

## CLASSIFICATION OF AQUAPONICS

### *a) Under the broad head of Aquaponics*

- (i) Freshwater Aquaponics,
- (ii) Saltwater Aquaponics,
- (iii) Warmwater Aquaponics and
- (iv) Coldwater Aquaponics, wherein freshwater fish/prawn/crayfish and vegetables, saltwater fish/shrimp and seaweeds/macro-algae, coldwater fish and plants are grown, respectively.

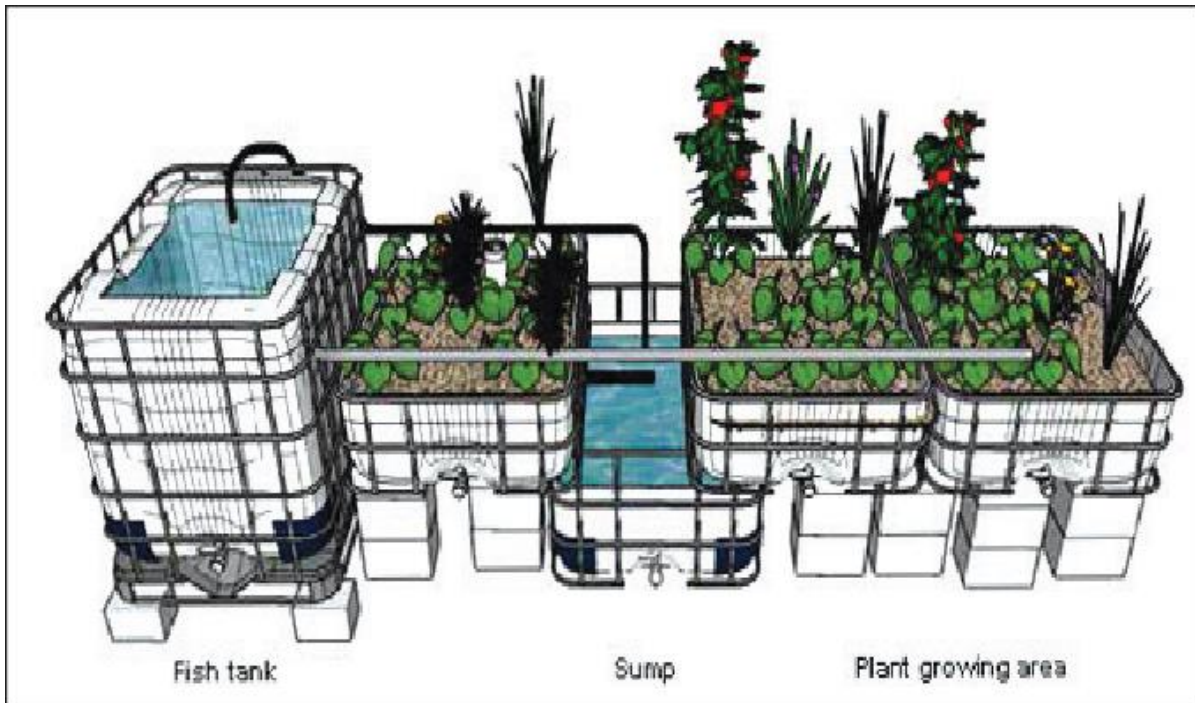
### *b) Depending on the scale*

- (i) Back-yard, small-scale,
- (ii) Commercial-scale
- (iii) Industrial-scale units

**1. Commercial Aquaponic Systems** aim at intensive production and are inherently capital intensive. They are also more complex than stand-alone Aquaculture or Hydroponic Systems. The driving principle should be growing high-value fish and plants that can be easily marketed and generate the highest net income per unit area and unit time. A thorough economic analysis of the proposed business plan with due diligence covering all

variable factors need to be done before launching a commercial venture. It would be worthwhile referring to some of the studies that throw light on aspects such as weaknesses/disadvantages, effectiveness, production, profitability, etc., in Commercial-scale Aquaponics (vide infra: Further Reading).

**2. Small-scale/ Backyard/ Urban-farming/ Roof-top Units**, in contrast, are less intensive, cheaper, more successful and serve domestic or local needs, providing fresh and organically grown fish and vegetables on a continuous basis.



(Small-scale Aquaponic Unit comprising of a Fish Tank, Sump and Plant-growing Area)

Depending on whether the fish/plant production is meant for domestic or commercial purpose or to cater to a high-end niche market, fish could be the primary crop while vegetables are the ancillary crop or vice versa or emphasis could be on growing both fish and plant species that are in demand. On the whole, fish and the metabolic wastes they generate are essentially the life-line of an Aquaponic System.

### **Location and implementation**

**a) Site Selection:** Selection of a good site is extremely important, although Aquaponic Systems are suitable where only limited water is available for removal of fish wastes out of the production system. Passing water through a treatment unit removes ammonia and other waste products achieving the same effect as a flow-through configuration. Land/ space measuring at least 150 m<sup>2</sup> for a Backyard-type Aquaponics unit and 2000 m<sup>2</sup> for a Small-scale Commercial Aquaponics unit is required for the construction.

**b) Beneficiaries:** Beneficiaries include women SHGs/ fisherman societies/ fish farmers/ entrepreneurs; selection would be based on their interest and awareness. Beneficiary selection is done through a notification and NFDB Website.

**c) Implementation:**

**a.** Implemented by the beneficiary with technical support from the Designated Technology/Service Provider and Dept. of Fisheries of the State Govt.

**b.** Financial assistance in the form of subsidy will be obtained from Govt. (Central/State) and the remaining amount will have to be borne by the beneficiary through self-finance, bank loan, etc.