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ACCELERATION AND INNOVATION OF PRODUCTS MADE FROM LOCAL FOOD AT SMAN 1 BEBER, CIREBON REGENCY

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Abstract. School is a very effective place of learning and character-building for students. Education in schools greatly influences knowledge, attitudes, consumption behaviors, and food choices. The Healthy Canteen and School Nutrition Garden are part of health education in schools. Educational institutions must be able to present and provide healthy canteens, as well as healthy food and school nutrition gardens, as one of the services that schools must provide to realize intelligent and healthy children. Therefore, schools are expected to accelerate and innovate food products made based on local food ingredients in schools. This Community Service activity continues NGTS education conducted in 2022 at SMAN 1 Beber. In 2023, we will continue to accelerate and innovate products produced and produced in school gardens and made by school residents for use. In addition, we hope this product innovation can be packaged well with special labeling of SMAN 1 Beber so that it can become one of the school's efforts to commercialize superior products that characterize SMAN 1 Beber.

Keywords: School, product innovation, Food, Nutrition Garden.

INTRODUCTION

Modules/Videos Featured product innovations

Health issues, especially school health, need serious attention. Law Number 23 of 1992 article 45 concerning Health affirms that School Health is held to improve the ability to live healthy students in a healthy environment so that students can learn, grow, and develop harmoniously and optimally so that it is expected to make quality human resources.

Sumantri, M. (2007) stated that students must be healthy, and parents must pay attention to a healthy environment and eat nutritious food so that humans will be sole, knowledgeable, and healthy. In the learning and learning process, learning materials are oriented to the head, heart, and hand, related to knowledge, attitudes/values, and skills. However, health factors are still needed so students have 4 H (head, heart, hand, and *health*).

One important effort to realize a healthy community life, especially for the school/madrasah community, is the provision of canteens and healthy food in schools. The provision of healthy food affects healthy and safe food for schoolchildren who are in their infancy.

A nutrition garden is a plantation with the concept of plants planted to have nutritional value for humans. This program utilizes land as access to family nutrition. The hope is that with this program, more people can consume nutritious food (at least vegetables and fruits). Here are some facts:

1. Indonesia Rich in natural resources
2. Indonesia's low food security and low purchasing power of Indonesians
3. WHO consumption of fruits and vegetables of the Indonesian population is 34.55 kg / year, and the standard of adequacy for health according to FAO is 91.25 kg / year

Teenagers' average fruit and vegetable consumption in Southeast Asia is meager, amounting to 182 grams/day. These results differ significantly from recommendations issued by the World Health Organization (WHO), which state that fruit and vegetable consumption is 400 grams (5 servings) per day for all age groups (1). Eating fruits and vegetables daily is one of the indicators of Clean and Healthy Living Behavior (PHBS). As many as 19.6% in Indonesia are classified as undernourished (2). As many as 93.6% of the Indonesian population aged over ten years falls into the category of eating less fruits and vegetables, even though people know a good diet is balanced nutrition (2). The role of fruits and

vegetables is to help increase endurance, maintain health, prevent diseases, and various other benefits. Vegetables and fruits are one of the food groups in the Food and Agriculture Organization (FAO) grouping, known as the Desirable Dietary Pattern (1) or Hope Food Pattern (3). Vegetables and fruits serve as a source of vitamins and minerals. Lack of consumption of vegetables and fruits negatively affects nutritional conditions.

Consumption of vegetables fruits and other food groups affects health conditions. Analysis of consumption patterns is based on data on the amount of energy consumed by vegetables and fruits (in kcal units), by looking at differences between provinces and urban and rural areas. Food security and the low purchasing power of the community are some of the causes of the low consumption of vegetables and fruits. With the Adaya modules and video product innovations made by local schools, SMAN 1 Beber is expected to be useful for other schools in the Cirebon Regency area.

METHOD

Partner Issues

School is a very effective place for learning and character building. Education in schools greatly influences knowledge, attitudes, consumption behaviors, and food choices. However, the school does not yet have a product innovation that can be used as a school flagship and consumed by school residents.

Solutions And Outcomes That Have Been Achieved

Solution

Modules and videos on making product innovations are part of school health education. Educational institutions must be able to present and provide healthy canteens/food provision in schools and school nutrition gardens as one of the services that must be provided by schools, to realize intelligent and healthy children. In addition, schools are expected to have superior products made from local ingredients that can be provided in the school cafeteria.

The management of superior products provided in the school cafeteria provides benefits for all school residents, including:

1. The nutritional needs of school residents can be met
2. The food consumed by school residents can be well controlled.
3. There is a sustainable use of school gardens that will be used in superior product innovation.

Outcomes that have been achieved

- a. There is a video in that contains healthy food/beverage products as superior products at SMAN 1 Beber.
- b. IPR Video of making excellent products of the school
- c. Publications in print media and Pengabmas journals.

Target audience

Eligibility of activity targets includes:

Administrative Requirements

- a. The school is willing and highly committed
- b. The school is willing to provide resources to apply modules and product innovation videos.

Requirements for the availability of supporting facilities. The school has learning infrastructure for the application/innovation of products and canteens to provide products.

Activity Methods. The activity method involves making several beverage and food products from local schools, manufacturing, packaging, and labeling selected products, and supplying/selling them in the school canteen or outside school.

Activity stage :

1. Socialization. The Community Service Lecturer Team will socialize Community Service activities to SMAN 1 Beber.
2. Product manufacturing and mentoring. Making school superior food and beverage products by teachers/students and accompanied by the Cirebon Nutrition study program team.
3. Product manufacturing and packaging selection and label making for selected superior products
4. Monitoring and Evaluation. Monitoring activities are carried out when mentoring is conducted, and evaluation activities are carried out at the end of the activity to monitor the progress of implementing product innovation acceleration.
5. Making activity articles on print/electronic media, making IPR, and publication in community service journals.

Linkages

Community service activities are one of the Tri Dharma of Higher Education implementations for lecturers in the Poltekkes Kemenkes Tasikmalaya. This activity is carried out at selected schools with the hope that it can be used as a pilot school in handling problems related to nutritional problems. This activity is expected to be one way to solve/help nutritional problems through model schools (pilots) and make schools one of the schools that have innovations in the form of superior products made from schools with attractive packaging and become one of the products available in the school cafeteria.

Feasibility Of Poltekkes Kemenkes

The Community Service Sub-unit of the Cirebon nutrition Study Program D III, from 2018 to 2021, has carried out several activities. Community Service activities carried out by 3 (three) teams of lecturers 2 (two) education staff, and (three) students with partners, along with community service activities that have been carried out:

Table 1. NGTS module creation

| Years | Wiwit Estuti | Uun Kunaepah | Activities |
|--------------|--|---|---|
| 2018 | Efforts to Increase Fruit and Vegetable Consumption through Hydroponic Cultivation | Kesenden Village | Promotion of the Importance of Vegetable and Fruit Consumption Hydroponic Vegetable and fruit Cultivation Training Facility facilitation (Hydroponic Stater Kit) Hydroponic Vegetable/Fruit Cultivation Evaluation |
| 2019 | Efforts to access healthy food through gardens and school canteens | SMPN 7 and SD Sidamulya Kota Cirebon | Education on Access to Safe, Healthy and Nutritious Food Through Model School Pilot Nutritional Goes To School (Ngts) at SMPN 7 and SD Sidamulya Kota Cirebon |
| 2020 | Attempt Management of anemia in pregnant women | Kesambi Village, Cirebon City | Isnar Nurul Alfiyah |
| 2021 | Efforts to sustain access to healthy food through school gardens | SD Pahlawan SD Sidamulya SMPN 5 SMPN 7 Kota Cirebon | Education of healthy, safe and nutritious local food through the Nutrition Go To school (NGTS) garden pilot model in Cirebon City |

| | | | | |
|------|---|--------------------|---|----------------------|
| 2022 | Safe, healthy and nutritious food education Through Practical Modules Nutritional Goes To School (Ngts) In Sman 1 Beber | SMA Negeri 1 Beber | 1 | NGTS module creation |
|------|---|--------------------|---|----------------------|

Product acceleration service activities will be carried out at SMAN 1 Beber, which will be carried out by the Community Service Team, which will consist of 3 (three) lecturers and 2 (two) education staff and will involve 3 (three) students. In the implementation of community service in collaboration with Partners, with the following duties:

1. Lecturer Team

- a. Partnering with SEAMEO, SMAN Beber.
- b. Responsible for the implementation of all activities
- c. Prepare proposals and activity reports
- d. Providing capacity building to teachers and staff of SMAN 1 Beber about product innovations made from local school gardens.
- e. Carry out publication activities (print/electronic media, publications in community service journals) and IPR

2. SEAMEO

- a. Social support to the Lecturer Team
- b. Coordinate with the Lecturer Team
- c. Provide feedback on module and video creation
- d. Together with the Lecturer Team, they assisted in the application of modules and product videos.
- e. Together with the Lecturer Team to conduct an evaluation

3. Partner Schools

- a. Committed (stated in the form of a Letter of Cooperation Agreement or statement of willingness)
- b. Involving teachers/staff as participants in charge of superior product innovation.
- c. Make efforts to sustain superior product innovation.

DISCUSSION

Target Location and Eligibility

This community service activity implements the NGTS (Nutrition Go To School) Program or Nutrition for Achievement carried out in 2 (two) schools, namely SMAN I Beber and Fajar Hidayah Elementary / Junior High School, Beber, Cirebon Regency. Activities were carried out in both schools with coordination/notification to KCD wilayah X.

Early planning: This activity was only planned at one school, SMAN I Beber. However, one private school, IIBS SD/SMP Fajar Hidayah, is also interested in this activity, so with coordination with the school, Community Service activities are finally carried out in both schools.

SMAN I Beber has a canteen that has been organized and has enough large land that can be used as a nutrition garden. Nutrition gardens are one of the targets of activities in the NGTS program. The school has used the vacant land by planting flowers and several fruit trees, including a mango tree and jelly. In addition, SMAN I Beber also has hydroponics for several vegetables, such as pakcoy and kale. The headmaster, as a decision-maker in both schools and other managers, has great respect for this activity.

Activities Performed

1. **Coordination with Schools.** At the beginning of the activity, before community service is carried out, socialization activities will be carried out by the Cirebon Nutrition DIII Study Program Community Service team and partner schools, both SMAN I Beber and IIBS Fajar Hidayah. This is done to get a common perception of the activities carried out and ensure cooperation in the implementation can run well. The topics discussed at this meeting are programs that will be carried out by the Community Service Team of the Cirebon Nutrition Study Program for approximately 4 (four) months. The Lecturer Team of Cirebon Nutrition Study Program D III attended the meeting offline at their respective schools.
2. **Initial Situation Assessment in School.** The initial step of the activity is to conduct an initial assessment/situation analysis in 2 (two) schools that will be involved in Community Service activities. The situation analysis focuses on the availability of school canteens and the existence of school gardens in accordance with the previous community service because the 2023 Community Service is a continuation of the NGTS program that was carried out in 2022.

The results of the situation analysis in the two schools are as follows:

1. High School I Beber. In the school, there are 6 canteens located in the school area with building facilities that the school has prepared, and there is one student cooperative provided to meet the needs of the students. The number of students at SMAN I Beber is 902, which is a prospect for consumers who can take advantage of the product. The Study Program team photographed several trees, such as mango and jelly trees, and hydroponics, which can be developed into one of the school's superior products.
2. Iibs Elementary / Junior High School Fajar Hidayah. At Fajar Hidayah Elementary / Junior High School, the school management manages only one canteen. The canteen is a glass display case containing snacks and drinks because this school is a pioneer so the number of students is still tiny. However, fewer students also need to learn about healthy and safe snacks, which schools can produce. IIBS Fajar Hidaayah has a reasonably large land. The land has been planted with various vegetables, such as mustard greens, spinach, kale, chilies, lemongrass/lemongrass, cassava, papaya trees, and banana and flower plants. In addition, the manager also makes media for catfish that are large enough.

Dissemination of Acceleration of Innovation of Featured Products

The next step is disseminating accelerated innovation of the school's flagship products. At the meeting, the team explained how to make a product, starting from preparation and the manufacturing process, including labeling and packaging, as well as some examples of product-making videos. Both the principal and teachers are very interested in the plan to make the school's flagship products. The same activity was also carried out at IIBS Fajar Hidayah. The two schools agreed to create a product that will be developed as a sustainable school flagship product.

Assistance in Making School Excellence Products

Assistance in making products is carried out in each school by the Cirebon Nutrition study program team. SMAN I Beber created four teams (four) to make products. This product utilizes plants in the school environment. The products made by SMAN I Beber are, ice jelly, cilok pakcoy, jackfruit seed milk and mango kebabs. Iced jelly is made from jelly leaves that grow in the school environment, hung with pieces of jackfruit and brown sugar, which are local foodstuffs. Cilok pokcoy is a modification of cilok made from Aci / starch

with the addition of pokcoy vegetables produced from hydroponic plants of SMAN I Beber. Jackfruit seed milk is a beverage product made from jackfruit seeds that grow in the school environment. It is boiled, then mashed, and added sugar. At the same time, mango kebabs contain vla from mangoes that are mashed and also given mango pieces. These products are creations from teachers and students expected to become superior products that can be widely marketed. They also made videos of the product being made. The teachers and students were very enthusiastic in participating in this activity. Even the principal of SMAN I Beber is delighted with this activity. Hopefully, this product can be made sustainably and become the school's flagship product that can be marketed inside and outside the school. These products have also been packaged with packaging that matches attractive labels.

IIBS Fajar Hidayah also made 2 (two) teams consisting of teachers and students. This product utilizes lemongrass plants to make the school's flagship product. They make a beverage product called 'lemongrass lemon'. It starts with harvesting from the garden, cleaning, washing, manufacturing, and serving processes. This lemongrass lemon is made with lemon juice to add aroma and flavor. Lemongrass lemon can be served warm and cold, with attractive packaging and labels.

Monitoring and evaluation

Monitoring is carried out during activities ranging from socialization to product manufacturing assistance. Based on the activities carried out, it can be seen that all teachers and students are very supportive and enthusiastic to participate in the activities carried out from August to October 2023. Both schools have creativity in finding product innovations that are the school's flagship. At first, they still did not understand how to make a product, but with this activity, the two seemed to be able to produce products according to the results of the school garden. They are also pleased because they gain product innovation experience and understanding.

Non-Advanced Program

The results of evaluation activities and the achievement of activity targets become material for preparing follow-up plans to develop school superior products. In this activity, the Cirebon Nutrition Study Program Team provided a set of 'Cup sealer' tools that can be used to package drinks. It is hoped that with this tool, beverage products produced by both schools can become a sustainable program because the equipment is available as an investment and motivation support for schools.

Following up on this community service activity, it is hoped that this product innovation will become a sustainable program at SMAN I Beber and Fajar Hidayah Elementary / Junior High School,

Beber, Cirebon Regency. It is hoped that the two schools can be an example for other schools in innovating school superior products made by schools and for schools that can even be marketed outside of school.

CONCLUSION AND ADVICE

Conclusion:

1. The role of principals, teachers, employees, canteen managers, and student awareness is vast in the sustainability of the school's superior product innovation program.
2. Schools must develop superior products that can be made as food/drinks consumed by teachers and students.
3. In the next stage, the school's superior products can also be marketed outside the school, such as in traditional and modern markets / mini markets.

Suggestion:

1. The role and commitment of the principal and teachers are needed so that the school's superior products become sustainable and continue to be developed.
2. Parents need to be involved by being informed that the school produces food and drinks that students can purchase as part of school entrepreneurship and the sustainability of the school garden utilization program.

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