

Organic Farming in the Province of Yogyakarta and the District Tasikmalaya

Knowledge about and usage of organic farming practices

The agricultural sector in Indonesia faces several challenges, including food security and sustainability for a growing population, environmental degradation and climate change, improving income and living standards for smallholders and an aging workforce in the agricultural sector.

Organic farming has the potential to address some of these challenges. It is more environmentally friendly than conventional farming and potentially it could increase the attractiveness of farming for the younger population if it is perceived as a new modern 'technology'. However, the adoption of organic farming is still at a very low level in Indonesia. Although various governmental and non-governmental initiatives exist, many farmers are not yet aware of organic farming practices, their potential benefits, how exactly to use them and where to market the products.

This policy brief presents the state of organic farming in the province of Yogyakarta and the district Tasikmalaya, which is part of the province West Java. The underlying data has been collected in March and April 2018 in 30 villages in the province Yogyakarta and 30 villages in the district Tasikmalaya. Respondents were sampled among farmer group members. In total, 1,200 individuals were interviewed, i.e. 20 from each village.

This data also serves as a baseline for a randomized field experiment that tests the effectiveness of interventions to enhance the knowledge about and adoption of organic farming practices.



Topics

- Adoption and knowledge of organic farming in Tasikmalaya and Yogyakarta

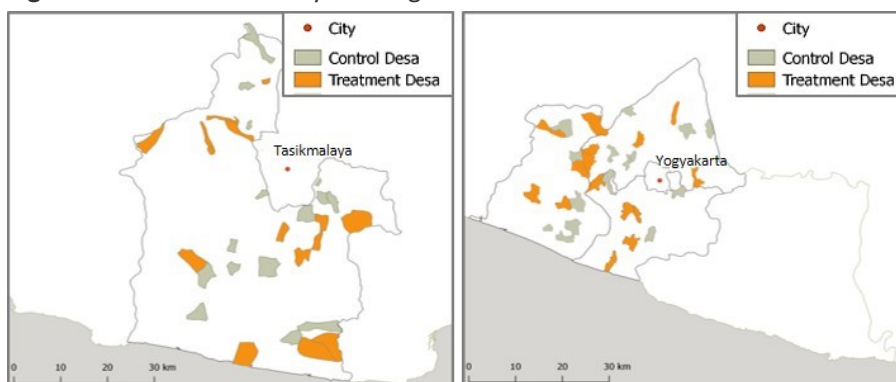
IndORGANIC

IndORGANIC is a German Indonesian transdisciplinary research project that aims to investigate the potential of organic farming in Indonesia in general and in Java more specifically. The project is funded by the German Federal Ministry of Education and Research and based at the University of Passau, Germany. IndORGANIC cooperates with three institutions in Indonesia, the Universitas Atma Jaya in Yogyakarta (UAJY), the Institut Pertanian Bogor (IPB) and Alliance Organic Indonesia (AOI). AOI is an umbrella organization for organic agriculture in Indonesia.



The experiment started right after the baseline survey. It exposed farmers to alternative treatments that either offered (1) only training on organic farming practices and the marketing of organic products, (2) the same training but augmented by an intervention that raises awareness for the related health and environmental benefits of organic farming or (3) again the training but this time augmented by an intervention that strengthens mutual support within farmer groups with respect to a conversion towards organic farming. A fourth group received no treatment and serves as a control group.

Figure 1. Location of Surveyed Villages



Respondent and Household Characteristics

The average respondent in our sample is male, married, Muslim and with 54 years of age rather old. The average household size is four. Agriculture is the main economic activity for the majority of the respondents and most (61%) report that farming is also the main source of income for their household. Despite this, households seldom rely only on farming as income source, the average number of additional income or transfer sources is two. This includes income from permanent or temporary jobs, remittances or governmental transfers such as Raskin.

Current Status of Agricultural Practice

Wet rice cultivation is the most common type of agriculture (crop) in both regions. In Tasikmalaya, the second most common crop is the cash crop coconut as well as the category other non-listed crops. Potentially these other crops refer to spices such as clove and kapolaga which are common in some regions in Tasikmalaya. In Yogyakarta, chilli, vegetables, corn and maize were stated most frequently after (wet) rice. However, the share for all of them remains below 10%. On average, households kept around half of their harvest for their own consumption. The remaining harvest was either sold or handed to the landlord based on a sharecropping arrangement. Most farmers sell their produce through middle men. Farmer groups constitute an important source of information regarding agricultural information such as cultivation methods.

Between 3.5 % of households in Tasikmalaya and 7% of households in Yogyakarta reported a complete harvest fail for at least one of their crops. More than 60% of respondents in both regions report that their household was negatively affected by a crop pest or crop disease during the past twelve months.

Agricultural Inputs

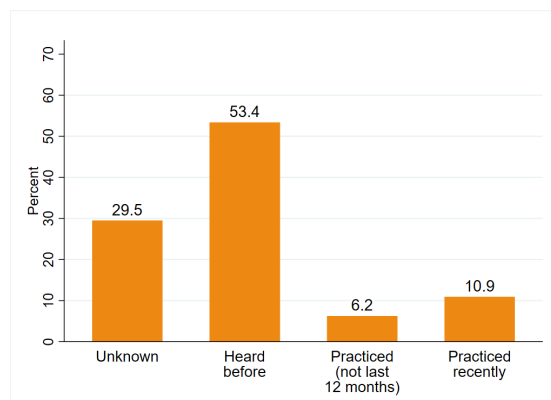
The use of chemical fertilizer is very high in our sample. Nearly 97% of the respondents in our sample used chemical fertilizer during the last planting period. Most households applied this chemical fertilizer as precautionary measure, thus not in response to observed low fertility but as measure to prevent it from occurring.

Chemical pesticides were also used by many farmers, however, the usage rate is lower than for chemical fertilizer. Around two thirds of the respondents (64%) reported to have used chemical pesticides during the last planting period. However, in contrast to chemical fertilizer, chemical pesticides are applied mostly as a treatment, thus in response to an observed problem.

The use of organic fertilizer and pesticides was much lower than that of chemical inputs with 37% of the respondents reporting to use organic fertilizer and 9% reporting to use organic pesticides.

Knowledge About Organic Farming

Figure 2. Previous Exposure



(Figure 2).

Some respondents already participated in an organic farming training in the past (27%). These respondents used organic fertilizer more frequently than their counterparts who did not yet participate in a training on organic farming. Specifically, 53% of the former training attendants used organic fertilizer while the uptake was only 31% among respondents who never participated in a training on organic farming. Whether this is a result of the training or whether training participants had more interest in organic farming in the first place cannot be said from the data.

Overall, organic farming is more often associated with the term 'old-fashioned' than with the term 'modern'. However, the classification into modern or old-fashioned differs by age. Younger respondents, aged below 60 years, classified organic farming more frequently as modern than their older counterparts. This is a positive sign if we assume that the perception as 'modern' is more attractive for younger people (Figure 3). Potentially, organic farming can thus help to address the low interest of the younger generation in farming.

Before the study, a considerable share of respondents, i.e. 30%, had never heard about organic farming. Around half of the respondents reported to have heard about organic farming before and around 17% reported that they either have practiced it in the past or are currently practicing organic farming



Experiment

It is expected that the intervention results in

- (1) a higher level of knowledge about organic farming methods,
- (2) a higher uptake of organic farming practices,
- (3) more awareness regarding the harm of some conventional farming practices
- (4) and possibly also a more positive attitude towards the potential of organic farming.

To assess the impact of the intervention we will compare farmers in treated farmer groups and farmers in a control farmer group at the follow up stage. Given the randomness of the intervention this should yield unbiased treatment effects.



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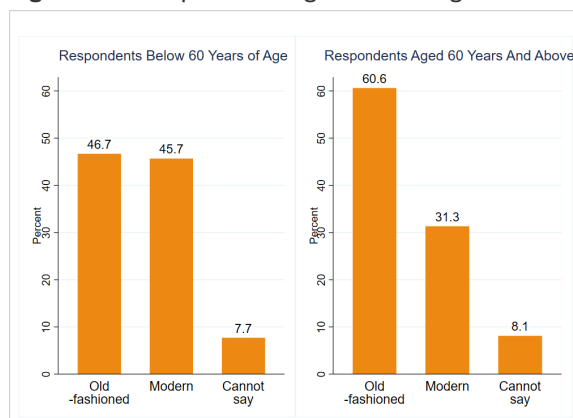
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Passau, September 2018



Bundesministerium
für Bildung
und Forschung

Figure 3. Perception of Organic Farming



respondents was aware of the existence of any labels for organic products.

The awareness for the potential negative effects of agriculture on the environment is still at a rather low level among the respondents in our sample. Concern for the environment and an understanding that conventional farming with high chemical input use can have negative effects on the environment can impact the decision of farmers to adopt a more environment friendly, more organic way of farming. Close to 60% of respondents in our sample agree that farmers' decision can affect the environment. However, less than half of the respondents (46%) perceive environmental pollution through agriculture as problematic.

Consumption of organic products is low, nearly 64% of the sample report that their household does not consume organic products. Labels certifying organic products can increase trust and the willingness-to-pay of consumers. However, less than 23% of the

Key Messages

- In this survey, 97% of farmers reported to have used chemical fertilizer during the last planting season and 64% of farmers reported to have used chemical pesticide during the last planting season
- Chemical fertilizer is mostly applied as a precautionary measure rather than as treatment according to observation while chemical pesticide is mostly applied as treatment
- Awareness for organic labels is very low
- Less than half of the respondents perceive organic farming as 'modern'
- Around half of respondents have heard of organic farming before

Next Steps

Having completed the baseline survey and the training activities offered to farmer groups, the next step for this project will be the implementation of the follow up survey in March and April 2019. Based on this follow up survey we will evaluate the effect of the training on the knowledge about organic farming and the adoption of organic farming practices, e.g. the production and use of organic fertilizer.