



Received: 16-07-2022

Accepted: 26-08-2022

## International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

### The Green Revolution in the New Order Administration

<sup>1</sup> Rahma Damayanti, <sup>2</sup> Triana Mutiara Pratiwi, <sup>3</sup> Tsalitsa Tsamara M, <sup>4</sup> Yumna Salsabila Hikmah

<sup>1, 2, 3, 4</sup> History Education Study Program, Faculty of Teacher Training and Education, Sebelas Maret University, Surakarta, Indonesia

Corresponding Author: **Rahma Damayanti**

#### Abstract

The Green Revolution or agricultural modernization is an effort to advance agricultural technology to increase food productivity. They are focusing on changing traditional techniques in the agricultural sector by applying modern technology for optimal results. The Green Revolution is interesting to study because it is one of the turning points in Indonesian agriculture. The purpose of this research is to understand the Green Revolution during the New Order era and the impact that occurred during the implementation of the green revolution. In this paper, the author focuses on understanding. (1) Why was the green revolution

implemented?; (2) What is the legal basis governing the modernization of agriculture?; (3) What is the process of socializing agricultural modernization to the wider community?; and (4) What are the impacts caused by implementing the green revolution? In the research of the green revolution during the New Order, the author uses the literature review method. An important explanation can be obtained regarding the green revolution in Indonesia during the New Order era, namely that the green revolution led Indonesia towards self-sufficiency in rice in 1984.

**Keywords:** Green Revolution, Agricultural Modernization, New Order, Agrarian Society

#### 1. Introduction

Indonesia is a country with rich agricultural potential. The existing potential needs to be continuously managed for its agricultural resources. Indonesia will always need managers such as farmers who are an inseparable part of society. Before the Green Revolution, farmers relied more on natural signs of symptoms; they observed the cycle of changing seasons between the rainy and dry seasons, and the way of managing their agriculture was still relatively traditional. Before getting to know machines, farmers often used the power of livestock such as buffalo, cows, and simple equipment to support their agricultural production tools. Even farmers in the past were not worried about pests because they believed other predators could overcome them. They also think these predatory animals can help in the dispersal of seeds, and the droppings left behind are also useful as natural fertilizers. Farmers who rely only on nature and tradition tend to cause unbalanced food production, coupled with the increasing population density, making this food problem something that needs to be developed and remedied during the New Order era.

Conventional agriculture, which the community had long practiced at that time, slowly had to be abandoned. It had to happen because, during Suharto's New Order government, the Green Revolution was introduced to farmers by promoting modern agriculture using renewable agricultural technologies. The New Order government was aggressively pursuing food self-sufficiency because when national rice was not able to be fulfilled, the government was forced to import rice. It resulted in the swelling of the national expenditure budget. Even Indonesia could lose even more if the exporting party or the government of the country of origin of the rice manipulated the price and made Indonesia much more dependent on imported rice. So the Green Revolution is considered the best solution to alleviating these problems.

The presence of the Green revolution created rapid developments in the use of agricultural technology among farmers in Indonesia. With the Green Revolution, farmers are getting to know about new cultivation systems by utilizing the best varieties of seeds, chemical fertilizers, anti-pest pesticides, and credit loan models that farmers can use for initial capital in starting a new cultivation system. In this Green Revolution system, farmers are demanded and required to get big profits to continue growing crops sustainably. It is because before planting, they need many funds to buy superior seeds, chemical-based fertilizers, pay the wages of the workers they employ, buy anti-pest pesticides, and so on. With this, it can be concluded that because the capital spent is not small and the preparation before they start agricultural management, the farmers should get a greater profit than the capital spent (Rinardi *et al.*, 2019)<sup>[17]</sup>.

Sudarsono (2019) <sup>[22]</sup> explains that with the Green Revolution, farmers will experience an increase in their agricultural land management efficiency. For example, with the use of tractor engines. In the past, when farmers worked on the land, they were not familiar with tractor machines, so they only relied on the help of livestock such as cows and buffalo to pull harrows or even simpler tools such as using only human-powered hoes. It is one of the reasons why they take a long time to cultivate the land. Rinardi *et al.* (2019) <sup>[17]</sup> also stated that with the renewal in the cultivation of food processing, Indonesia achieved self-sufficiency in rice from 1984-1989. It proves that the use of agricultural technology can make an average increase in rice production per hectare in Indonesia during the period 1970-1985. Agricultural land productivity has increased from the original 26.01 quintal/hectare in 1971 to 39.42 quintal/hectare in 1985. From these results, it can be concluded that over fifteen years, the impact of the Green Revolution was successful in increasing the productivity of rice fields. Of 13.41 quintals/hectare for each year. In other words, on a national scale, annual rice production has increased by 0.894 quintals per hectare. All these increases are the cause of the modernization of agriculture. The increase in rice production in Indonesia as a result of the inclusion of renewable technology in the world of agriculture has significantly impacted the widespread use of chemical fertilizers by Indonesian land workers and farmers. The Green Revolution is an important issue to discuss in agrarian sciences because it is one of the turning points in Indonesian agriculture. The introduction of technology through the Green Revolution at that time succeeded in becoming a new hope for doubling rice productivity. The results of the Green Revolution began to be enjoyed in the late 70s. The Green Revolution won the hearts of the Indonesian people with the achievement of self-sufficiency in rice and the FAO award for President Soeharto in 1984. (Riawati, 2015) <sup>[15]</sup>. Presumably, the various benefits and urgency of the Green Revolution that have been mentioned have made the writer interested in discussing it further in a related study entitled "The Green Revolution of the New Order."

## 2. Literature review

The Green Revolution is an event regarding major agricultural and land systems changes to increase production yields through the planting program of superior seeds (Basmar, 2021) <sup>[2]</sup>. The oldest history that discusses the agricultural revolution is found in Ancient Greece during the reign of Solon in 594 BC, namely Siessachtheia (Basrin, 2017) <sup>[3]</sup>. Furthermore, the green revolution often occurs when a country experiences a food crisis and mass poverty. For example, the food crisis in Europe from 1766 to 1834 prompted Thomas Robert Malthus to develop superior seeds to improve agricultural production (Basmar, 2021) <sup>[2]</sup>. Then in the United States in 1860, the Green Revolution was carried out to alleviate the problem of the food crisis that was engulfing the country (Saleh, 2020) <sup>[19]</sup>.

Two large companies, the Ford and Rockefeller Foundation, developed agricultural technology to solve the food crisis in Mexico and Colombia in 1950 for wheat and the Philippines in 1960 for rice (Goldberg, 2019) <sup>[5]</sup>. As a follow-up to the modern agricultural program, the International Rice Research Institute (IRRI) was formed in 1960. This institution examines various staple crops to be used as

superior seed varieties and anti-pest drugs to be distributed throughout the world to eradicate hunger in developing countries. In Africa, the green revolution is carried out to maintain food availability, food price stability, farmers' income, and agricultural progress based on geographical conditions and the country's capabilities (Headey, 2008) <sup>[7]</sup>. In the 1980s, several African governments implemented a new policy to allocate 5-10% of state funds to the agricultural sector and then 3-5% of funds in 1990 (Fan *et al.*, 2008). As a policy, the Green Revolution cannot be separated from criticism. In the 1950s, the Mexican Agricultural Program was criticized by Hernandez for following the United States agricultural program without modifications according to Mexican conditions. According to Hernandez, abundant harvests in a short time due to chemicals can damage the environment (Harwood, 2019).

In Indonesia, the agrarian policy that had existed since the Dutch East Indies colonial government was changed to suit the conditions at that time. Then came Law Number 5 of 1960 concerning Basic Agrarian Provisions (Zein, 2019) <sup>[26]</sup>. This law is the basis for implementing various agricultural policies in Indonesia. During the New Order government in the 1970s, Indonesia followed a similar Green Revolution policy to overcome the food crisis caused by crop failures and the loss of wealth of Communist farmers due to Suharto's anti-Communism policies (Mappatoba, 2014) <sup>[11]</sup>. The Green Revolution or called the Agrarian Revolution, was a policy in the economic and land sectors during the New Order government around the 1970s, which was carried out collectively by farmers in order to improve rice production (Arifin, 2001: 90). The Green Revolution is better known as "Panca Usaha Tani" which has its essence in modernization or agricultural mechanization (Nugroho, 2018) <sup>[14]</sup>. This policy is categorized as a village development program by modernizing the agricultural system in Indonesia (Gultom, 2021) <sup>[6]</sup>.

This agricultural modernization is characterized by the use of modern agricultural tools, both the use of superior seeds, the use of irrigation, the use of machines, the use of fertilizers, and the use of pest control drugs (Saleh, 2020) <sup>[19]</sup>. Improving the quality of technology in agriculture will change people's mindsets to make their harvests more successful so that there will be an economic improvement in rural areas (Kirkpatrick, 1996). The Green Revolution in Indonesia occurred because farmers experienced crop failures due to a long dry season and rat attacks during the 1960s to early 1970s. Farmers did not have abundant rice reserves at that time because their production was limited to meeting personal needs. For non-farmers who consume rice, it is not easy to buy rice. This incident caused a national food crisis. During the crisis, agricultural experts from IPB developed new farming techniques as a solution. This activity is approved and supported by the government for wide distribution in Indonesia.

However, the government forced all farmers to follow the policies they applied in a subtle or hard way. If the farmers refused, they would be labeled PKI (Booth, 1992). There was a reorientation of the agrarian policy during the Soeharto era, which was originally a populist pattern now with a liberal and capitalist orientation because the freedom of the private sector in doing business is very important for national economic growth (Sukardi, 2004). It causes social differentiation in rural communities because these changes develop into structural changes that affect the economy and

social community (Husken, 1998).

According to a World Bank study, thanks to the Green Revolution policy, Indonesia experienced an increase in rice production of 18 million tons from 1969-1980 at a rate of 5.6%. 1980-1984 at a rate of 7.1%. Indonesia experienced a rice surplus in the first period of the green revolution. However, production declined in the following years, namely in 1984-1992, the rate was 3.3% per year and then decreased in 1992-2006, the increase in rice production was only 1.3% per year (Las, 2009) <sup>[10]</sup>. In 1984/1985, Indonesia succeeded in achieving self-sufficiency in food, but wealthy farmers could only enjoy the harvest benefits. Poor farmers are forced to work in the non-agricultural sector due to wages that are not following their efforts (Husken, 1998). Besides Indonesia, China experienced an increase in rice production which then accumulated the largest village income in the world from 1978-1984 (Gulati & Fan, 2008).

In the social field, rural communities have changed. Some farming families work in the non-agricultural industrial sector to earn additional income (Rigg, 2001) <sup>[16]</sup>. After the Green Revolution changed farmers' cropping patterns, the improvement in the economy made rural communities begin to follow the urban way of life. Villagers consider level 2 education, electric lighting, and television necessities (Mubyanto, 1989). For farmers, new social strata have emerged, namely 1) pure farm laborers, 2) agricultural laborers who are also sharecroppers, and 3) farm workers who are also land owners (Sawit & Triono, 1984) <sup>[20]</sup>.

The technology used in the green revolution has had a devastating impact on the earth. It was reported in the state of Haryana, India, that the use of high-yielding seeds affected local crops and gave rise to new pest attacks. These new pests require chemical-based anti-pest drugs, but long-term use of these drugs can make the pests more resistant, so farmers have to mix many drugs at once. Using these chemicals makes the soil damaged and unable to absorb nutrients optimally (Singh, 2000) <sup>[21]</sup>.

The area that received incentives from the government to carry out the green revolution was Kanagarian Selayo, Solok, and West Sumatra. Kanagarian Selayo had been a rice-producing area in Riau even before the New Order (Yulia, 2019) <sup>[25]</sup>. The government introduced the green revolution in 1970 (UPTD Agriculture and Fisheries, 2002). Similar program incentives were given to Toili District, Banggai Regency, and Central Sulawesi. In contrast to Kanagarian Selayo, Toili has less rice production than the surrounding area (Rosadillah. *et al.*, 2017) <sup>[18]</sup>. The Green Revolution Program in Toili was implemented in 2008 by introducing integrated crop processing to improve rice production in Toili (Central Sulawesi Agriculture Office, 2008).

In Kanagarian Selayo, the Green Revolution went smoothly with harvests of 3.8 tons/hectare (1970) and 8.5 tons/hectare (1983). Most farmers switch from local seeds to superior seeds provided by KUD and use chemical fertilizers, which are often mixed. The Green Revolution had a negative impact, causing farmers to be dependent on materials, and some small farmers failed to compete and then fell into debt (Yulia, 2019) <sup>[25]</sup>. Meanwhile, in Toili District, an increase in yields of 6.5 tons/hectare in 2020 and 9 tons/hectare occurred in 2014 (Central Sulawesi Agriculture Office, 2008).

### 3. Methodology

The author uses the literature review method to research the green revolution during the New Order. The literature review is a scientific analysis of the content of messages in communication, whether through radio news, newspapers, magazines, journals, books, or other sources of documentation (Asfar, 2019) <sup>[11]</sup>. There are three stages in conducting a literature review, according to Zhu, Sari, and Lee (2008) <sup>[27]</sup>, namely: (1) planning, (2) conducting, and (3) reporting. The sources used for this research consist of literature on the green revolution and its impact of the green revolution on several regions in Indonesia. The literature studied uses journal articles or theses relevant to Indonesia's green revolution. In the process of finding sources, the author uses Google Scholar. The literature related to keywords will appear, and the next step is choosing the appropriate literature. The next step is data extraction from the literature that has been collected, then synthesizing various information found from the selected literature. After synthesizing, the last step is writing a review in written form.

This study uses secondary sources such as textbooks, journal articles, and theses by tracing the writings that have been written before. At the data collection stage, the authors grouped sources according to themes and topics. In searching for sources, the author uses Google Scholar with the stages of finding sources under the rice line of the topics discussed. Then in the grouping, the authors group based on the source's relevance to the theme and compare the related data. Search sources on Google Scholar using keywords: agrarian, modernization, new order, agriculture, revolution. From the search for sources, the authors found ten journals that matched the criteria for the topic of the green revolution during the New Order era.

Data analysis used the content analysis method. Data analysis is a process that is carried out after all the data needed to solve the problem under study have been obtained in full (Muhson, 2006) <sup>[13]</sup>. According to Holsti (1969) <sup>[8]</sup>, content analysis is a technique for concluding by identifying various special characteristics of a message in an objective, systematic, and generalist manner. Research journals that match the criteria for research topics will be collected and analyzed. After being analyzed, a summary of the findings in the analyzed journal will be made. From the data obtained, the authors will correlate the summaries of each journal to be combined into one complete article, as has been explained in the interpretation through the literature review method from sources obtained through journal articles, theses, and dissertations. An important explanation can be obtained regarding the green revolution in Indonesia during the New Order era. The Green Revolution led Indonesia towards self-sufficiency in rice in 1984.

### 4. Findings

#### *Legal Basis, Parties Involved, Location, and Time of Implementation*

The legal basis for Indonesian agriculture has been outlined by the 1945 Constitution article 33 paragraph 3, which reads: "Earth and water and the natural resources contained therein are controlled by the state and used as much as possible for the prosperity of the people" continued in paragraph 4 which reads: "The economy The national

economy is organized based on economic democracy with the principles of togetherness, efficiency, justice, sustainability, environmental insight, independence, and by maintaining a balance of progress and national economic unity. Armed with these two paragraphs of the 1945 Constitution, article 33, the political foundation of Indonesian agriculture should be implemented.

As a result of the elaboration of Article 33 of the 1945 Constitution, the government also issued UUPA No. 5/1960 on Agrarian Principles. In this law, the state requires the community to maintain the sustainable use of land and water resources and maintain justice in their use so that they are evenly distributed among the economically weak groups. As written in the UUPA article 15, which reads: "Maintaining the land, including increasing its fertility and preventing its damage is an obligation for everyone." This law emphasizes that using natural resources with an environmental perspective and preserving resources to develop sustainable agricultural patterns must be implemented.

Farmer organizations are elements in the Green Revolution program in addition to the introduction of technology, bureaucracy, and markets. Characteristics of farmers are divided into "peasant" and "farmer." "Peasant" is a class of farmers prioritizing fulfilling their consumption (subsistence). They consist of small farmers, tenants, sharecroppers, and farm laborers. Meanwhile, a "farmer" is a modern farmer who does farming with the application of modern technology assisted by farm laborers and aims to make a profit. In Indonesia, large and small farmers are not known. They are better known for the distribution of commodities they work on, divided into food farmers, garden farmers, and ranchers. They are distinguished for facilitating the distribution of government in carrying out activities in villages. (Syahyuti, 2013)<sup>[23]</sup>.

The peasant community, the main driving force of the green revolution, also found a shift in the relationship between the rich and the poor. The revolution produced an accumulation of economic gains for the rich peasants, who would get richer, while the poor peasants would be further reduced in their ability to take advantage of the material incentives successfully presented in the Green Revolution. (Dewi, 2007)<sup>[4]</sup>. The change in social structure is that land ownership and increased capital can make rich farmers richer. The difficulty of owning land makes low-income farmers short of supply. The Green Revolution changed the structure of society because it can create social inequality. Social inequality can occur due to the transfer of land ownership through buying and selling. The relatively high land prices cannot match the economic power of small farmers, thus providing opportunities for rich farmers to increase their land area. Small land area affects different income levels. Different income levels can lead to social inequality. The logical consequence of grouping classes and social status based on land ownership and land management is the emergence of social and economic polarization in rural communities, which is quite sharp. It was because the distribution and wealth of this large village were mainly owned by the upper classes, such as landowners, wealthy farmers, and village officials. On the other hand, the lower classes of society, such as small farmers and farm laborers, earn only a small amount of income to remain below the poverty line.

The idea of agricultural modernization was introduced in 1960 by students majoring in the Faculty of Agriculture, the

University of Indonesia, in a Mass Demonstration or Demas activity. This activity tries to apply the use of superior varieties of seeds, chemical fertilizers, and pesticides, improvement of farming procedures, and renewal of good irrigation facilities. During the New Order era after Repelita 1 in 1969, the government tried to increase rice production as the main focal point for development, thus introducing new technologies to support the program. This technology is manifested in superior seeds that have a good response to the use of fertilizers so that they have succeeded in producing a high increase in production. The Green Revolution, implemented in Indonesia starting in 1970, spread evenly, not only in relatively fertile areas such as rice fields but also in dryland areas which have the potential for a low standard of living for the people. It is in line with the instructions of the Minister of Agriculture to Governors/Heads of Provinces throughout Indonesia.

### ***The Socialization Process Until the Implementation of the ORBA Green Revolution Project***

The community service business developed by the New Order government became a mass activity aimed at increasing agricultural yields through intensive farming to improve farmers' welfare. This program is a joint effort directed by various government agencies, both inside and outside the Ministry of Agriculture, towards self-sufficiency in farming communities through Panca Usaha, assistance, processing, and marketing of agricultural products, and ultimately the development of rural communities. Panca Usaha includes efforts and methods of good irrigation management, use of superior seeds, use of fertilizers, eradication of pests and diseases, and the use of appropriate farming methods, all of which are referred to as Sapta Usaha (Tjitropranoto, 1977).

The process of entering the Green Revolution program was also introduced through the mass intensification program (inmates), then activities were developed through special intensification farmer groups (census) aimed at helping farmers increase their farming productivity, including credit problems (Arifin, 2001). In implementing agricultural development, rice plants, in addition to requiring the construction of physical facilities, also need facilities and infrastructure that support agricultural production, for example, pesticides and drugs. In its implementation, because Indonesia generally consists of small farmers with limited land and capital, credit from the government is needed. The function of the fund is to buy superior seeds, fertilizers, anti-pesticide pesticides, and plant maintenance costs.

The Green Revolution, a form of agricultural modernization, is expected to increase food production and ensure food security. The modernization of agriculture has brought great changes to the agricultural industry, both in terms of agricultural equipment and the attitude and culture of rural communities. Modern agriculture is characterized by the use of modern agricultural tools, the use of superior seeds, the use of irrigation, the use of machinery, the use of fertilizers, and the use of pesticides. Programs cannot be separated from politics. The food policy that was implemented was indeed a success. Under the New Order government in the 1960s, the economy experienced stability, marked by the recovery of the prices of necessities. Since then, Indonesia has received support and cooperation from foreign countries (especially the West) to meet food demand and beat



inflation.

### **Positive Impacts and Negative Impacts of the Green Revolution in the New Order Period**

Implementing the Green Revolution by utilizing new technological advances in agriculture has a positive impact and is accompanied by other negative impacts. The achievement of a rapid increase in agricultural products since the emergence of the Green Revolution program during the New Order era compared to previous years is one of the positive impacts of the green revolution. The use of technology that can accelerate farmers in managing agricultural land, such as the use of tractors; rice grinder; rice thresher; and other technologies, in addition to accelerating land management, by discovering and using new technologies for agriculture, make farmers more skilled in cultivating various types of crops (Rinardi, 2019) <sup>[17]</sup>. It has an impact on increasing rice production and making Indonesia experience an increase in rice production. Evidence of increased agricultural production due to the Green Revolution can be seen between 1968-1984, with an increase in rice production of around 5% per year (Yulia, 2019) <sup>[25]</sup>. Along with increasing rice production due to implementing the Green Revolution and increasing rice production almost three times nationally (Las, 2009) <sup>[10]</sup>.

The increased rice production led to Indonesia experiencing rice self-sufficiency in 1984. Even though the Green Revolution was carried out during the Soeharto era, it was not able to make Indonesia a country that was able to be self-sufficient in food continuously. The food self-sufficiency that Indonesia achieved lasted only for five years, from 1984-1989 (Ministry of Education and Culture of the Republic of Indonesia, 2017). Certainly, the green revolution during the New Order era contributed greatly to providing an abundance of rice to make Indonesia self-sufficient in rice.

Regarding the negative impact of the green revolution policy, it can be seen in several social and ecological problems that arise due to the implementation of the modernization of agriculture. Ecological problems caused by the implementation of the Green Revolution are the use of factory fertilizers with chemical ingredients, which are used to stimulate the soil so that it produces nutrients continuously, which is not normal. Soil continuously produces nutrients due to abnormal actions, resulting in "soil saturation." As a result, land saturation impacts the non-optimal ability of the land to produce food crops (Nugroho, 2018) <sup>[14]</sup>.

The use of chemical-based fertilizers, as well as drugs, causes damage to agricultural lands, such as environmental degradation and pollution, due to the entry of many chemical elements into agricultural land. Using chemical fertilizers is considered to accelerate plant growth and shorten harvest time. However, if chemical fertilizers and drugs are used repeatedly and continuously, the soil ecosystem will be damaged. Farmers are not aware of this. They are unaware that chemical substances can damage the soil ecosystem, and the nutrients in planting become unbalanced (Gultom, 2021) <sup>[6]</sup>.

The negative impact of the use of chemical substances in the Green Revolution has been criticized, along with the increasing public awareness of the surrounding environment. Winarto (1999) stated that the Green Revolution impacted environmental sustainability. Some of

the impacts on environmental sustainability, among others, destroying soil-fertilizing organisms due to the use of chemical substances, soil fertility is not as before or is said to have declined and resulted in some previously fertile agricultural lands becoming barren, the presence of pesticides or residues in agricultural land and resulting in yields. In agriculture which also contains pesticide residues, the soil ecosystem becomes unbalanced and damaged, and there is an explosion of pest attacks and an increasing number of pests that attack crops (Rosadillah, 2017) <sup>[18]</sup>.

Another negative impact caused by implementing the Green Revolution is the social inequality between rich and poor farmers. Farmers are required to get a greater profit in the new cultivation system than the capital spent when planting their production plants. Demand due to several modernizations in agriculture, farmers need more funds than before in order to buy superior seeds, chemical fertilizers, anti-pesticide pesticides, and pay farm laborers who work with them. The funds issued are not small; therefore, farmers need to get greater profits than what they spend so that farmers do not experience big losses because of the large expenditures when opening their crop cultivation system (Rinardi, 2019) <sup>[17]</sup>.

Indonesia achieved food self-sufficiency from 1984 to 1989. During that time, the beneficiaries were the rich farmers, while the small farmers and farm laborers decided to leave agriculture and were forced to earn a living outside the agricultural sector, for example, in the informal sector in urban areas (Mappatoba, 2014) <sup>[11]</sup>. Agricultural modernization makes small farmers miserable, especially women farmers who have lost their jobs due to the implementation of agricultural modernization. The farmers who lost their jobs in the agricultural sector then moved to work in the non-agricultural sector by working as industrial workers and even migrating to other countries as Indonesian workers (TKI) (Tahir. *et al.*, 2019) <sup>[24]</sup>. The work done by communities and farmers who decide to leave the agricultural sector varies. Some become barbers, open workshops, traders, livestock, drivers, employees, and other jobs (Saleh, 2020) <sup>[19]</sup>.

Another negative impact caused by implementing the Green Revolution is the increase in debt. In the new cultivation system, farmers are required to get a greater profit and the capital issued. Capital funds to purchase superior seeds, chemical fertilizers, and anti-pesticide pesticides must be returned with large profits (Rinardi, 2019) <sup>[17]</sup>. However, if the farmer is not rich, then the farmers who want to implement a new cultivation system need to borrow to obtain initial capital to purchase the needs of crop cultivation. It makes farmers' debt even bigger if the harvest does not match what is expected.

### **5. Conclusion**

The Green Revolution is an event concerning major changes in the agricultural and land systems to increase production yields by planting superior seeds. The oldest history discussing the agricultural revolution is in Ancient Greece during the reign of Solon. Not only in Indonesia, but agricultural modernization has also occurred in several countries. The green revolution or agricultural modernization often occurs when a country experiences a food crisis and mass poverty—implementing the Green Revolution to improve and increase food security for the community. For example, the food crisis in Europe

prompted Thomas Robert Malthus to develop superior seeds to improve agricultural production. The development of superior seeds is still being studied and developed. Japan is a country that is serious about developing new plant varieties. With adequate technology in this era, seeds for some crops were harvested faster than before. Of course, the development of superior seeds will shorten the harvest period, and farmers will be able to produce more crop production. The development of plants that are resistant to pest attacks also makes more harvests to be obtained. With so many positive things that happened due to the Green Revolution, it does not mean that the Green Revolution is free from criticism. In the 1950s, Professor Hernandez criticized the Mexican Agricultural Program for following the United States agricultural program without modifications according to Mexican conditions. According to Professor Hernandez, abundant harvests in a short time due to chemicals can damage the environment. The use of chemical fertilizers raises much criticism. The excessive use of chemical fertilizers can cause instability of soil elements and damage the soil ecosystem, apart from the negative impacts caused by implementing the Green Revolution in Indonesia. The Green Revolution made Indonesia self-sufficient in rice in 1984, even though only rich farmers could feel the benefits.

### Limitations

The limitations experienced by the author in writing an article entitled "The Green Revolution of the New Order Period" include, among others, the difficulty in coordinating because it is far away and can only be via WhatsApp; having difficulty in compiling a literature review; and encountered difficulties in developing the results found.

### 6. References

- Asfar IT. Analisis Naratif, Analisis Konten, dan Analisis Semiotik (Penelitian Kualitatif). Penelitian Kualitatif, 2019. Retrieved from: [https://www.researchgate.net/publication/330337822\\_ANALISIS\\_NARATIF\\_ANALISIS\\_KONTEN\\_DAN\\_ANALISIS\\_SEMIOTIK\\_Penelitian\\_Kualitatif](https://www.researchgate.net/publication/330337822_ANALISIS_NARATIF_ANALISIS_KONTEN_DAN_ANALISIS_SEMIOTIK_Penelitian_Kualitatif)
- Basmar EP. Ekonomi Bisnis Indonesia. Yayasan Kita Menulis, 2021. Retrieved from: [https://books.google.com/books/about/Ekonomi\\_Bisnis\\_Indonesia.html?id=DTUqEAAAQBAJ](https://books.google.com/books/about/Ekonomi_Bisnis_Indonesia.html?id=DTUqEAAAQBAJ)
- Basrin E. Indoprogres, September 25, 2017. Retrieved from: <https://indoprogres.com/2017/09/pengantar-politik-agraria-memahami-peta-jalan-me-nuju-keadilan-agraria/>
- Dewi O. Resistensi Petani: Suatu Tinjauan Teoritis. Sosio Informa. 2007; 12(2). Retrieved from: <https://e-journal.kemsos.go.id/index.php/Sosioinforma/article/view/976/0>
- Goldberg B, November 2, 2019. Retrieved from: <https://resource.rockarch.org/story/the-rockefeller-and-ford-foundations-navigate-civil-war-in-Nigeria/>
- Gultom F. Revolusi Hijau Merubah Sosial-Ekonomi Masyarakat Petani. Jurnal Pembangunan Sosial. Desember. 2021; 4(2). Retrieved from: <https://journal.uinsgd.ac.id/index.php/temali/article/view/12579/pdf>
- Headey D. Toward A Green Revolution in Africa, What Would It Achieve, and What Would It Require? Agricultural Economics. 2008; 39. Retrieved from: [https://www.academia.edu/es/14303481/Toward\\_a\\_green\\_revolution\\_in\\_Africa\\_a\\_what\\_would\\_it\\_achieve\\_and\\_what\\_would\\_it\\_require](https://www.academia.edu/es/14303481/Toward_a_green_revolution_in_Africa_a_what_would_it_achieve_and_what_would_it_require)
- Holsti OR. Content Analysis for The Social Sciences and Humanities. Reading, MA: Addison-Wesley (content analysis), 1969. Retrieved from: <https://ci.nii.ac.jp/naid/10007743499/>
- Kementerian Pendidikan dan Kebudayaan Republik Indonesia. Sumber Sejarah Lisan Revolusi Hijau di Indonesia. Jakarta: Direktorat Sejarah, 2017. Retrieved from: [https://pustaka.kemdikbud.go.id/libdikbud/index.php?show\\_detail&id=42660](https://pustaka.kemdikbud.go.id/libdikbud/index.php?show_detail&id=42660)
- Las I. Revolusi Hijau Lestari untuk Ketahanan Pangan ke Depan. Tabloid Sinar Tani. 2009; 14. Retrieved from: <https://www.litbang.pertanian.go.id/artikel/232/pdf/Revolusi%20Hijau%20Lestari%20untuk%20Ketahanan%20Pangan%20ke%20Depan.pdf>
- Mappatoba M. Resensi Buku: Frans Husken (1998) Masyarakat Desa dalam Perubahan Zaman: Sejarah Difrensiasi Sosial di Jawa. Jurnal Academia Fisip Untad. 2014; 6(1). Retrieved from: <http://jurnal.untad.ac.id/jurnal/index.php/academica/article/view/2239>
- Miles MB, Huberman AM. Analisis Data Kualitatif Jakarta: Universitas Indonesia, 1992. Retrieved from: <https://eprints.uny.ac.id/18100/5/BAB%20III%2009.10.033%20Aji%20p.pdf>
- Muhson A. Teknik Analisis Kuantitatif. Universitas Negeri Yogyakarta. Yogyakarta, 2006. Retrieved from: [https://www.academia.edu/download/62381283/Analisis\\_Kuantitatif\\_20200316-34573-y278dq.pdf](https://www.academia.edu/download/62381283/Analisis_Kuantitatif_20200316-34573-y278dq.pdf)
- Nugroho WB. Konstruksi Sosial Revolusi Hijau di Era Orde Baru. Journal on Socio-Economics of Agriculture and Agribusiness. 2018; 12(1). Retrieved from: <https://ojs.unud.ac.id/index.php/soca/article/download/45139/27364>
- Riawanti W. Kajian Peran Elit Politik dalam Kebijakan Pangan: Jebakan Impor Pangan Pasca Reformasi. Jurnal Natapraja: Kajian Ilmu Administrasi Negara. 2015; 3(1). Retrieved from: <https://journal.uny.ac.id/index.php/natapraja/article/view/11956>
- Rigg J. More Than The Soil: Rural Change in Southeast Asia. Prentice Hall, 2001. Retrieved from: [https://www.researchgate.net/publication/345864392\\_More\\_than\\_the\\_Soil\\_Rural\\_Change\\_in\\_SE\\_Asia](https://www.researchgate.net/publication/345864392_More_than_the_Soil_Rural_Change_in_SE_Asia)
- Rinardi, Haryono dkk. Dampak Revolusi Hijau dan Modernisasi Teknologi Pertanian: Studi Kasus pada Budi Daya Pertanian Bawang Merah di Kabupaten Brebes. Jurnal Sejarah Citra Lekha. 2019; 4(2). Retrieved from: [https://r.search.yahoo.com/\\_ylt=AwrT4axmASpitrAAApJXNyoA;\\_ylu=Y29sbwNncTEEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1646948838/RO=10/RU=https%3a%2f%2fejournal.undip.ac.id%2findex.php%2fjscl%2farticle%2fdownload%2f21936%2fpdf/RK=2/RS=\\_muAGiTXhgksX.3Gu3ixrQ0N26s-](https://r.search.yahoo.com/_ylt=AwrT4axmASpitrAAApJXNyoA;_ylu=Y29sbwNncTEEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1646948838/RO=10/RU=https%3a%2f%2fejournal.undip.ac.id%2findex.php%2fjscl%2farticle%2fdownload%2f21936%2fpdf/RK=2/RS=_muAGiTXhgksX.3Gu3ixrQ0N26s-)
- Rosadillah R, Fatchiya A, Susanto D. Penerapan Pengelolaan Tanaman Terpadu Padi Sawah di Kecamatan Toili, Kabupaten Banggai, Sulawesi

- Tengah. *Jurnal penyuluhan*. 2017; 13(2). Retrieved from: <https://journal.ipb.ac.id/index.php/jupe/article/download/15052/12992>
19. Saleh A. *Perubahan Sosial Budaya Masyarakat Pedesaan Pasca Revolusi Hijau. Moderasi: Jurnal Studi Ilmu Pengetahuan Sosial*. 2020; 1(1). Retrieved from: [https://r.search.yahoo.com/\\_ylt=AwrX5krZuihi6KUAWAT3RQx.;\\_ylu=Y29sbwMEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1646865241/RO=10/RU=http%3a%2f%2fmoderasi.org%2findex.php%2fmoderasi%2farticle%2fdownload%2f10%2f6%2f/RK=2/RS=V5YzDBrUBtr1xmDVP0QWxynu8ac-](https://r.search.yahoo.com/_ylt=AwrX5krZuihi6KUAWAT3RQx.;_ylu=Y29sbwMEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1646865241/RO=10/RU=http%3a%2f%2fmoderasi.org%2findex.php%2fmoderasi%2farticle%2fdownload%2f10%2f6%2f/RK=2/RS=V5YzDBrUBtr1xmDVP0QWxynu8ac-)
  20. Sawit HM, Triono D. *Pola Musiman dan Tingkah Laku Rumah Tangga Buruh Tani dalam Pasar Tenaga Kerja di Pedesaan Jawa*, 1984.
  21. Singh R. *Environmental Consequences of Agricultural Development: A Case Study From The Green Revolution State of Haryana, India*. *Agriculture, Ecosystems & Environment*. 2000; 82(1). Retrieved from: [https://www.academia.edu/1980554/Environmental\\_consequences\\_of\\_agricultural\\_development\\_a\\_case\\_study\\_from\\_the\\_Green\\_Revolution\\_state\\_of\\_Haryana\\_India](https://www.academia.edu/1980554/Environmental_consequences_of_agricultural_development_a_case_study_from_the_Green_Revolution_state_of_Haryana_India)
  22. Sudarsono S. *Revolusi Hijau pada Perubahan Sosial Komunitas Tani (Studi Alat Produksi di Desa Tebongeano, Kecamatan Lambai, Kabupaten Kolaka Utara)*. *Walasuji*. 2019; 10(1):47-56. Retrieved from: <https://jurnalwalasuji.kemdikbud.go.id/index.php/walasuji/article/view/38>
  23. Syahyuti N. *Pemahaman terhadap Petani Kecil sebagai Landasan Kebijakan Pembangunan Pertanian*. *Forum Penelitian Agro Ekonomi*. 2013; 31(1). Retrieved from: <https://core.ac.uk/display/132241095>
  24. Tahir R, Rosanna, Djunais I. *Dampak Modernisasi Pertanian Terhadap Petani Kecil dan Perempuan di Sulawesi Selatan*. *Agrokompleks*. 2019; 19(2). Retrieved from: <https://ppnp.e-journal.id/agrokompleks/article/view/138>
  25. Yulia, Desma. *Revolusi Hijau Kebijakan Ekonomi Pemerintah Bidang Pertanian di Kanagarian Selayo Tahun 1974-1998*. *Historia: Jurnal Program Studi Pendidikan Sejarah*. 2019; 4(2). Retrieved from: <https://www.journal.unrika.ac.id/index.php/journalhistoria/article/view/1931>
  26. Zein S. *Reformasi Agraria dari Dulu hingga Sekarang di Indonesia*. *Jurnal Ilmiah Hukum Dirgantara*. 2019; 9(2). Retrieved from: <https://journal.universitassuryadarma.ac.id/index.php/jihd/article/view/357>
  27. Zhu M, Sari A, Lee MM. *A Systematic Review of Research Methods and Topics of The Empirical MOOC Literature (2014-2016)*. *The Internet and Higher Education*. 2018; 37. Retrieved from: <https://doi.org/10.1016/j.iheduc.2018.01.002>