

# Vacant Land and Food Needs: How Do Students Utilize Both through the KRPL Concept, Is It Optimal?

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## ABSTRACT

The Graha Tartila settlement, Blandongan District, Pasuruan City, is experiencing rapid changes, especially agricultural land, which has been converted into residential areas and complexes. However, some land is empty, abandoned, and poorly maintained. In addition to its unkempt and dirty appearance, this abandoned land is also considered a nest for mosquito snakes and often becomes a garbage dump. This article aims to describe the use of empty land in Graha Tartila Housing, Blandongan District, Pasuruan City, as part of efforts to improve food security behaviour in people's daily lives. The method used is experimental. People use empty land to grow daily food crops such as vegetables and Lombok. The trial results show that the use of empty land positively impacts the surrounding community, including maintaining environmental cleanliness and producing vegetables that can be consumed directly by the community. There is increased knowledge and training in preparing soil substrates, providing compost from local materials, and using waste and other materials as planting substrates. The approach to implementing a sustainable food space at home is carried out theoretically and practically. Applying KRPL is a solution to help small plots of land be optimal and effective.

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## 1. Introduction

East Java is included in the eastern region of Java, which is considered an agricultural country (Bobsaid, 2021; Mahmudiono, 2017). An agricultural country is a country with a large proportion of the population whose profession is in the agricultural sector (Sah et al., 2023; Sekaryanti et al., 2022). Agricultural countries make the agricultural sector the most important resource (Kaptiningrum, 2020; Radilla et al., 2020), a sector that has a large role in society (Sukarsono, 2019), both in terms of food and the economy (Utami et al., 2020). As part of Indonesia's territory, which is the largest agricultural country in the world, it is supported by various factors such as land availability (Matakala, 2023), fertile soil (Mondal, 2023), and weather that allows farming activities to be carried out (Brun, 2021). Indonesia's status also supports this as a maritime country, where most of its territory is dominated by stretches of sea with abundant wealth so that the development of the agricultural sector can run more optimally (Pajriah & Suryana, 2022). With all these supporting aspects, Indonesia should be able to



achieve consistent and stable food security. The distribution and processing of agricultural products should be optimized to resolve the economic and food crisis.

Abundant natural resources should make Indonesia a stable country economically and in terms of national food security (Muçi, 2021; Muratet, 2021). National food security is a condition in which a country provides food and nutrition for its citizens (Gibbs, 2018; Krivý, 2021). Fulfillment of the food in question must be a reference for the state in maintaining the stability of the community's food needs by maintaining the quality, quantity, nutrition, distribution, and diversity of food that will be consumed by every Indonesian citizen (Draus, 2020; Gawryszewska, 2018). However, from year to year, there is still a food crisis, and agricultural harvests are not yet optimal. This is thought to be due to the decreasing awareness of Indonesian citizens to utilize the land around them (Faisal & Martin, 2019; Widyasari, 2020).

Limited land in urban areas is a challenge in increasing household awareness of food security (Bulkaini et al., 2021; Morseleno & Andie Rahman, 2021). In fact, at the national level, the challenge to increasing food security in Indonesia lies in the need for more agricultural land. Land constraints, especially rice conversion, can threaten food security due to reduced national food production capacity. However, land conversion cannot be avoided because of the community's need for housing and economic development activities (Darmayanti, Baiduri, et al., 2022; Syaifuddin et al., 2022). Pasuruan also needs more agricultural land and land conversion into housing in development.

This is caused by the decreasing awareness of Indonesian society, which makes the Graha Tartila Housing Complex residents aware of using the empty land around their houses to implement Karang Kitri (Sustainable and Community Area). To achieve results that are shared for consumption or sold for show. Apart from that, people's interest in growing vegetables still needs to be more optimal due to the lack of land and the need for people to understand the current land use status. This is something familiar to hear. Farming on narrow or bare land is also rarely done, and people need to be more interested in growing vegetables because they are not familiar with the processes or techniques that can be applied (Humaidi et al., 2022; Inganah et al., 2023).

The public needs to know that there are many techniques and ways to utilize empty land and home gardens, such as hydroponics (Max, 2020; Mustafa et al., 2023; Tavares, 2019), viticulture, and simple farming. Farming on narrow or bare land is also rarely done, and people need to be more interested in growing vegetables because they are not familiar with the processes or techniques that can be applied. People often need to learn that there are many techniques and ways to utilize empty land and home gardens, such as hydroponics, viticulture, and simple farming.

## 2. Method

As part of KKN's activities to apply the KRPL concept. How KKN students participate in service activities is described which can be seen in the plot of Figure 1.

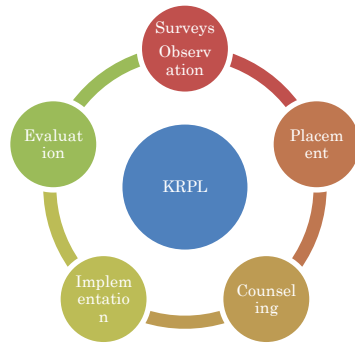


Figure 1. Service Method with the KRPL concept

Figure 1 is an experimental method used in KKN activities, namely using the KRPL concept approach to utilize empty land in the Sustainable Food House Area. Two locations are used in this activity, but there are limitations, so this article only describes one area, namely the Graha Tarila housing complex. All KKN activities occur in the Sustainable Food House or Karang Kitri area. This housing area is one of the housing complexes in the Graha Tartila Housing area, Blandongan District, Pasuruan City. Most are inhabited by family members who spend their daily lives in the office.

### ***Method of Implementing Service***

Assistance activities for the Sustainable Food House Area or Karang Kitri were conducted in the Graha Tartila Housing area, Blandongan District, Pasuruan City. This service activity was carried out with the Real Work Lecture (KKN) program by PGRI Wir and Egara University students. In line with the problems and issues that are still constantly increasing, food security, starting from the basic levels of society, must be taught and implemented. This community service activity was part of the independent campus program launched by the Ministry of Education but Research and Technology. Student participation is also a form of application of theory obtained on campus and is also part of the KKN course with a load of 4 credits.

### ***Activity Stages***

The implementation of KKN activities with a focus on community service uses a dialogue approach with the community, counselling, pilot practice, and mentoring so that some of what will be prepared and implemented in this activity include:

1. *Implementation of Surveys and Observations.*  
Surveys and observations are carried out to collect data and information that will be used as a guide for implementing future project innovations and to understand the environment and habits of the local community.
2. *Placement of KKN students in agreed areas*  
KKN students are placed in agreed areas after carrying out permits and agreements with the campus as the responsible party.
3. *Counseling*  
Hold discussions with residents regarding the management of empty land for joint planting. In this deliberation, land use permits, processing time and plant seeds were discussed. The plant seeds that will be planted are eggplant, Lombok, mustard greens and tomatoes. Land processing is carried out when residents are on holiday, namely between Saturday and Sunday. Students carry out outreach regarding the KRPL or Karang Kitri program to the community.
4. *Implementation Practices*

Students provide examples of the practice of empowering local empty land as a Karang Kitri project so that residents can see and learn what they really need to learn.

#### 5. *Accompaniment*

Students carry out assistance to communities who have implemented the Karang Kitri project together so that apart from being able to control, students can also help the local community.

#### 6. *Evaluation*

Evaluation is carried out after the formation and planting activities have been carried out, evaluation will also be carried out when the results from Karang Kitri can gradually be utilized.

### 3. Results and Discussion

PGRI Wiranegara Pasuruan University students' KKN activities use experimental methods with the KRPL approach. Service activities are carried out from July to August. The service activity was attended by eighteen participants and one lecturer, who were invited based on the direction of the RT Head and several community figures. The participants were quite happy with this service program supporting community empowerment efforts in utilizing empty land. The following explains the use of vacant land in the Sustainable Food House, or Karang Kitri, in the Graha Tartila Housing area, Blandongan District, Pasuruan City.

#### 1) *Observation*

The experimental stage was conducted through surveys and observations in areas or areas that will be used or support KRPL activities, as seen in Figure 2.



Figure 2. Survey and Observation Activities

#### 2) *Discussion*

Students carry out outreach regarding the KRPL or Karang Kitri program to the community as an initial foundation so that the perceptions of students and the local community become the same. If the perception is the same, it is hoped that the Karang Kitri program can be implemented more optimally and without conflicts or misunderstandings between students and the local community.

In arranging the mosque courtyard using the *design thinking method*, the KKN Team must develop a sense of empathy, integrative thinking, optimism, and collaboration to implement the ideas put forward. Empathy leads to feeling people's feelings from various perspectives, termed the '*people first approach*.' Understanding what kind of yard on empty land residents want is important. Do you want to make a garden filled with flowers or a garden that produces vegetables? This desire is then calculated rationally based on the condition of the available land, starting from the area, the level of soil fertility, the position of the land from the residents' settlements, and the residents' access.

Idealism and reality must be combined to gain citizen empathy in land planning. Integrative thinking considers the steps taken to understand problems and develop alternative solutions. The desire to make perfect arrangements for the mosque's courtyard must consider aspects of the ability to make it happen, both in terms of funding and workforce. Even so, things that become obstacles should not become obstacles, let alone

problems. This optimistic attitude is very important for design thinkers. A sense of empathy, integrative thinking, and optimism need to be developed with collaborative steps to realize better programs or activities.

### 3) *Delivery and Placement*

After obtaining the deliberation results, the next step is submitting a proposal and deciding on placement, which begins with deliberation. One of the lecturers was appointed to accompany students to open KKN activities and socialize the activities towards the placement of the location where they will be going to be inviting several parties, as shown in Figure 3.



Figure 3. Handover of KKN students

### 4) *Counseling in the Graha Tartila Residential Area*

The next activity is to conduct outreach through deliberation with the community and several related parties regarding permits to use empty land permitted by village officials and regional officials located in Pasuruan City and assigned gardens, as shown in Figure 4.



Figure 4. Initial condition of empty land that will be used for KKN activities

### 5) *Implementation of Activities*

KKN students use the empty land to plant vegetables such as mustard greens, lettuce, kale, and celery. In addition, some medicinal plants are grown: ginger, turmeric, and galangal. Planting green vegetables and medicinal plants is done hydroponically using conventional farming methods. Some also use potting bags and vineyard stands. The methods above can take up much land to manage, with high costs. KKN students also use many alternative objects in their activities, such as used plastic bottles and glass cups, bamboo scraps and wood around empty land, and so on.

This is empty land in the Graha Tartila housing complex Rt 03 Rw 04 Blandongan District. This land has yet to be developed, so it will be uncomfortable if neglected. In the initiation stage, the KKN team looked at a narrow yard in a residential area as the object of this program and carried out yard mapping. At this stage, several alternative descriptions of the potential for yard arrangement exist, namely vegetable gardens, hydroponics, and aquaponics. For vegetable garden design, there are main plants that will be planted normally in the ground and plants that grow. The main plant types are cayenne pepper, kale, tomatoes, bok choy, spinach, celery, and green mustard greens. The vines planted include beans and long beans. Several flowers are planted with the aim of repelling pests, namely sunflowers. This land began to be cultivated and planted with



various vegetable commodities most frequently consumed by the public, such as chillies, eggplant, tomatoes, mustard greens, and various medicinal plants.

The initiation of hydroponics in arranging a narrow yard in the Graha housing complex also emerged—several considerations for working with hydroponics on a land area that is not too large. Hydroponics can be planted in layers using water through pipes (Firmansyah, 2022; Mendoza et al., 2022). However, since vegetable planting can still be done on land, hydroponics cannot be implemented yet. Apart from vegetable commodities, an idea arose to meet the fish consumption needs. For this reason, the idea of making aquaponics is interesting. The aquaponics that are made are also simple in shape.

This is the first processing location carried out around the beginning of July. This location is planted with various plants, such as cayenne pepper, tomatoes, oranges, basil, mustard greens, eggplant, pandan, mango, and moringa. Apart from that, in this area, cayenne pepper and green mustard seedlings are carried out. Maintenance in this area is carried out jointly, especially focused on the residents of houses A1, B2, and B3, which looks like Figure 5.



Figure 5. Residents and students work together

Previously, the land in Figure 5 had not been managed and had a lot of abandoned buildings (remains of buildings). Grass and weeds grow abundantly, especially during and after the rainy season. Several men took the initiative to carry out community service to organize this land because they were worried that it would become a nest for snakes and be dangerous, especially for children who often play in the mosque yard. Area I processing was carried out around the beginning of July. Residents work together to manage the land, starting from clearing the land of grass and weeds, hoeing the land to loosen it, to planting the plants that look like in Figure 6.



Figure 6. Activities for cleaning, hoeing and loosening the soil

Some plants planted in Area I are cayenne pepper, mustard greens, oranges, papaya, aloe vera, basil, cassava, large pumpkin, sarikaya, and figs. Maintenance in Area I consists of watering the plants twice a day. In the morning after dawn prayer and the evening before sunset, it is usually performed by gentlemen, whoever has the opportunity when they go to the mosque. Not infrequently, mothers also help maintain Area I, such as pulling grass when there is time to gather at the mosque while accompanying the children to play. An overview of land use in Area I can be seen in Figure 7 in the form of residents'

activities when transferring seeds from polybags to the land in front of the mosque and one of the cayenne pepper plants planted in front of the mosque near the empty land.



Figure 8. The practice of implementing Karang Kitri by KKN students

#### 6) Activity Assistance

Students assist communities who have implemented the Karang Kitri project together so that apart from being able to control, students can also help the local community. It is hoped that the land used for the Karang Kitri project will motivate the people of Graha Tartila Housing to use their yard as a source of fulfilling family nutrition and can help the family economy so that it can reflect the nutritional status of all people who are indirectly influenced by household food security.



Figure 9. Community assistance when implementing the project

#### 7) Activity Evaluation

The evaluation is carried out after the formation and planting activities have been carried out. It will evaluate what both parties have felt as supporting and inhibiting factors. After that, an evaluation will also be carried out when the results from Karang Kitri can gradually be utilized. A survey of satisfaction and achievements of community service activities was also carried out as a form of activity evaluation. The evaluation of the activity's achievements is known after the participant understands what the activity is about, the purpose and how of "*Land development into a Karang Kitri project.*"



Figure 10. Evaluation of harvest results from Karang Kitri project activities

In essence, the earth or land belongs to Allah. The public has the right to use it. Using means managing and receiving its benefits. Those who maintain and manage it well will benefit from diligent land management (Vanbutsele, 2021; Zhu, 2018). What if the opposite happens if humans do not manage the earth? So, it is only natural that humans

will feel the earth's futility. This is the waste that the author wants to avoid when he sees the land around the house neglected and abandoned. In the hope of receiving blessings, the author proactively works on the land with other residents so that the land managed can bring benefits and blessings to the lives of the residents. Even though the earth essentially belongs to Allah, good relations with others must be maintained according to Sharia law (Darmayanti, Sugianto, et al., 2022; Safitri et al., 2023; Usmiyatun et al., 2021). Vacant land that already has an owner, for example, land, must first ask permission from the owner or at least the developer. The community thinks managing empty land is a good idea and is enthusiastic about jointly managing this land using community services. Community service is carried out in free time, such as Saturdays or Sundays, when most people do not go to the office to work.

Community service is an Indonesian tradition that needs to be revived now. Studying community service work at Graha Tartila Housing shows that village residents who carry out community service work can develop (i) cooperative personalities with the following indicators (Riono et al., 2023; Sugianto et al., 2022): Willingness to work together well, consciously and based on the principle that goals will be achieved more easily and quickly if achieved together -equally and without egoism and (ii) social protection where everyone can behave politely towards others, act politely, listen to others, and do not demean others when collaborating (Leisner, 2020; Makkar, 2018). examine changes in cooperative activities in Bunga Putih Village, Kutai Kartanegara, which still collaborate in activities such as harvesting, helping people affected by natural disasters, celebrations, etc. Only for public works activities such as repairing road infrastructure village communities tend to be reluctant to help (Garcia, 2020; Michalk, 2019). his behavior change is caused by decreased awareness of the importance of cooperation, people's busyness with work, and apathetic habits.

Regarding the environment, the government's need for more determination to encourage people to work together and the urban culture brought by new arrivals have infected residents with lazy habits. The people of Jatinangor have begun to feel these symptoms. However, of course, change is inevitable. However, good traditions must, of course, be maintained. Even though it is not carried out routinely and not all residents can participate, public utility work in RW 12 is still ongoing, especially in environmental management for the common good. Maintaining and managing the environment is different from owning it. When some residents of RW 12 maintain empty and abandoned land, it does not mean that the residents own the land. From an Islamic perspective, land left vacant for a long period has rights to the land owned by its manager. In Indonesian law, land ownership is subject to several regulations and requires a land ownership application from the state. Management of empty land around some residents has not been carried out for a long time, so they have no goal of becoming owners of existing empty land. The goal is just that. The goal is to manage it. Some of the benefits that residents experience by managing vacant land are explained in this article. One of the verses in the Koran above shows that the various damages that occur are not far from human behavior in environmental management.

PGRI Wiranegara University KKN student service at Graha Tartila Housing is one of the benchmarks that students can also benefit the surrounding community. The idea of the KRPL or Karang Kitri project is an alternative that can be implemented in all regions in Indonesia, considering that Indonesia itself is an agricultural country that has good soil fertility (Manasikana et al., 2023; Prahesti et al., 2023; Suhendar et al., 2022). Karang Kitri can be a solution to increase food security in Indonesia, starting from the basic community first or independently from their yard. Local plants whose results can be used to fulfill kitchen needs, such as chillies, cabbage, mustard greens, kale, eggplant, and



tomatoes, will later be distributed to the local community. If the proceeds are excessive, efforts will be made to sell them so that the money from the sales can be put into residents' coffers. This is one of the solution steps to overcome the need for a kitchen as small as possible, especially if it can help improve the economic sector of residents.

The author would like to thank the PGRI Wiranegara University campus for placing us in Blandongan Village, as well as the residents at Graha Tartila Housing who participated in helping and launching the KRPL program, which will also be beneficial for residents and for the KKN team who are willing to work together to create new things at Graha Tartila Housing.

#### 4. Conclusion

The synergy of community service activities with the KKN program is more effective and provides double benefits, apart from being a learning medium for students, this activity also motivates the community to be able to use the yard in a more useful direction. Providing knowledge about appropriate targets according to community needs is also one of the things that is relevant in terms of the overall community who respond positively to the implementation and results of activities.

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