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331

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Farmers' Corner- A Knowledge Hub

Rain water harvesting through lined pond

In Andaman and Nicobar Islands, during post monsoon period, there is growing scarcity of water for meeting even domestic demand and livestock use resulting in very less importance given to agricultural use. Hence, the only option available is rainwater harvesting, storage and its efficient use in agriculture and other sectors. In the islands, normally rain



water harvesting is done through farm ponds which dry up during summer months due to water loss from evaporation and seepage. However, efficient water storage in small ponds is possible in the island through lining with suitable material. Plastics can be used very effectively in lining the ponds. The lined tanks have been found as one of the best option for water storage at cheaper cost. Generally mechanical excavator is used for making pond in high rainfall and sandy coastal areas. The pond of any size can be made based on available space and budget. However, small size (6 x 5 m) pond is always better for the islands. The steps involved in construction of lined pond are,

- ◆ Site selection, cleaning, levelling and demarcate pond area (6 x 5 m)
 - ◆ Dig the soil upto 1.5 m depth using mechanical excavator and make boundary around the pond
 - ◆ Give 1:1 or 1:0.5 slope depending on the soil type and to prevent collapse of side wall
 - ◆ Remove any stones or other projections from the bed and sides of the pond followed by compaction and consolidation
 - ◆ A layer of fine soil (1-2 inch) should be spread over the bottom of the pond to avoid any damage to the film.
 - ◆ Place LDPE film of size 10 x 10mat bottom and side slopes of the pond followed by anchoring
- From this small lined pond, about 40 m³ (1m³=1000 lit) of rain water could be harvested and stored at the end of rainy season, which is sufficient to irrigate vegetable crops in 0.20 ha. The approximate cost of making lined pond is Rs. 50,000. The short duration vegetables like okra, cowpea, gourds, palak and amaranthus etc can be easily cultivated and an average yield of 1000 -1500 kg/0.2 ha can be achieved.

Benefits: Rainwater harvesting through lined pond is one of the best options for efficient water storage without seepage loss and promoting vegetable cultivation for household use.

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