

NAME : FARHAN

NIM : G041201027

AGRICULTURAL BUILDING AND ENVIRONMENTAL SCIENCE TASKS B

1. Decide on 1 type of farm building you want to learn
2. Write down the climatic and environmental requirements or criteria needed by the building
3. Look for videos about the building. Watch the video and write your thoughts
4. Does the building meet the criteria you wrote discuss one by one
5. Write down what the impact will be if the criteria are not met
6. Write your conclusion about the video

Answer

1. One type of agricultural building that I want to learn about is the rice storage building. This building is referred to as a warehouse or rice barn. The main purpose of this building is to store and protect rice from moisture, insects, and adverse environmental conditions. There are various types of commonly used rice storage buildings such as traditional warehouses made of bamboo, wood, or woven straw, brick or concrete warehouses, refrigerated rice warehouses, silos, and others.
2. The climatic and environmental requirements or criteria needed by rice storage buildings are:
 - **Temperature**
Rice storage buildings require a stable temperature or temperature to prevent the growth of microorganisms that can damage rice. Generally, rice storage requires temperatures between 10 °C to 20 °C.
 - **Light**
The reason rice is stored inside buildings is to protect rice from excessive sun exposure. Rice storage buildings must be designed with effective covers as they can heat rice and increase the temperature inside the building.
 - **Air humidity**
Humidity in storage buildings is very important to control so as not to cause the growth of insects and fungi if the humidity is too high. Rice can become dry and cracked if the air humidity inside the storage building is too low. The recommended relative humidity is about 12% to 14%.
 - **Ventilation and air quality**
Good air circulation can prevent the buildup of heat and moisture inside the rice storage building. In the ventilation section, it is recommended to install a net or filter for protection from pests and insects. Good ventilation will help reduce condensation and maintain rice quality.
 - The environment around the rice storage building is also important to note. Rice storage buildings must be considered clean and sanitary so that they must be treated properly to be free from dust, dirt, and other organic materials that can contaminate rice.

3. As for the video link about rice storage buildings, as follows:

https://youtu.be/eHqQXP_gufg

Based on the video I watched, it can be seen that the rice is stored in the building of the house on stilts at the top. The rice is put in sacks and arranged in a standing position. The rice storage method is very traditional and is often used by people in rural areas. In the past, rice was immediately placed or dried in the sun in the house because it was adjacent to the roof of the zinc house so it had a very hot temperature during the day. To get to the storage area, we had to climb a ladder made of wood. In the building, it was very dark, dirty and hot. This rice storage building is often referred to as a shelf covered by wooden boards.

4. -Temperature

In the video, the rice storage building is still very traditional, which is still stored in a stilt house precisely at the top adjacent to the roof made of zinc so that the temperature is very hot during the day. Temperature control in the building is not there or is not well controlled so it does not meet the temperature criteria in storage buildings which generally range from 10 °C to 20 °C.

- Light

The video already meets the light criteria in a rice storage building. Rice is put in sacks and then stored in storage buildings in the form of stilt houses or rice barns which are protected from direct sunlight.

- Moisture

This criterion has not been met based on the rice storage building in the video. Storage buildings are made of wood and tend to be more porous and can let a little moisture into the building especially if there is a difference in humidity between the outside and inside of the building. Humidity in traditional rice storage buildings is also influenced by environmental conditions. The humidity inside the building will be high if the humidity outside is high.

- Ventilation and air quality

Based on the video, this criterion was not met because the ventilation in the building was still lacking and very poor. The building only utilizes the gaps in the roof of the stilt house.

- The environment around the building is very important. Based on the video, it can be seen that the rice storage building was very dirty, dusty, and filled with unused items that were only left inside the building. This can cause the emergence of pests and insects which of course can damage the rice stored in the building.

5. Each storage building has the requirements or criteria and if it is not met, it will certainly affect the quality of the agricultural products. The impacts are as follows:

- If rice is stored at temperatures that are too high and low, it can cause the growth of fungi and insect breeding it can reduce the quality of rice such as the appearance of black spots.

- Likewise, humidity, if the building in storage increases, can cause the growth of mold to accelerate the decline in the quality of rice.
 - If the rice stored in the storage building is exposed to direct and excessive light or sunlight, it will cause the rice to become too dry so that it is easily damaged and cracked or broken into smaller parts.
 - Rice storage buildings must have adequate ventilation so that the air quality inside the building becomes better. In addition, ventilation must be installed with nets or filters to prevent the entry of insects that can damage the quality of rice.
 - The environment around the storage building must also be considered. Rice storage buildings must be well maintained and kept clean so that they are free from dirt, dust, or foreign objects that can cause rice contamination.
6. Based on the video, it can be concluded that the rice storage building is still traditional which is placed in a stilt house building at the top and is referred to as a rakyang. The storage building is categorized as unfit for use because the temperature and humidity cannot be controlled. In addition, the storage building was not well maintained so it looked very dirty, and unused items were simply placed together with the rice. There is no ventilation inside the storage building because it only takes advantage of the gaps on the roof of the stilt house.