

# **Climate resilient farming: hanging type farming techniques for climbing vegetables in flood and saline prone areas**

**Practical  
ACTION**



**Background:**

Smallholder women farmers in Kurgiram (Northern Bangladesh) and Satkhira (Coastal area) mostly depend on homestead areas for their vegetables demand. Growing vegetables in homestead during monsoon season is very difficult as most of the vegetable crops cannot tolerate excessive soil moisture, flood water and water logging. Women farmers mainly grow bottle-gourd, cucumber, ridge gourd, snake gourd etc in the monsoon season. Use of low-cost earthen pot (Figure 1) for hanging type garden was found to choose as a suitable farming option for the flood and salinity prone vulnerable women. Women farmers used to face water-logging condition and scarcity of fresh water in those districts. Under the EmPower Programme of UN Women and UN Environment, Practical Action – one of the responsible parties of EmPower have provided capacity building training to women farmer, women led Civil Society Organisations (CSOs), and the most vulnerable women on the gender responsive climate resilient agriculture. WIN Incorporated as a private entity and the national agricultural help desk – *Krishi* Call Centre was in this consortium. Vulnerable women farmers found that hanging type farming method can add value to their practices for growing vegetables in monsoon.

**Purpose:**

Main purpose was making women confident in climate resilient farming technologies through improving access to early warning and agro-met information including market intelligence. This would help them to become women entrepreneurs in the village on specific vegetables and increase income and household nutrition security.



*Figure1: Women farmers planting seedling in hanging gardens*

**The Innovation:**

Traditional land sowing technique does not work in flood effected community and saline water affected areas. So to make plants grow in a viable condition, a technique was applied by adjusting a bamboo platform (Figure 2) above the flood water for growing vegetables. Women were found to be interested in this special technique adapting in climate risk areas. In dry season it requires frequent watering and in monsoon season require less irrigation. Use of mulches (straw, dry leaves, etc.) in dry season was useful to reduce water loss through evaporation. The regular application of compost (200-250 gm in 15 days' interval) was essential as the source of nutrient is limited.



Figure 2: Vine type vegetables in hanging gardens

### **The result:**

Practical Action worked with 30 women participating households in five unions of one coastal and flood prone districts - Satkhira and Kurigram. The women farmers of selected households were trained on hanging gardening-structure preparation, soil material preparation and species selection.

The species grown included bottle gourd, ash gourd, cucumber, water, sponge gourd, long-yard bean, country bean, bitter gourd and etc. The results of the first production cycle are yet to come but vegetative growth of the plants to date were satisfactory. The project reached the target clients with early warning and agro-advisory voice message in their cell phone was effective to reach them in vulnerable remote locations. Despite of face to face training they preferred the National Agricultural Help line for digital extension service and had access to voice message advisory service.

The calculated cost for setting the per unit structure in first production cycle was BDT 450. Major investments on this process were for pieces of bamboo, rope, earthen pot, soil and compost.

Based on present growth and other references, the expected income from 10 earthen pots system would be BDT 7,500 where likely margin would be BDT 3,000 (deducting investment cost of BDT 4,500) in four months.

These figures indicate, a family using its family labor can seasonally generate reasonable profit from such farming. Therefore, hanging vine-type vegetable cultivation in earthen/cement pot has high potential to become a flood and saline stressed smart technique for poor farmers.

### **Lessons:**

- Moderate cost-benefit return can be achieved for year-round production if we can reduce climate induced loss.

- This method was more appropriate in homestead locations in regularly water-logged and flooded areas.
- Cost of fencing may demotivate initially if production is not that high.

**Way Forward:** More neighboring farmers found to be interested on such low cost and more convenient method for a start-up farming in water-logged and flood prone areas at homestead level. Women need reliable source of seed and sapling from nearby and to know more on disease management and year-round better production. Can take extension advice from Agricultural Call Centre.

**Reference:**

Irfanullah HM, Azad MAK, Kamruzzaman M & Wahed MA, Floating Gardening in Bangladesh: a means to rebuild lives after devastating flood, Indian Journal of Traditional Knowledge, 10 (1): 31-38  
Manusher Jonno Foundation, Climate Resilient Agriculture in Coastal and Flood-Plain Regions of Bangladesh, 2019, 1-46.