Integrated aquaculture/farming system

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Concept

- Production of more than one crop from a same piece of land with a view to earn maximum profit through minimum investment
- Integrated farming system can be considered as a model of waste treatment, recycling of agricultural by products, effective utilization of natural resources and maintaining the environmental balance
- Practices are popular in China, Taiwan, Malaysia, Hungery and some parts of Europe

Principle

- Effective utilization of waste or by products

Benefits

- Additional crop
- Reduced cost (in terms of feed, fertilizer, chemicals/pesticides/insecticides and labor involvement)
- Risk minimization
- Better environment through less pollution
- More profit

Justification of integrated system in Bangladesh

1. Access to waterbody for fish farming
- Ponds available with few farmers but rice land availability with most of the farmers
2. Utilization of the waste and by products
- Kitchen waste, blood of slaughtered animals, poultry viscera
- Rice bran, fish meal
3. Reducing risk
- Aquaculture is prone to natural disasters
4. Increasing soil/water productivity

Integration types

1. Animal- Fish (poultry dropping, cowdung, silk worm)
2. Plant-Fish (weeds, grasses, vegetables, leaves)

Complexity in waste utilization

1. Hygienic/health problem
2. Competitive use
3. Acceptability in society

Considerations for animal-fish integration

1. Production cycle of animal and fish
2. Distance of animal rearing place from the pond
3. Amount and quality of feed given to the animal
4. Amount and quality of waste produced by the animal
5. Fertilizer and feed requirement for fish pond
6. Culture technology

Action of waste in fish pond

- Used as direct feed
- Used as indirect feed (nutrient released from waste increases the productivity)