

## AGRICULTURAL EXTENSION EDUCATION IN INDONESIA IN THE COLONIAL PERIOD 1900-1941

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### ABSTRACT

This paper examines agricultural extension education during the colonial period in Indonesia and used historical research to investigate it. The agricultural extension was formed in 1911. Agricultural experts in Indonesia at that time were agricultural engineers who graduated from Agricultural College in Wageningen, the Netherlands. They did not understand much about indigenous cultures, languages, and agrarian systems. The task of the agricultural extension was to improve the economy of rural peasant communities. Agricultural education in Indonesia began with the *Middlebare Landbouw School* for higher education. For lower-level education or the first secondary school, *Cultuur School* was established. This school prepared graduates to work as forestry officials, agricultural supervisors, and agricultural extension workers. The number of graduates was minimal, so it can not reach the vast territory of Indonesia. For this reason, graduates of agricultural schools who worked in extension offices (*Landbouw-voorlichtingsdienst*) gave agricultural courses to village school teachers (*Vervolksschool*). The teachers then taught agriculture to grade five elementary school students, and peasant groups formed in the villages. These peasant groups were led by peasants who have succeeded in the village, which were then used as movers in village economic growth.

Keywords: agricultural extension, education, history

### ABSTRAK

Tulisan ini membahas pendidikan penyuluhan pertanian selama periode kolonial di Indonesia dan menggunakan menggunakan metode sejarah untuk menelitinya. Penyuluhan pertanian dibentuk pada tahun 1911. Ahli pertanian di Indonesia pada waktu itu adalah insinyur pertanian yang lulus dari Sekolah Tinggi Pertanian di Wageningen, Belanda. Mereka tidak mengerti banyak tentang budaya, bahasa, dan sistem agraria lokal. Tugas penyuluhan pertanian adalah untuk meningkatkan ekonomi masyarakat petani pedesaan. Pendidikan pertanian di Indonesia dimulai dengan *Middlebare Landbouw School* untuk pendidikan tinggi. Untuk pendidikan tingkat rendah atau sekolah menengah pertama, *Cultuur School* didirikan. Sekolah ini mempersiapkan lulusan untuk bekerja sebagai pejabat kehutanan, pengawas pertanian, dan penyuluh pertanian. Jumlah lulusannya sangat minim, sehingga tidak bisa menjangkau wilayah Indonesia yang luas. Untuk alasan ini, lulusan sekolah pertanian yang bekerja di kantor penyuluhan (*Landbouw voorlichtings dienst*) memberikan kursus pertanian kepada guru sekolah desa (*Vervolksschool*). Para guru kemudian mengajar pertanian ke kelas lima siswa sekolah dasar, dan kelompok tani terbentuk di desa-desa. Kelompok tani ini dipimpin oleh petani yang telah berhasil di desa, yang kemudian digunakan sebagai penggerak dalam pertumbuhan ekonomi desa.

Kata kunci: penyuluhan pertanian, Pendidikan, sejarah



## **INTRODUCTION**

Indonesia is an agricultural country. Its agrarian products enter international trade. Traders have introduced Indonesian agricultural products since the ancient path of international trade. Agricultural production systems that have been running for centuries have formed a different kind of humidity throughout the vast territory of Indonesia. Wertheim described three Indonesian civilizations that influenced production systems and trade patterns: (1) The hinterland of Central Java and East Java have long known as the pattern of irrigated rice fields. This pattern has been taking place in much of Central Java and East Java since thousands of years ago. The population living in the rice fields in the area under investigation was very tight. Village life was mainly based on a closed economic system. Peasants have become accustomed to producing the necessities of daily life in their household, (2) Along the coasts of Java, Sumatra, the Malay Peninsula, estuaries of large rivers in Kalimantan, and the eastern islands, developed coastal kingdoms. These coastal cities had very close contact with other port cities in Hindustan, India, China, Japan, and others. The nobles controlled the port cities and international trade, especially in the spice trade, (3) The inland regions of the coastal kingdoms of Sumatra and Kalimantan were very different from irrigated and densely populated areas such as Central Java and East Java. In this area, the land was still spread out wide. The population was still sparse. Farmers grew pepper beside food crops. Some parts of West Java until 1600 were still a continuation of Sumatra's forests. Priangan peasants were not a permanent peasant. They were not active in trade. They handed over their agricultural products to the king in Banten (Wertheim, 1999, pp. 2-3).

Spices from Indonesia pushed Europeans to come to Indonesia. When Dutch traders had difficulty getting spices in Europe, they were moved to get spices directly from Indonesia (Atmosudirdjo, 1957, p. 57). When the Dutch traders first arrived

at the port of Banten on June 22, 1596, they found that the port was already crowded with traders from various countries. There were traders from Turkey, China, Bengal, Arabia, Persia, Gujarat, and others carrying merchandise from their homeland. Meanwhile, Indonesian traders, in addition to spices, also offered chicken, meat, and various kinds of fruits (Van Leur, 2015, p. 3).

The Dutch people who came to Java were initially only in the form of trade partnerships in the Netherlands. They then shared in a container called *Verenigde Oost-Indische Compagnie* (VOC) in 1602 (Atmosudirdjo, 1957, p. 60). The VOC developed into a large trading company, which not only controlled the trade routes but also controlled the political sphere. The big ambition to dominate the political field had shifted its trading interests so that its position in international trade had weakened. Early in the 19th century, the VOC was taken over by the Dutch government. H.W. Daendels was sent as Governor-General (1808-1811) to establish a modern government called the Dutch East Indies (Onghokham, 1983, p. 6).

The Dutch East Indies colonial government controlled Indonesia's trade routes. It managed Indonesian agricultural products that sold well in international markets. Land and agricultural power were used more to produce export crops such as sugar, indigo, coffee, tea, and rubber. Food crops that were produced to meet the needs of life of farmers received less attention. Large plantations with their growing plants were growing rapidly. From these export crops, Western plantation companies made huge profits (Fasseur, 1975).

Meanwhile, the yields of food crops produced to meet the daily needs of peasants continued to decline. This condition caused economic dualism. The foreign economy developed rapidly, while the indigenous economy suffered a setback (Boeke, 1953).

At the end of the 19<sup>th</sup> century, the rural economy, especially in Java, experi-

enced an extraordinary decline. The poverty of the indigenous population had led to the birth of an ethical policy movement. Despite its enthusiasm to improve the economy of the Indonesian people, this movement was overcome by various interests. Therefore the limits of understanding about ethical politics also varied. Some understood the ethical movement as the political movement to abolish guardianship, the politics of increasing welfare, ethical imperialism, and the political movement for the benefit of the Dutch export industry (Locher-Scholten, 1981).

The essence of these movements was the demand for the Dutch government to pay the debt of gratitude to the Indonesian people. One of the results of the ethical policy movement was the formation of the Department of Agriculture (*Department van Landbouw, Nijverheid, en Handel*) in 1903. In a speech around the founding of the Department of Agriculture in Tweede Kamer, Van Kol accused the Dutch government of neglecting its obligation to pay attention to the fate of indigenous agriculture (*Het Inlandsche Landbouw Department in Tweede Kamer*, 18 July 1904). This department was established to enhance the people's agricultural economy (*Staten Generaal*, 6 July 1904). To be able to provide technical knowledge to indigenous peasant, in 1911, this department established the agricultural extension service (*Landbouwvoorlichtingsdienst*) (Koens, 1925, p. 26). This agricultural extension service then continued until Indonesia's independence. Through intensive agricultural counseling, the New Order government even succeeded in self-sufficiency in rice in the 1980s. However, in the period after that, Indonesia returned to being an importer of rice and other agricultural products such as corn and soybeans (Davidson, 2018).

The first article about *Landbouwvoorlichtingsdienst* was written by A.J. Koens, '*De Landbouwvoorlichtingsdienst en de Aanstaande Bestuursreorganisatie*' in *Landbouw, Tijdschrift der Vereeniging van Landbouwconsulenten in Nederlandsch-Indie*. I-1926-26. P. 79-108. Koens explained that

the *Landbouwvoorlichtingsdienst* initially can not be described as a service. In the *Department of van Landbouw, Nijverheid, en Handel*, this service was a function of the *Landbouwafdeeling*. It only took shape after *Bestuurshervormingswet 1922* (Koens, 1956, p. 26).

Research on rural agricultural education (*desa landbouw onderwijs*) was carried out by Vroon. In his article entitled '*Beschouwing over het desalandbouw-onderwijs in Priangan*' he criticized Koens, who standardized rural agricultural education in Java. Taking the case in Priangan (West Java), Vroon argued that the village agriculture school education method as practiced by Koens in Bondowoso (East Java), apparently cannot be implemented in Priangan villages. Peasant communities in rural Priangan prefer sending their children to religious schools rather than sending them to Western schools (Vroon, 1930).

Agricultural counseling by Prince was seen as part of the expansion of smallholder agriculture and colonial government intervention in efforts to improve the quality of smallholder agrarian products. The aim of expanding smallholder agriculture was to increase agricultural production and the welfare of the Indonesian population. The strategy of disseminating information carried out by the agricultural extension service by introducing technical agricultural knowledge. In his analysis of the work of the agricultural extension service, Prince concluded that the agricultural extension service focused more on introducing agricultural technology, but paid less attention to what the local community needed (Prince, 1993).

A research conducted by Wahyono and Huda focused more on the development of agricultural extension institutions in the Dutch East Indies. The results of his study concluded that although agricultural extension had been established since 1911, the results of his work were practically only visible after the 1920s. This institution concretely found the format of its work after the formation of the provinces in Java, which were established under the

Government's Renewal Act (*Bestuurs-hervormingswet*) 1922. With the establishment of the province in Java, which began in West Java in 1928, the responsibility of the agricultural extension service was given to the province (Wahyono and Huda, 2015).

Other reports on the agricultural extension were scattered in various colonial newspapers written between 1900 and 1942, which were the references in this writing. Besides, there were two books on agricultural extension, each written by the agriculture department team (1978) and by Syamsuddin Abbas (1995). Both of these books only presented narratives of the milestones of agricultural extension from 1905 until the year the book was written. All of the previous writings above did not at any time specifically discussed education or agricultural courses that were given in stages to the peasants' groups in the countryside.

This paper examines one segment of the history of Indonesian agriculture that has not been widely discussed by historians, namely how the Dutch East Indies colonial government prepared extension experts who would provide counseling about agriculture. It is an effort that can improve the quality of agricultural products of the indigenous peasant so that it can improve their agricultural products. Therefore, this paper can contribute to developing Indonesian historiography, especially in the history of agricultural extension education that had not received much attention from historians today.

## **RESEARCH METHOD**

This research was conducted using the historical method. Data collection was done through searching primary sources, namely archival sources such as *Memorie van Overgave* (MvO), annual reports of the Agricultural Extension Service (*Jaarverslaag van Landbouwwoorlichtngsdienst*), Colonial Reports (*Coloniale Verslagen*), newspapers published between 1900 and 1942, and secondary sources such as books and other reference sources. It was not easy for writers to trace these sources because not

many historians had written about this field. Through a very serious wandering in the National Library, by reading newspaper after newspaper that was published in the late 19th century until the beginning of the 20th century, the writer finally began to find an initial picture of an agricultural extension agency. Subsequent research was carried out at the Bogor Agricultural Library (Pustaka), the Museum Surat Kabar, and the Solo Mangkunegara Library, as well as the Yogyakarta Regional Library and Archives, so that eventually a lot of sources were gathered that confirmed each other.

Through a critical source analysis process, these sources were further reduced, so that it was only focusing on data relating to agricultural education, especially agricultural extension. The selected sources were then constructed as historiographic works. This paper tries to take "angle," which has not received much attention in the study of Indonesian historiography.

## **RESULTS AND DISCUSSION**

### **Agricultural Education**

The main task of the Department *van Landbouw Nijverheid en Handel* was to improve indigenous peasant as its system still used traditional methods. Not many of them can use agricultural tools, fertilizing plants, and selecting superior seeds. To guiding the indigenous peasant in modern land management, agricultural experts were needed to be placed in vast areas of Indonesia. For this reason, this new department required many agricultural scholars.

The scholars who were first used to guide peasants were agricultural graduates from the Wageningen Agricultural University, the Netherlands. They already existed in Indonesia and worked as agricultural consultants on European plantations. They were first recruited to become agricultural extension workers. In addition to working on European plantations, they also classified themselves as professionals, namely as agricultural consultants (*landbouwconsulenten*). As a professional

group, they formed a professional organization called *Vereeniging van Landbouwconsulenten* (agricultural consultancy association). This group was made as the backbone when *Landbouwschool* was opened in Bogor in 1903 (*Staatsblade*. No. 71, 1903) and then changed to *Middelbare Landbouw School* in 1913. The school was established to bridge the gap of knowledge between Wageningen graduates from agricultural engineers and native peasants in rural areas. Therefore, the aim of this school was to educate native students for large plantation companies and to form advanced indigenous farmers, as well as to be able to use their knowledge for their own business or as native officials, and slowly exerted influence over the indigenous peasant.

Based on *Staatsblade* 1903 number 71, education in agricultural schools lasted for three years. The School of Agriculture was intended to obtain theory and practice from young people who will later seek placement with large-scale agriculture in the Dutch East Indies, as well as from prospective indigenous officials. The school year started from the end of fasting time until the beginning of the next fast. This school provided scholarships for disadvantaged children to attend a complete three-year school program. For students whose parents did not live in Buitenzorg (Bogor), travel expenses were supplied from their residence to Buitenzorg and returned to the student's place of origin. Travel costs were also given to third-grade students (highest) to the areas of practice and trial fields (*Regeeringsalmanak for Nederlandsche-Indie*, 1912, p. 385).

Theoretical and practical education in school subjects was provided by teachers, selected from technical officials and private scholars associated with the *Departement van Landbouw, Nijverheid, en Handel*, or staff from *Veerartsenijkundigen Dienst en van den Waterstaat* staff in Buitenzorg (Bogor). The appointment of these teachers was authorized through a government decree dated July 31, 1903 Number. 48, which then set new standards for allowances given to teachers. The head of the division, who carried out daily manage-

ment and supervisors, received a separate contribution (*Staatsblade*. 1904 no. 382).

Practical education can be carried out in experimental fields. Through experimental land, regular discussions, conversation, and written counseling, they can produce useful production in indigenous peasant. The vibrant botanical value of this scientific institution and the established experimental gardens led to the availability of suitable experimental fields for this education. This school also provided an opportunity for young people who wanted to continue their studies at the agricultural school in Wageningen but remain oriented to indigenous plants. Pilot gardens and demonstration plotted as useful learning facilities for education. The experimental field was used by students to find solutions to the problems they faced. On the demonstration ground, students were assigned to make the results of their research applicable (*Een Inlandsche Landbouwschool*, April 25, 1902).

To be able to foster indigenous peasants, in 1911, the Director of the Department of Land van Landbouw, Nijverheid en Handel, promoted the establishment of a community agricultural extension agency named *Landbouwvoorlichtingsdienst*. The establishment of this service was based on Lovink's personal initiative as Director of the *Department of van Landbouw, Nijverheid en Handel* (Lekkerkerker, 1921, p. 8). With the establishment of this *Landbouwvoorlichtingsdienst*, the government needed more agricultural experts.

In 1913 the *Landbouw School* was renamed the *Middelbare Landbouw School* (MLS). The school initially accommodated students from Dutch and Chinese citizens. 1903-1913 was a period when it was still a special bureaucracy. In the first three years, the number of European students ranged between  $\frac{1}{2}$  and  $\frac{1}{3}$  of all students. Then this comparison slowly changed. Until before 1912, this school accommodated 28 students, including a European and a Chinese (*Middelbare landbouwschool te buitenzorg*, June 11, 1920).

MSL used the Dutch language of instruction. The aim was to provide op-

portunities for youth from any background to become experts in agriculture and plantations. By enjoying a monthly allowance, indigenous youths were educated to become aspirants of indigenous agricultural teachers, prospective employees at community credit banks, and prospective native forest inspectors. Accepted at this school were those who had a *Meer Uitgebreid Lager Onderwijs* (MULO) diploma, an educational institution for prospective native employees, and teacher schools for native teachers, those who moved to the 4th class of *Hogere Burger School* (HBS) with a five-year study period. Other students considered capable enough to take education in this school by taking an entrance examination.

Those who were proven to be unsuitable for further positions in school, according to their objectives, will be expelled from school, whether voluntary or not. Students leaving school before getting a diploma were asked to return the allowance they had enjoyed. Students who had graduated from this school were appointed as prospective indigenous agricultural teachers with a salary of f 75 per month. They were employed at agricultural schools in Wonosobo (Central Java), Soreang (West Java), Purworejo (Central Java), and Plumbon (West Java).

They were also expected to be the pioneers to establish similar institutions in several places or the agricultural extension service, to conduct research and to develop pilot plantations/gardens, and to become speakers in the field of agriculture. By the government's decision on 26 April 1913 number 58 (*Memorie van Overgave* No. 345), the performance of indigenous agricultural teachers was again divided into two tasks: providing education about forestry and preparing a practical agricultural extension to farmers (*Middelbare Landbouw School*, July 26, 1913). MLS was then divided into two majors, namely agriculture and forestry. The agriculture department was developed to prepare agricultural extension workers. The forestry department was opened to prepare graduates to work in the forestry service (*De*

*Middelbare Landbouwschool*, October 30, 1928).

Agricultural College in Wageningen had an essential role in providing agricultural teachers in Indonesia. This role was increasingly important after the founding of the *Landbouwvoorlichtingsdienst* in 1911. To meet the needs of employees in the Extension Service, in 1918, the Agricultural College was renamed to be Agricultural University. The change in name was intended to better meet the needs of agricultural scholars in accordance with widespread agriculture in Indonesia. This university graduate was deployed to the regions as agricultural instructors with the title *landbouwconsulent*, which in Javanese society was known as *Mr. Landbouw*.

Initially, they were deployed to the Dutch East Indies. They must always be in contact with civil servants because they had the legality to deal directly with the indigenous population. In addition to language problems and understanding of the economy of indigenous farmers, relations with government employees (state employees) were the main obstacles that must be faced by them. H.J. Lovink, who had been the Director of the *Department of Landbouw, Nijverheid, and Handel*, and as the founder of *Landbouwvoorlichtingsdienst* acknowledged the need for agricultural teachers who also had an insight into the rural economy, as evidenced by the test program that candidates must take before the appointment (*Landbouw*, 1926, p. 26). Civil servants in the area did not like the arrival of agricultural scholars because they felt that their power had been intervened by newcomers who did not even understand the culture and even the local language (Prince, 2000, p. 249; *De Landbouw Voorlichtingsdienst*, March 21, 1935).

The agricultural experts who graduated from Wageningen, who were brought to the regions as extension workers, felt they did not know much to do what. They did not understand the local language. Communication with indigenous people was not easy without the mediation of local officials or local leaders. It made them frustrated. Therefore, at the begin-

ning of their work as agricultural extension workers, they acted more as expert advisors to the local government, conducting research, and developing experimental gardens (*Voorlichting en kleine landbouw*, July 27, 1941). In the field, there were many complaints about the performance of Wageningen graduates. They were said only to understand the theory rather than practice in the field. Koens proposed that the graduates not only master the theory and method but also master the local culture (Koens, 1926).

An understanding of local culture, and the various types of local plants where *Landbouwconsulent* was assigned, were of concern to Koens. He applied his ideas when placed as *Landbouwconsulent* in Bondowoso (Besuki Residency), East Java. He also practiced agricultural courses as a chain of providing extension workers.

However, what Koens did then received criticism from L. J. Vroon, a *Landbouwconsulent* in Weltevreden, Batavia. The results of research conducted by Vroon at village schools in the Priangan area (West Java) indicated that what was done about the agriculture course at the village schools in the Priangan area could not be carried out. The community in the Priangan area was different from the Besuki Residency area, which in general had large tracts of land. In Priangan, peasants generally had small farms. They preferred to work on European plantations as wage labor rather than cultivating their agricultural land. They also preferred sending their children to religious schools rather than agriculture schools (Vroon, 1929).

Furthermore, Vroon said that the so-called general education in agriculture, in particular, took very little into account the differences mentioned above, because it was not adapted to local conditions. In Priangan, they immediately turned into theories, which were not related to agricultural practices. Interest in agricultural education dropped dramatically, so it was decided in 1926 to close. The decline in the number of participants in agrarian courses in Priangan (West Java) had oc-

curred since 1922. The report also explained that the fall was due to parents choosing to send their children to religious schools. In Ciwidey, Cianjur, Sumedang, Sukabumi, schools always lack students. Some schools even had to be closed because there were no students (*Jaarverslag van den Landbouwvoorlichtingsdienst over 1920-1921, 1923*, pp. 78-80).

In addition to MLS in Bogor, Sukabumi and Malang also established an agricultural school (*Landbouwschool-Cultuur School*). The same schools were also found in Pancasan, Bogor, and Solo. These schools were junior high school. In contrast to MLS, which was a senior high school, agricultural schools in Sukabumi (West Java), Malang (East Java), Pancasan (West Java), and Solo (Central Java) provided more practical education than theoretical. This education lasted for three years and can be followed by students who had completed primary school education. With the existence of this school, it was expected that the agricultural extension service would have a corps of indigenous labor that was suitable for low education (*Middelbare landbouwschool te buitenzorg*, June 11, 1920).

*Cultuur School* was the first advanced agricultural school or one level below MLS. This school accepted graduates of *Holland Inlandsche school (HIS)*, *Holland Chinese School (HCS)*, and *Europeche Lager School (ELS)*. In 1920 students who had just graduated, were appointed as employees, and for six months were placed in various plantations to pass practical formation. The method proved unsuccessful in positioning them as field workers so that the following year a year of further education was given at the Muara nursery. Based on this condition, preparatory education for prospective agricultural extension staff in Muara, and in Pancasan (Bogor), was developed.

### **Agricultural Extension Education**

The agricultural extension service in the area was based on a circular from the Director of Agriculture, Crafts, and Trade on December 5, 1923, divided into two lev-

els. At the first level, there was an extension of agricultural areas consisting of a collection of two or more agricultural areas (except for a few regions with special reasons). An experienced agriculture consultant led the agricultural information service at the regional level. The second level was the district / mayor's agricultural extension area. At this level, the agricultural extension service was led by a younger agricultural consultant and submitted to the regional level agricultural consultant.

Based on a circular of the Director of Agriculture, Crafts and Trade dated December 5, 1923, concerning the reorganization of agricultural extension aimed at agricultural consultants throughout Indonesia. Starting from January 1924, the number of agricultural areas was established in seven locations in Java and temporarily five locations outside Java (*Circular of the Head of Agriculture Section dated December 18, 1923*).

Each agricultural area which became known as the *Landbouw* office as contained in *Sinar Tani* 1th (1) July 1926, had the main tasks that can be grouped into five types as follows: (1) Broadcasted knowledge about agriculture through courses, advice and the like; (2) Demonstrated/introduced the use of agricultural tools, good seeds, overcome plant pest attacks, and treat plant diseases; (3) Gave advice on irrigation, land rights and the like; (4) Gathered various information about various matters of indigenous peasant so that they can find out the problems related to the prosperity of the indigenous peasant; (5) Introduced ways to plant weaving that was good and suitable to those prevailing in the area.

*Landbouwvoorlichtingsdienst* must be able to give advice not only in terms of agriculture and economics, whether an irrigation project can bring benefits or not from the farmer side (*Onze landbouw voorlichtingsdienst*, April 17, 1941). But also in terms of helping farmers to obtain seeds, fertilizers and agricultural tools such as plows. Agricultural extension workers also helped farmers how to get credit from the

farm business credit facilities provided by the government (van der Stock, 1925-1926).

A *landbouwconsulent* led to each agricultural area. These positions were all held by Dutch graduates from Wageningen. Its working area covered a vast area, across residencies, even across provinces. Theoretically, they were agricultural experts. However, they did not understand much about indigenous farming systems, the culture of the communities where they work, and their local languages. Thus, the big problem was how they could communicate with the local community. Because of that, the initial stage that they were working on was conducting various studies relating to various plants to obtain superior seeds that were suitable in the area. They also researched a variety of plant disease pests that hampered the growth of agricultural productivity of indigenous communities, as well as research on soil fertility and the use of fertilizers to fertilize the soil.

To be able to communicate with the local community, they were assisted by agricultural experts from indigenous communities graduating from MLS in Bogor who carried out their duties as *ajunct landbouwconsulent*. Chained down to the lower levels, agricultural workers from the *Landbouwschool* graduates in Malang, Pancasan, Solo and Sukabumi were also placed. Employees of the agricultural extension service in 1925 consisted of 27 agricultural consultants, six agricultural expert employees, two employees for inland fisheries, six for plantation expert employees, 64 agricultural consultants and aspirants, 29 agricultural supervisors, four plantation supervisors and one paramedic for nurseries fruit. Therefore, one corps had 139 employees, all under the head of agriculture and divided into 21 regions, 14 employees each in Java and Madura, and seven outside Java (*Jaarverslag van den Landbouwvoorlichtingsdienst over 1925, 1927*, pp. 9-14; *Het Nieuws van den dag voor Nederlandsch Indie*, May 7, 1927).

To reach an extensive area, the government needed to increase the participa-



tion of students entering agricultural schools. As mentioned above, there were only two levels of agricultural schools, namely the level of agricultural high school (MLS), and the level of agricultural secondary school, *Cultuur School*). *Cultuur schools* were agricultural schools, mainly in Malang and Sukabumi. This school accepted students from male, Chinese, and Dutch people. The requirement was to have a healthy body and sufficient knowledge, even 14 years old and not more than 17 years. Those who can be accepted at this school were *Hollands Inlandsche-School* (HIS) graduates, those who had passed the MULO entrance exam, had passed the *Europesch Lagere School* (ELS), *Hollandsch Chinese School* (HCS), or those who had received a recommendation from the director of the Ministry of Agriculture stated that they were able to attend education at the school (*Pemimpin Tani*, No. 1, January 1930).

Agricultural schools in Sukabumi and Malang were established to provide agricultural education at a lower level. The training was given for three years. In the third year, these school students were divided into several majors or divisions, namely the forest and agriculture and horticulture divisions. The forest and agriculture division was prepared to educate prospective agricultural supervisors. In contrast, the horticulture division was provided to educate students who would work as agricultural extension workers (*Regeeringsmanak voor Nederlandsche-Indie*, 1926, p. 321).

#### **Development of Agricultural Education**

MLS and *Cultuur School* is not to accommodate ordinary farmer children. Native children of the pedestal group only followed HIS. Whereas regular peasant children generally attended education at *Volksschool* or public school for three years, then they can continue their education to *Vervolksschool* for two years. This school was established in a self-sufficient manner by village institutions. In some schools, the Dutch East Indies government provided subsidies. The language of instruction

of this school used local languages, and in some cases, schools used Malay. *Vervolksschool* graduates can continue *Normaalschool* to be prepared to become teachers at *Volksschool* or *Vervolksschool*. The quality of this school was under HIS, ELS, or HCS. Therefore *Vervolksschool* graduates cannot continue to *Cultuurschool*. To enter *Cultuurschool*, they must attend an intermediate education called *Schakelschool*. These conditions indicated that the difficulty of being a student of an agricultural school (*Cultuurschool*). On the other hand, the government needed many students from agriculture to meet the needs of agricultural extension workers.

To be able to establish contact with farmers required a large number of liaison workers. Agricultural extension assistants who were already familiar with the local community tried to form core staff in each village. Farmers who were advanced, successful and had social status can work together as agents to educate other farmers. In this way, many farmers in the village will function as extension agents. The more advanced farmers, the more ready they were to make improvements. From this effort, a counseling education system was then prepared. This education will be integrated with the *Volksschool* people's school. To be able to provide suitable agricultural learning materials, adequate agricultural teachers were needed.

For this reason, agricultural extension assistants provided agricultural courses to public school teachers. These teachers were prepared to provide agricultural counseling in the villages. Through this simple agricultural education, liaison was born, which involved as much as possible in agricultural extension. They formed peasant groups. These liaison officers were appointed as chair of peasant groups with about 20 people. After Indonesian independence until the end of the New Order, it was also known as a "group of listeners and viewers" (*Klompencapir*) who were so active in moving farmers to achieve government programs. *Televisi Republik Indonesia* (TVRI), the only television that existed at that time, aired the group of

programs intensively. The members of this group will work together to sell their products, set up their barns to store seeds, and so on. Superior rice seedlings should not be eaten. If the seeds were eaten, the superior rice species would disappear (*Onze landbouw voorlichtingsdienst*, April 17, 1941).

The next step was to increase the teacher's knowledge output from *Normaalschool* in agriculture. For this reason, in 1929, in the town of Batu, East Java, an *opleiding voor Landbouwonderwijs* was established. Several teachers from *Normaalsechool* were selected and told to study at the school for one year. They were educated in various kinds of plants. For a year, they rolled their sleeves. The pen stem was thrown away and replaced with a hoe. In 1930-31 *Opleiding voor Landbouw* in Batu graduated 20 peasant teachers who were then placed as low school teachers in their respective regions, in Sumatra and Java. In 1931 another *Opleiding voor Landbouwonderwijs school* was established in Tegalgondo, near Solo (Central Java). Teachers from Sumatra and West Java were sent to Batu, while those from Central, East Java, and Madura were sent to Tegalgondo. Furthermore, the teacher who had graduated from *Opleiding voor Landbouwonderwijs* was appointed as a low school teacher (*Pemimpin Tani*, No. 7-VI, July 1932).

The *Adjunct landbouwconsulent* in each district also conveyed knowledge about agricultural business to teachers of grade 2 village schools (*vervolksschool*) in the form of courses. Agricultural knowledge taught was various things about agriculture that were suitable to the conditions of the local community. Course material must be following the practice in the field, which can be seen and witnessed by the local community. The course was given after teaching hours (between 4-6 pm). The course was held twice a week, two hours for each meeting. The course lasted for two years. After completing the course, the teachers can teach farming materials to the children of peasants in the village where they lived. Those who were allowed to take part in

agriculture were those who were old and had intense energy to carry out work as peasants. Some of the course participants were already peasant, and some work to help their parents as peasant (*Sinar Tani*, July 1926).

The material provided was soil science, plant science, the science of fertilizing, and corporate science. While the course material for children was working on cultivating land, planting rice and secondary crops, planting other young plants, planting tea, raising livestock, counting in terms of land use, and matters relating to land tenure rights (Koens, 1926b, pp. 27-29).

The lessons emphasized the agricultural situation of each course. Participants enriched with field trips in the experimental gardens and practice. The teachers participating in this course then become the course leaders in their respective villages. They got agricultural courses according to the state of their village. Place of practice, wherever possible, was on the land owned by parents, of course, participants. Also, the agricultural extension service opened the land for demonstrations and experimental gardens for practice. This practice in the agricultural extension service land was held twice a week. Courses in these villages were held in 16 places in Bondowoso district. According to Resident Bondowoso, A.H. Neys, such courses affected the level of knowledge of peasant in the villages, among others were the increasingly widespread use of plows in planting rice, increasing demand for seeds for improved seeds, green manure, and artificial fertilizers, as well as improvements in handling and drying tobacco (*Memorie van Overgave Resident Bondowoso*, AH Neys, 1929).

Village school (*Vervolksschool*) students in Tamanan (East Java) got plant science lessons from their teacher named N. Soemopranoto. They got lessons in cultivating plants. In Karangmelok village, a teacher named Prawirokusumo also taught the same to class 5 village school students (*Sinar Tani* No. 7, year 1, January 1927). Agricultural courses in the *Land-*

*bouw* Bondowoso/Besuki area were spread over 18 places. The number of participants reached 205 participants, or on average, each course was attended by nine participants. Beyond that, there were still requests to open agricultural courses, but they cannot be fulfilled (*Sinar Tani*, 1927).

In Soreang (Bandung), and Tanjungsari (Sumedang) West Java, were established village agriculture schools, to provide agricultural courses to indigenous people and got financial assistance from the government. The school provided theoretical and practical agricultural teaching for two years. Unlike in East Java, the attention of residents to take courses in this area was very less. There were few students, and each year was decreasing. After a few years, the school was finally closed and moved to another place, namely in Cangkring. However, here too, the public's attention was lacking.

The school in Tanjungsari was founded in 1914, with 28 students. Until 1918 this school had saved 122 people. In 1920 by Koens the school was put into one class for two years and did not accept new students. In Sumedang, in 1920, an agriculture course was held for village teachers. The course was given in the afternoon was attended by 50 participants.

In the village of Sabandar Cianjur, an agricultural school had also been established on the initiative of the regent of Cianjur. This school did not last long. In 1918 the school was reopened. When it was opened, the course was attended by 30 people, but one year later the number remained half, while the new students who registered were only 15 people. The following year there were fewer requests, so they had to close (*Memorie van Overgave Resident Priyangan*, L. De. Streurs, 1921).

### **The Results of Extension Education**

The results of an innovative program can be seen from its outcome. Anne Booth said agricultural extension services in Indonesia failed because fertilizer problems that can fertilize the soil. Comparing Japan, rice production in Indonesia was lower. It was because the Dutch East In-

dies government in Indonesia did not introduce chemical fertilizers, which it believed could increase rice production (Booth, 1988, pp. 130-131). Furnifall conveyed a different matter. He acknowledged that the primary agriculture still relied on the household (subsistence), but there were already seen more varied types of plants, and many of them were plants for export. Among the food crops that were included in the list of essential crops were corn flour, tapioca, sweet potato, peanuts, soybeans, potatoes, and chilies. Whereas the agricultural products that enter the export market were rubber, tobacco, tea, copra, cotton, and indigenous sugar. The export value of the people's crops continued to grow. In 1898, the value of indigenous people's agricultural exports was only 10.1 percent. This figure jumped 24.4% in 1913 and continued to increase to 36.5% in 1929 (Furnivall, 2009, p. 338). Stroomberg reported that in 1928, exports of indigenous agricultural production reached 34.63 percent of the total exports of the Dutch East Indies. That number reached 1,710,749 guilders (Stroomberg, 2018, p. 215).

*Sinar Tani* reported that the peasant's trust in the *Landbouwvoorlichtingsdienst* programs in 1927 was already more than 50% (*Sinar Tani*, number 5, 1927). In the previous edition, *Sinar Tani* even wrote the success story of farmers from Plalangan village, Wonosari district, and from Sumberjeruk village, Taamanan district (both in East Java). They were successfully growing sugar cane, which was then processed into sugar to meet the sugar needs in his village. The first was Haji Samsuero. He had five shoulder land planted with sugar cane. With the guidance of *Landbouwvoorlichtingsdienst*, a sugar cane mill was made to grind sugar in the process of producing sugar. He then sold the sugar produced in retail to the people in his village. With a significant profit, he then widened the sugar cane planting area. The second was Moerdiman. Unlike Haji Samoeri, he started planting sugar cane with a space of 3/4 shoulder width. It did not have a grinding tool. To grind

the sugar cane, he borrowed a mill from Landbouwvoorlichtingsdienst. With the benefits he gained, he succeeded in expanding his rod to 5 shoulders width (*Perteloengan dari kantor Landbouw*, 1926).

Their cases need to be addressed here, given that sugar cane plants were generally the monopoly of European companies. With the guidance of *Landbouwvoorlichtingsdienst* through agricultural courses, they can produce sugar that was usually monopolized by large European companies.

The success of the agricultural extension program was driven by the high enthusiasm of the people who worked at the *Laondbouwvoorlichtingsdienst* office (or commonly referred to as farmers in the villages as *Mr. Landbouw*). Here was the writing of an agriculture course teacher named S. Kersosoemo. He said that the population in Java was increasing. Meanwhile, the increase in agricultural land cannot keep up with population growth. Many people left their homes to look for a new area. However, this movement did not lead to progress. It had made so many people working in the agricultural sector with land shortages. The portion of land owned by the peasantry was tiny, which, of course, had an impact on the agricultural sector, which was too small. Even so, Kertosoemo was convinced that peasant's agricultural production could be increased. For this reason, peasants must have more knowledge about land, rules for opening up land, using the right agricultural tools, using manure, choosing edible seeds, choosing farming systems, planting regulations, and skills in managing crop yields.

For this reason, peasants needed to be given lessons about agriculture. To change the mindset of how to cultivate an excellent agricultural system, education required to be given to young workers, children of the peasant who will be prepared to become farmers. Older people who were already bound by their customs and habits had found it difficult to change. Changing thoughts that were common in life was complicated. Thus, agricultural

lessons must be given to young people who will become a peasant. They were young people in the villages who will become a peasant. Young people were more receptive to new minds. So agriculture lessons were given through schools or courses. Those who will become peasant can work with their thoughts and calculations so that they can produce agricultural products that were better than their parents.

In areas where agricultural land was still vast, such as in Banyuwangi and Jember, young people were changing their farming patterns. People used to grow rice and crops. Then they could plant coffee, coconuts, bananas, and plant sugar cane to make sugar. The work system in agriculture had also been changed to produce a good harvest. These people, of course, must be smarter and better at making decisions. For that, they had to get agricultural lessons, because through this lesson they can advance their parents' agriculture.

Thus the village school not only taught reading, writing, and counting but more than that so that they were smart and can stand on their own. They learned to count so that they can calculate profits, as well as leaving agricultural equipment that was certainly not possible to produce better agriculture. For that, they must obtain a broader mind of farmers by using more advanced agricultural tools. To achieve this goal, it was necessary to teach the farmer's children to know about measuring, weighing, calculating, and other agricultural knowledge so that they examined what was good and bring benefits from their peasant (Kertosumo, 1926).

Regarding the success of the *Landbouw* Office, de Indisch-Courant in 1941 reported that the extension agency had succeeded in developing 1000-1500 types of rice. The most popular types of rice on Java were Padi Cina, Padi Untung, and Skrivimankoti. The application of seed types had entered a very advanced stage. In 1940 in East Java, the application of superior seedlings reached 140,000 hectares. Superior soybean seed growers reached 100,000 hectares, and potatoes

reached 14,000 hectares. Another brilliant result was a green fertilization program as a start for planting paddy rice planted between maize plants. This green fertilization was carried out underground and carried lime and humus. Another success achieved in the agricultural extension program was the use of agricultural tools such as the use of iron plows and "pig fangs" to pull in the control of rows of rice. Next was the management of superior seeds. An important part of the agricultural extension service was the seed barn. Seed barns must guarantee the availability of high-quality seeds. This seed barn covered an area of around 6-7 hectares and provided 200 quintals of seeds to meet the needs of 400 hectares (*Onze landbouwvoorlichtingsdienst*, April 17, 1941).

Besides, the agricultural extension offices of the *Landbouw* offices in several regions successfully published a special agriculture magazine. This media was used as a counseling media through the writings in it. The *Landbouw* offices were in Tondano, Minahasa published Farmer Guidelines. The *Landbouw* office in Besuki, East Java, published Sinar Tani, and the *Landbouw* Office in Tapanuli announced the leader of the Peasant newspaper.

This model of extension education happened until the New Order government. In that period, there were still agriculture secondary schools, and also agricultural senior secondary schools. In the villages, peasant's courses were also held through farmer groups known as Klompencapir (groups of listeners and viewers). Indonesian television (Televisi Republik Indonesia or TVRI) as the only station that was available at that time massively broadcasted Klompencapir programs.

## **CONCLUSION**

The peasant empowerment program in the villages during the colonial administration in Indonesia was carried out through agricultural extension. The knowledge and skills of extension workers were obtained through education. Agricultural education

that was first introduced in the agricultural system in Indonesia was the Agricultural College in Wageningen. Graduates from this school initially carried out their functions as *Landbouwconsulen* (agricultural consultants). They worked on European plantations. Thus, their focus was on developing export crops that sell well in the international market. When the agriculture department was formed in 1905, they were the primary movers of the department. However, when they were assigned to carry out the function of increasing indigenous agricultural production, it cannot do much. They generally did not understand the economic system of the indigenous peasant. The problem of local language and culture was also an obstacle for them. That was why the Dutch East Indies government felt the need to develop a system of agricultural education for indigenous people.

Agricultural education for the first indigenous people was established in Bogor called *Middelbare Landbouw School*. A top-level agricultural school. Then formed an elementary-level agricultural school (junior high school level) called the *Cultuur School*. Graduates of this school were prepared to become skilled workers in the forestry sector, agricultural supervisors, and agricultural instructors. At the village level, agricultural extension education was carried out through agricultural courses. These courses were given to village school teachers (*Vervolksschool*), outside their teaching hours. These *Vervolksschool* teachers then became agents in village community development by teaching agricultural materials to fifth-grade *Vervolksschool* students, and peasants groups. Such an extension system continued until Indonesia gained independence, at least until the New Order government. At that time, there was a first-level agricultural school and a top-level agricultural school. In addition, farmers' groups were formed in the villages. These groups then became the drivers of development in rural communities, so that Indonesia succeeded in achieving food self-sufficiency.

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