

PROFORMA FOR SUBMISSION OF INFORMATION ON TECHNOLOGIES DEVELOPED

1. Name of Machinery/ Product/ Variety developed: **Low-cost micro rainwater harvesting structure (Jalkund)**
2. Application/ Use (Maximum 2 lines) For rainwater harvesting and its judicious use in agricultural operations during dry-spell periods, providing new livelihood options for resource poor farmers of north east India.

3. Description/ features of the Machinery/ Product/ variety developed along with one good coloured photograph (maximum 100 words)

A simple and low-cost rainwater harvesting structure has been developed for storing rainwater in upper terrace condition of this region. The different steps for preparing *Jalkund* consists excavation of the *kund* (for 30,000 lit. capacity, the dimension is 5 x 4 x 1.5 m), plastering of the inner wall with mixture of clay and cow



Jalkund-micro rainwater harvesting

dung in the ratio of 5:1, 3 – 5 cm thick cushioning with dry pine leaf or thatch grass @ 2 to 3 kg/m² and ultimately laying down of lining material (LDPE black agri-film or SILPAULIN of 250 μ or 500 μ). The stored water should be covered with thatch (5-8cm thick) made of locally available bamboo and grasses to avoid the evaporation loss of water particularly during off season (November to March).

4. Input (Equipment/ plant and machinery/ raw material/ land/ investment/ manpower/ power needed) LDPE black agri-film/ silpaulin /nylon, dry pine leaf, bamboo, grasses and insecticides.
5. Output capacity: 30,000 l stored water in *Jalkund* could support 200 tomato plants, rear 5 piglets or 2 ducks or 50 poultry birds along with reasonable amount of fish seedling from November to April. Using stored water economically in various farm activities, tomato-pig based system (net profit of Rs. 9495 with B : C ratio of 1.67) is the most acceptable and profitable one particularly for hilltop situation.
6. Specific benefits and impact:

This method of rainwater harvesting is very cost effective (Rs. 0.046/ litre water) and simple to adopt and handle by rural farmers and mainly local resources are used. The technology provides a new livelihood, particularly to those who are the worst sufferers from water scarcity at hill-top. This technology ensures double cropping with high value crops, which was not possible earlier due to lack of water at hilltop during winter season. Further, the technical skills of farmers and overall farm income could be improved by raising high value crop with integration of livestock production.

7. Unit cost: Rs. 6055/- per unit including the cost of lining material in the first year with negligible maintenance cost in the subsequent years.