed included the following stages (Fig. 4).

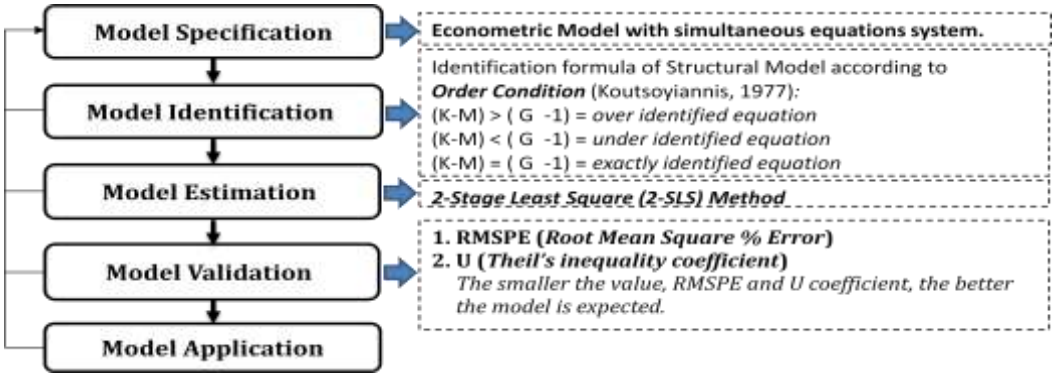


Fig. 4: Analytical procedures.

3 Result and Discussion

3.1 Determinant Factors Wetland Conversion

Behavior of wetland conversion in Java significantly affected by the changes in the contribution of the regional building and real income ratio variables. Response of wetland conversion in Java for real regional income ratio is elastic in the short term, the opposite changes inelastic contribution in the construction sector. Economic growth is accompanied by an increase in regional income gives real consequence to the increased competition from the use of agricultural land to non-agrifood which gives the value of the higher land rents. While, the conversion of wetland outside Java variables significantly affected by the ratio of real regional income and wetland conversion outside Java the previous year, with the elastic response in the short term and long term.

The wetland conversion outside Java the previous year variable indicates that converted wetland (especially converted irrigated wertland) wetland that has been converted will be difficult to restore the wetland back. There are several reasons that cause wetland that has been converted into a difficult to be restored, as stated by Irawan (2005). His result of research said that the impact of wetland conversion to the food problems that can not be immediately restored, because: (a) that has been converted wetland will not be able to go back to the rice fields (permanence), (b) new paddy fields needing a long time, about 10 years, (c) the resources that could be more limited fields, and (d) an increase in the productivity of rice farming is also difficult due to stagnation of technological innovation.

Wetland conversion resulted in permanent wetland that was converted would be difficult to function as a wetland restored so that food problems caused by land conversion will be felt despite wetland conversion is not happening anymore. It is caused by the characteristics of land conversion (Irawan, 2005), namely: (a) *permanent*, meaning that the food problem will still be felt in the long term despite the conversion no longer exist, (b) *cumulative*, where the reduction of the area of land is permanent causing food problems caused by the conversion of land for a certain period will are cumulative, and (c) *progressive*, meaning that once land conversion occurs at a location of the area of land converted in these locations will be greater due to land conversion occurring at locations along the vicinity.

3.2 Impact of Wetland Conversion on the National Food Availability

Behavior of per capita availability of rice was significantly influenced by the changes in the level of real prices of grain farmers in Indonesia, the ratio of rice crop area with a total population of Indonesia, conversion of wetland in Indonesia, the number of Indonesian imports, time trend, and lag of the availability of rice in Indonesia variables. Responsive to the per capita availability of rice crop area ratio of rice to Indonesia's population , or in other words the rice crop area per capita , in the short term and long term , so it can be concluded that the wetland as an important factor in crop area can not be replaced with other factors in increasing national food availability .

This phenomenon indicates that per capita food availability in the long term responsive to the changes in crop area per capita. Indicators of crop area alone does not adequately describe the capabilities in terms of crop area, therefore, should take into account the number of people there. Crop area per capita illustrates how widespread the ability of each individual to produce a harvest area. Sumarno (2011) mentioned that the rice crop area per capita in Indonesia were among the smallest in the world. This

condition is due to the paddy field, in addition to rice; also contested by 17 other commodities respectively are also expected to meet national needs (self-sufficiency), such as: sugar, corn, and soybeans.

3.3 Technical Solutions

The government must protect the priority of food land to remain harnessed to produce food, so not only met food security but also food self-sufficiency. Global energy crisis that occurred at this time increased the competition in land use that is not just for food, but also for food and energy. Therefore, the necessary enforcement of tough sanctions for those who break the rules/regulations related to wetland conversion, especially technical irrigated land. Political will of the government's influence in this regard. Development of the region during this time centered on Java should be immediately directed to outside Java to reduce wetland conversion in Java, but to achieve equitable and justice development.

Based on the digital analysis of Land Capability Map and Provincial Spatial Plan of BPN (2010), widely known to the potential development of wetland is 6,834,864 ha. If viewed from the spread of soil that have the potential for land development field, then:

a. Land that has the potential of developing into the largest paddy land located on the island of Sumatra is wide reaching 2,588,722 hectares (37.88% of the vast potential for national development). In the second place, the island of Sulawesi has a development potential that paddy land are also quite high, covering an area of 1,729,103 hectares (25.30%).
b. Land that has the potential of developing into the smallest paddy land located in the Maluku Islands are reached vast 106,408 hectares (1.56% of the vast potential for national development).
c. Although Java is a national granary and with high population density, it still holds the potential development of paddy land which the vast reaches 1,400,327 hectares (20.49%). However, this needs further study, particularly in relation to support the availability of water resources and ecosystems and other social issues.
d. Although Papua Island has vast land with a population density that is still very small, but in terms of ability is not enough land suitability for rice crops. The potential for the development of paddy land in Papua Island is just an area of 466,772 hectares (6.83%).

If the area of the potential wetland developed as a whole, the vast number of existing wetland will increase to nearly 2-fold of the total rice land area at this time and are mostly located outside Java (79.51%). These conditions allow for the development of national development berfocus outwardly Java as the above results. Growth in rice production can be added in addition to the total area of the accretion of new fields, coupled through increased productivity of rice plants. Increased productivity is done through increasing agricultural input technologies (such as improved seed that is resistant to pests and diseases of plants and soil conditions) and agricultural production infrastructure (such as roads and irrigation infrastructure). Increased agricultural production facilities is expected able to increase rice productivity. Furthermore, through the opening of the accretion of new wetland areas and an increase in rice productivity is expected to increase the growth of rice plants in Indonesia.

Wetland conversion that occurs apparently compensated by imports, thus increasing the rate of wetland conversion would increase dependence on imports especially rice productivity has also been experiencing a "*leveling-off*". Condition of dependence on imports is very risky, especially for large populous countries like Indonesia. Alternative pricing policies become ineffective if at the same time existing import policy. However, because there is still a gap between production and consumption, so as to still be able to meet the huge rice consumption in the short term to be met from imports. However, in the long term should be imported should be further reduced by increasing domestic production through government policies that stimulate farmers to continue to farm. Incentives for farmers who do not convert his farm should also be considered, while still providing capital subsidy and input subsidy.

According Sjarkowi (2013), the speed of population growth a fantastic amount of it, there are a variety of food security issues, and if any steps could handle escalated in line with the turnaround time to come. There is a 5-category of problems that need to be thought out a way out, namely: 1) negligence anticipate how food production, thus weakening levels of food self-sufficiency (*food self-sufficiency*); 2) instrument sterility base price of rice and fertilizer prices, thus undermining food security (*food security*); 3) error reading pressure over the food production resource limitations, so no-spur diversity of food (*food diversity*); 4) the absence of a general strategy of emergency food, thus weakening buffer system idle-food (f*ood adequacy*), and 5) the fragility of the ecosystem chain accompanied by symptoms over the functions of agroecosystems parcels, and undermine the reliability of food (*food dependability*). The issue of national food should be answered with a ***Food Sovereignty*** development strategy, which must be achieved

simultaneously through 5-strategy, namely: 1) food self-sufficiency strategy; 2) food security strategy; 3) food diversity strategy; 4) food preparedness strategy, and 5) food land reliability strategy.

Attempts conversion of wetland ecosystems or dryland agro-ecosystems should be managed through a strategy at the regional level, project level and business unit level, which should be *'holistic-integrated-systemic'*. National food sovereignty can be realized through the implementation of the approach pattern of socio-economic-micro, namely: Socio-Agroforestry Management-Unit (SFMU). SFMU is essentially a pragmatic concept of planted forest agribusiness. As an investment venture, it is based on systemic and integrated agribusiness structure involving multi stakeholders, especially rural community as well as investor and local government. An agribusiness activitiy must be completely clear in terms of: a) scale; b) structure of the partnership; and c) the acquisition of benefit to all parties that play a role (Sjarkowi, 2013).

3.4 Systemic Solusions

Wetland conversion issues yet unresolved is like threads tangled difficult to disentangle the base of the problem. Various policies have been implemented over the years, including wetland conversion control policies. However, the issue of wetland conversion is never-ending. Given the importance and urgency of this issue of wetland conversion and because of inter-related to one another institution issues, then the solution is needed not only a purely technical solution, but it must be offered an *integrated, comprehensive, and systemic solutions*.

Islam is not only a religious ritual, but also a system that regulates all aspects of life, then all the problems of human life should be and must be overcome by Islam system alone. Islamic system proven solution has been implemented by the state and triumphed over 1300 years, with the establishment of the state fair, independent, prosperous and forward-thinking. However, Islam is a system solution is not quite done with implements one part of the system, such as the system of government or economic system alone, but must be done through a revolutionary change. For that, there should be repositioned the state paradigm. Political economy and political will function shows the state in creating a fair, independent, prosperous and leading society civilization. Here's an explanation of economic policy, agricultural policy, and the politics of land according to An-Nabhani (2010).

A. Political Economy

Political economy is a goal to be achieved from the implementation of the various policies that ensure the achievement of fulfilling all basic needs (primary) of each individual society as a whole, with the guarantee that allows each individual to meet the needs of complementary (secondary and tertiary) according to his ability. Basic needs of each individual include: a) goods (food, clothing, shelter), and b) services (security, education, health). Subsistence goods carried by an indirect mechanism, while the basic needs services through direct mechanisms provided by the state.

B. Political Agriculture

To achieve food sovereignty, the political agricultural country should be run through several policy instruments, as follows:

Instruments: ***Policy on Agricultural Production Sector***
Objective: Increase agricultural production
Methods:

1. Intensification, to improve productivity.
   Good use of inputs; subsidies for purposes saprotan, socialization modern techniques are more efficient among farmers; provision of working capital for the people can not afford, based on the development of site-specific agricultural products to enhance competitiveness and facilitate accessibility; improved supporting institutions such as agricultural banks, cooperative.
2. Extension, to increase the area of arable farmland.
   Assurance countries over the ownership of agricultural land obtained by revive dead lands; giving land to the people who are able and willing to farm but do not have a farm or have a narrow agricultural land.

Strategy:

1. Increased production of foodstuffs and clothing (specific location of OVOP = One Village One Product).
2. Increase in commodities that have export potential.

Instrument: ***Policy on Agricultural Industrial Sector***
Objective: Improve product yield agriculture industry

Methods: Based real sector
Strategy:
1. State should be fair to not give special privileges of any kind to certain parties.
2. Facilities and infrastructure that supports the growth of the agricultural industry provided adequately (including roads and other supporting institutions such as agricultural extension, financial institutions)

Instruments: ***Policy on Agriculture Trade Sector***
Objective: To ensure the interests of producers and consumers equally.
Methods:
1. *Market mechanisms are transparent and fair.*
2. *There is no manipulation, intervention that causes economic distortions, and hoarding.*
3. *Market selection will go hand in hand with the passage of the market mechanism.*
4. *The state strictly protection against imports.*
5. *State promotion to market agricultural products and agriculture industry at large.*

Strategy:
1. *The state should provide a variety of road infrastructures, markets and transportation facilities.*
2. *Countries should ensure that mechanisms of agricultural commodity prices and agricultural commodities industries can be run transparently and without any manipulation, including symmetric information access for farmers.*
3. *States should ensure the interests of producers and consumers equally.*
4. *State must prevent hoarding measures, mainly agricultural products and other basic needs.*

C. Politics of Land

"Farmers are appropriately not only as workers but as the owner and manager. Farmers who only act as wage workers would be limited by without being able to enjoy value added".

1. Mechanism of Land Tenure
   a. Land ownership must be carefully managed as it affects the production stimulation.
   b. State recognizes individual ownership if no elements are prevented, as there are ingredients mining or controlled by the state.
   c. Soil can be controlled through inheritance, gift and sale.
2. '*Turning on* ' the Dead Land
   Namely: managing or die to make the soil ready for plantin. Die land is land that is not owned by a person looks and no signs of any kind, such as: fences, crops, management, etc. Is this dead land has the right as owner.
3. Management of Agricultural Land
   The state as the party that controls the economic activity of its citizens will force agricultural landowners to manage their land optimally. Steps taken by the state was taking land ownership rights if the individual is ignored for three years. The land will then be given to the needy and able to manage it. Thus, land ownership is intrinsically limited by a certain time. Still has the right to own land with all rights attached to them during the relevant manage it according to its usefulness.
4. Agricultural Land Lease ban
   Ban on leasing agricultural land can economically be understood as an effort that agricultural land can function optimally. It means someone who is able to work the land must have the land while those who are unable and unwilling to cultivate land that is not allowed to dominate agriculture. To that end, the landowner can hire someone else to manage their land or if it is not capable at all, the land should be given to others in order to be optimally utilized.

4 Conclusion

Wetland is one of the factors of production that are not replaceable for paddy crop. Wetland conversion phenomenon that occurs not only adversely affects the availability of food, but also to the economic and social environment. Growth in rice production can be added in addition to the total area of the accretion of new fields, coupled through increased productivity of rice plants. Population growth rate and the economic growth of the even more fantastic put pressure on food issues. Need serious treatment of the problem, considering that the rice does not only have a strategic role in food security, but also in economic security, and national politics. The issue of national food should be answered with a Food Sovereignty development strategy.

5 Recommendation

Various policy instruments have been implemented to address this problem. But until now the problem has not yet completed. Given the importance and urgency of this issue of wetland conversion and because of inter-related to one another institution issues, then the solution is needed not only a purely technical solution, but it must be offered an ***integrated, comprehensive, and systemic solutions***. Islam is a system that regulates all aspects of life, then all the problems of human life should be and must be overcome by Islamic system alone. Islamic system solution is not quite done with implements one part of the system, but must be done through a revolutionary change. For that, there should be repositioned the state paradigm. Political economy and political will function shows the state in creating a fair, independent, prosperous and leading society civilization.

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