



# Facilitating Business of Young Agro-Preneurship Through Value Chain Partnership and Optimizing the Digital Channel/Technology to Improve the Market

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**Abstract.** The lack of young farmers is one factor that inhibits the development of the agriculture sector in Indonesia. The number of older farmers is increasing, while the younger ones are decreasing [1]. John Deere and Mercy Corps Indonesia initiated the POWER 2 program, which focuses on assisting young farmers as movers and agents of change in the agriculture sector (including horticulture). The program aims to improve capacity and knowledge of young agropreneurs to be able adjust with the changes of agribusiness sector value chain partnerships utilizing the latest technologies (including digital channels). The program facilitates young farmers to take advantage of ag-mechanization/technology and financial access and strengthen their business management. One success story comes from Banyuwangi regency: Beni Irwanto (27 years old), a young farmer in a farmer group. Today, he produces healthy drinks made from local lemons by adopting new production technology and promotes as well as markets the products online using a digital platform. The young farmer's business has helped local small-scale lemon farmers receive better prices for their crops; these young farmers' involvement in utilizing technology and adapting to a new era is also improving the community's/farmers' economy.

**Keywords:** POWER · Young farmers · Technology adoption · Digital/online · Farmers economy

## 1 Introduction

Agriculture is an essential sector for the Indonesian economy; in 2020, agriculture contributed 13.7% of the national GDP [2]. With a total working population (as of August 2020) of 128.45 million people, most of the population works in the agricultural sector: 38.23 million workers or around 29.76% [3]. However, despite these figures, Indonesian agriculture faces a serious problem: the regeneration of farmers. The Central Statistical Agency (BPS)'s Agricultural Census (data comparing 2013 and 2018) found that the increase in agricultural households in 2018 only occurred in farmers aged over 45 years old. The highest increase occurred in the age group above 65 years old, by 24% to 4.1

million households. The 55–64 years old age group increased by 20% to 6.3 million households, while the 45–54 years old age group only rise 7%. However, the productive age group under 45 years old in the agricultural working population has decreased to 5%. This suggests that farming is a profession for the elderly, not for the young [4].

The shortage of workers of productive age in the agriculture sector is due to several factors, including the scarcity of agricultural land and more promising incomes in non-agricultural sectors [5]. According to BPS data, there was a reduction of 604.3 thousand hectares of rice field land, from 8.1 million hectares in 2009 to only 7.46 million hectares in 2019. As for the average agricultural income, according to BPS data in 2018, it was only 1.9 million rupiah or 133 USD per month, which is relatively low compared to the average regional minimum wage in several regions in Indonesia. This relatively low regeneration rate is a potential problem for the future growth of Indonesia's agriculture sector. With Indonesia's population increasing, fulfilling food needs for the population will also become more challenging.

As mentioned earlier, the farming population in Indonesia is aging rapidly as younger people move into jobs that are more remunerative and considered to be high status. A majority of POWER 1 beneficiaries were over 50 years old, and almost all were men. Smallholder agriculture is a family business and household members require different types of information and services to support their production and business activities. POWER 2 will assess these needs and the potential for redirecting program activities to better serve women and youth, both as members of farming families and as farmers in their own right. During the research for this proposal, we learned that younger farmers dominate horticulture production in Indonesia, a particularly notable trend in the important horticulture provinces in Java and Sumatra.

POWER 2<sup>1</sup> proposes to attract younger people to farming by adding higher value crops, increasing mechanization to reduce the drudgery of traditional practices, and seeking to link smallholder communities and FGs to new technology and business opportunities that are emerging as Indonesia's growing middle class demands more and better-quality food and food products. Adding horticulture crops to the POWER portfolio may have the additional benefit of increasing engagement with women. Mercy Corps' experience promoting entrepreneurship and access to finance includes working young farmers to accelerate horticulture-based businesses; this expertise will support new approaches under POWER 2.

The role of various stakeholders is needed to find a solution in attracting youth to return to the agriculture sector. One of the efforts that could be impactful is by helping the development of the currently running young farmers' businesses. Mercy Corps Indonesia, through the POWER program, has carried out an assistance program to help in

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<sup>1</sup> Since 2015, Mercy Corps Indonesia and John Deere Foundation have implemented POWER (Promoting Organizations that Work to Empower Rice Farmers), a program to support farmers to improve their yields and income through strengthening farmer organizations. In February 2019 Mercy Corps and John Deere Foundation launched the next phase of POWER. POWER 2 aims to reach more rice, corn, and horticulture smallholder farmers and increase yields and income by strengthening farmer organizations, improving agricultural practices, and increasing access and adoption of technology to make farming more productive and attractive to younger generations of farmers.

developing young farmers' businesses and actively involved in improving the economic welfare of the agricultural community.

## 2 Methods

### 2.1 Research Method

The research method used is the CIPP (Context, Input, Process, and Product) evaluation method. The CIPP research method determines the form of intervention required by POWER program participants. The CIPP evaluation model is more comprehensive; because the object of evaluation is not only on results, but also includes context, input, process, and results [6].

The process of POWER activities begins with the preparation of a logical framework program, then this process allows us to obtain a design program that will be applied. Each process of program implementing activities from planning the logical framework and evaluating the program determines interventions to program participants.

Interventions carried out in this study are:

#### 2.1.1 Training and Workshop

A total of 551 young farmers have joined the POWER 2 program. However, due to limited resources (time and budget), the program only selected around 52 young farmers to receive business capacity building activities for their businesses. They were selected based on the following criteria: under 34 years old, small-scale business owner, member of a farmer group, and submission of an application form. The purpose of the workshop is to provide support for young farmers to develop their farm businesses so that they can become role models in their communities, showing that farming is a viable career option for the future, spreading the message about the potential of farming businesses, and contributing to job creation in their villages. The key training topics delivered are:

1. Farm mechanization and digital financial services as a way to obtain the latest farm technology through credit schemes.
2. Exploring the idea of agrotourism, which can attract more young people to learn about agriculture.
3. Digitization of farming and how to optimize the use of technology to obtain information such as weather, soil content, and prices of crops.

Particular on farm digitalization, a wide variety of "digital farming" services and opportunities are emerging in Indonesia. Mercy Corps' AgriFin program introduced a digital system for corn farmers that can be adapted to additional crops. East-West Seed's SIPINDO mobile phone application provides access to technical information, market information, prices, and direct links to buyers for horticultural production; 8villages and Bank Rakyat Indonesia (BRI) are piloting RegoPantes, a digital marketplace for horticulture producers in Central Java; and FARMFORCE, MyCrop, BASF and Syngenta are all developing digital services for farmers. Recently, the International Rice Research Institute through the Sustainable Rice Platform (SRP) released a rice crop manager tool

that is available through computers or mobilephones (<http://www.knowledgebank.irri.org/decision-tools/crop-manager>).

### **2.1.2 Business Mentoring**

As a follow-up from the workshop, these young farmers received business assistance from the POWER 2 Program to further develop their business plans and produce recommendations of what kind of support the program provides, including what kind of stimulant would be sufficient to improve their business. Each of these young farmers received different support from the program, depending on the needs and future plan of their business.

Post-training activities are an essential phase for the application of training materials. Therefore, the role of mentoring is carried out by POWER's District Coordinator (DC) in each program area. Through this monitoring step, both groups and individuals consult with the DC to implement the business plan. This plan will serve as a guideline for the DC in overseeing the implementation, with an evaluation period at the end of the planting season.

After workshops and intensive business consultations were conducted in January 2021, the Program's District Coordinators continued to mentor young farmers through regular visits and WhatsApp groups by following up on the recommended next steps regarding business development from the consultants, including what kind of stimulants are suitable for the young farmers' type of business. Currently, these young farmers are conducting business based on the strategic steps that were previously planned. Of the 25 young farmers who participated in the second round, 18 have received support from the Program for their business development, because they meet the following criteria: business ownership, business scale and plan, and are members of the POWER 2 FGs. The forms of these stimulants included working capital, promotional material, laptops, or support to access higher markets.

Meanwhile, 70% of young farmer who received business capacity building have successfully developed their businesses by increasing their productivity; for example, seven have succeeded in increasing their sales in their agricultural kiosk businesses by up to 12% and four have continued their parents' business as local off takers; and the remaining four are expanding their marketing networks through e-commerce/digital channels. In addition, related to online marketing, two young farmers in Banyuwangi sold their products through e-commerce managed by the local government, facilitated by a consultant who provides business capacity building training to farmer groups. Two other young farmers in South Sulawesi have sold their agricultural products through the Facebook marketplace. As for the other ten young farmer participants, their businesses are not really growing, and they have stopped doing business. However, they are still active members of their FGs.

In addition, POWER 2's young farmer participants have played a key role in supporting and empowering their older counterparts as the program has adapted to the realities of COVID-19 and adopted additional digital channels for training and engagement. Besides that, PT WIS has contributed significantly to the introduction of the latest technology in the agriculture sector through a webinar that we conducted during the period. PT. WIS provided an overview to young farmers regarding the technology and what the

agriculture industry will look like in the near future, so that young farmers can prepare themselves earlier and better face and adapt to the challenges in the agricultural sector.

### **2.1.3 Stimulants**

After evaluation and mentoring from the DC, the farmer group businesses are classified into three levels: basic, medium, and advanced. This classification is based on a quantitative assessment recorded in the POWER Program by the monitoring and evaluation team. Data collected by the DC regarding the variables and criteria for developing a farming business are calculated, so the numbers that determine the classification of the farming groups appear. This figure is the source of the POWER Program's assessment to find the potential of the farmer group and what is the most appropriate stimulant to boost its business effectively. Through this process, as an example, the POWER Program provides Beni (a young farmer in Banyuwangi) with a laptop to support his digital marketing, marketing costs, and the food registration license.

## **2.2 Research Instruments**

In measuring the level of success or suitability of program interventions, research instruments are needed. The results of the instruments that have been carried out are used as material for evaluating the POWER program activities through the CIPP evaluation method.

The instruments used in this research are:

### **2.2.1 Data Collecting**

Before the planting season and after the harvest season, data were obtained through questionnaires and interviews. This is needed to be able to record the progress of each participant in the POWER program during the assisting process.

In technical data collection, assisted by the Monitoring, Evaluation and Learning (MEL) team in the POWER program, using a tool in the form of ONA which is commonly used by various NGOs and UN agencies for its accuracy in recording data.

### **2.2.2 Regular Monitoring**

The monitoring function in the POWER program is carried out by the MEL team and the District Coordinators (DC), where the MEL team performs its monitoring function through processing data obtained in the field, while the DC team performs its monitoring function more complexly, namely through a series of mentoring processes for each POWER program participants.

### **2.2.3 Documentation**

Documenting the process and achievements of the POWER program is completed through reports that must be prepared every semester. Apart from being a form of responsibility for the POWER program donors, reports are also made to be used as evaluations

when the program is running. To produce a comprehensive report, the report presented is supported by up-to-date data that has been summarized in the data dashboard and various visuals such as photos and graphic charts.

### 3 Discussion

Mercy Corps Indonesia sees an opportunity to increase the income of Indonesian farmers and improve their lives. Through targeted and well-planned programs, Mercy Corps Indonesia influences rice, corn, and horticulture farmers' household incomes by increasing access to basic agricultural cultivation needs, including improved seeds, fertilizers, financial services, and modern tools and equipment. In the POWER 2 Program scheme, assistance is carried out closely with farmer groups. The POWER 2 program collaborates with several agriculture input suppliers to convey in detail the use of agricultural products on farmers' land as one of the assistance approaches to increase productivity. When this assistance was successfully proven by increasing the harvests, farmer groups began to be trained to better organize organizational management in each farmer group. They were introduced to the concept of agricultural business governance, which we conveyed through various types of business capacity building training. The POWER2 program's assistance also introduces farmers to access loans from various financial institutions.

The assistance provided by the POWER 2 program is also applied to the target group for those under 35 years old who are included in the category of young farmers. The program has assisted 20,000 farmers, and based on program participation data, 26.67%, or about 5,000 young farmers have benefited from the program (Fig. 1).

Furthermore, the POWER 2 Program has held focused training for 50 young farmers, which has been carried out during the program's implementation. This special training for young farmers is focused on selected young farmers who have managed both privately-owned and group-owned farms. One of the young farmers participating in the POWER program who has been successful is Rajabudin (35 years old) from West Lombok, Beni Irwanto (27 years old) and Irfan Sasmita (20 years old), both is from Banyuwangi.

Since Mercy Corps Indonesia through POWER program offer various scheme and trainings for farmers group, Pak Rajabudin has been keen to invite all of farmer groups

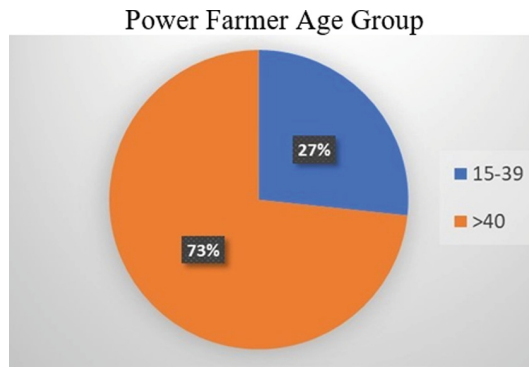


Fig. 1. Diagram of Power Program farmer age composition.

under his assistance to be joining the trainings to be able get the knowledge needed to develop their farmer groups. UdinPak Rajab effort for the farmer group in Keru Village has been recognized by government as The Runner-up champion for Voluntary Extension Workers in 2019 in West Lombok district level. For his effort and his hard work to ensure the farmers groups are empowered, Pak Rajab has been trusted to hold the role as the chief of farmer group in his neighborhood: Dharmakarya II. Under his leadership, Dharmakarya II has been developed into a prominent business unit. The main business runs by his farmers group are input supplies and agriculture machinery rentals.

Grown to be a demanded business by the customers, the management team Tani Makmur Service Unit management team who lead by Irfan Sasmita has start to equip themselves with better management on organizing their members also to plan ahead their business goals in the future and to increase the customer service. Mercy Corps Indonesia has invited Tani Makmur in Mercy Corps Indonesia assistance in terms of the organization development, training for youth farmers and training to introducing e-commerce to agriculture business. Inspired by the e-commerce training facilitated by Mercy Corps Indonesia, Tani Makmur Service Unit is started to navigate the business to facilitate the high demand. The service unit will need a system to facilitate customer order. The service unit management team has a plan to digitalize the order system, so when customer intend to book an equipment, it will directly record on the service unit system, and it will help the service unit to keep track the order of the customer. To help the plan realize, Mercy Corps Indonesia has facilitated the service unit with the suitable consultant and currently in the process of building a website to digitalize the order system under <https://tanimakmur.id/>.

Beni Irwanto is a member of a farmer group from Jambewangi Village, Banyuwangi regency, who manages a business producing lemon juice, marketed as a healthy drink. Beni processes lemons purchased from farmers in Jambewangi Village at a reasonable price as a solution to fight the low price to the farmers of local lemons in the market. Together with his friends, Beni began to produce packaged lemon juice which has received a registration permit from the Indonesian National Food and Drug Agency (BPOM). Its primary marketing strategy is through re-sellers spread across several areas in East Java, and it is also marketed through e-commerce platforms. With his lemon juice product, Beni won the title of Jagoan Tani from the Banyuwangi Regency government and was entitled to business development assistance worth 50 million rupiahs or 3,500 USD. Beni's success in the lemon juice business is also an example of the POWER2 program assistance success story.

## 4 Conclusion

Mercy Corps Indonesia's POWER 2 Program has facilitated assistance through a partnership, training, and mentoring approach to young farmers who are members of farmer groups to become more capable in cultivating food and horticulture crops (such as chilies, tomatoes, and other vegetables). Furthermore, the POWER 2 program has also provided business development assistance in selling food and horticulture crops for young farmers, so they can also adapt during the Covid-19 pandemic by utilizing digital means in marketing their agricultural products through social media and e-commerce platforms.

These supports have been proven to help them to increase their yields and production and to make farming a more viable source of income.

In addition, POWER 2's young farmer participants have played a key role in supporting and empowering their older counterparts as the program has adapted to the realities of COVID-19 and adopted additional digital channels for training and engagement. Besides that, our private partners have contributed significantly to the introduction of the latest technology in the agriculture sector through a webinar that we conducted during the period. Our partners provided an overview to young farmers regarding the technology and what the agriculture industry will look like in the near future, so that young farmers can prepare themselves earlier and better face and adapt to the challenges in the agricultural sector.

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