MINI AQUACULTURE FISH POND DESIGN

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ABSTRACT

Agriculture business activities, including cropping, livestock, and aquaculture can generate substantial profits if well managed. Limited resources, such as land and area available for business use, especially in agriculture and fisheries, pressure the fish farmer to maximize the use of these resources to increase revenues. With the new technology advancement, fish farming in tanks has become more popular and used by the fish farmer. A fish farmer produces fish in confined places to efficiently convert fish food into fish flesh. Fish tanks conserve space and water and, more importantly, can be harvested faster compared to traditional practices. Thus, this study will guide the students to prepare the mini aquaculture fish pond to be applied in actual business activities and to identify the innovation talent among the students in preparing their mini aquaculture fish pond design.

Key words: Mini Aquaculture, Fish pond.

1. INTRODUCTION

It is vital to have a good fish pond for better fish production to grow fish. A fish pond is just an artificial structure or habitat that fits the criteria for fish growth.

Although there are many different types of fish ponds, the followings are the most common elements and constructions found in fish ponds:

1. The pipes or channels that bring water into and out of the ponds are inlet/outlet pipes or channels.
2. Pond walls or dikes hold in water.
3. Water controls regulate the amount of water in the pond, the flow through it, or both. 4. There are tracks and lanes along the pond for convenient access to the pond wall.
4. There are harvesting facilities and other equipment for the management of water and fish.

2. PROBLEM STATEMENT

A normal earthen fish pond should be around 300 square meters in size and much larger. However, having multiple small ponds instead of one large pond allows for more frequent harvesting. Small ponds are more expensive to build and occupy a lot of space. On the other hand, large ponds take longer to fill and drain and are more complex to manage. The physical characteristics of a pond usually directly impact the amounts of production and returns that can be achieved.

3. METHOD

The students are required to make a model of a fish pond using recycled materials such as cardboard, box, plastic bottle, straw, plasticine, and other relevant materials and the fish pond model using basic equipments and features to accomplish this project are:

I. Paddlewheel
II. Water inlet
III. Water outlet
IV. Overflow pipe
V. Water level
VI. Dikes/pond walls

However, with the basic guideline and assistance from the lecturer, the students put their effort into an additional feature of the fish pond model, such as filter pump decorations to add more value to their fish pond model.

4. RESULT & DISCUSSION

Figures 1 and 2 below show the model of Mini Aquaculture Fish Pond Design based on different side views.

Figure 1. Front-view of Mini Aquaculture Fish Pond Design.

Figure 2. Side-view of Mini Aquaculture Fish Pond Design.

CONCLUSION

In conclusion, a pond must hold water and maintain optimal production conditions. In addition, one should do the necessary pond maintenance tasks (such as harvesting and feeding) with relative simplicity and safety. As a result, poorly designed ponds produce lower yields and returns. This is because comparable yields necessitate higher management efforts and costs. The first step to successful pond production is to pay attention to pond design and construction detail.

REFERENCES

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