Construction of nala bunding and farm ponds for sustainable water resources by a draught affected farmer in Vethane, Dist- Satara – A case study

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Abstract :

There is wide variation in rainfall in Maharashtra. An undependable and erratic monsoon introduces an element of risk, uncertainty and instability in crop production. Water scarcity faced by the rural community is affected. The Kathav tahsil in Satara dist. is in under rain fed area. Rain fall is insufficient and irregular. The government water survey department declared that in the year 2011-12 the ground water level of Khatav tahasil is declined by 5.09 meters. In such situation normal farmer B. J. Nalawade from village Vethane showed that proper planning and managing the water resources for its long term sustainability is helpful in rural area. His own 15 hectors land was barren due to unavailability of water. For solving the problem he decides to construct check dams / nala bunding and farm ponds in such area without any financial support. The pre percolate tank of capacity 1 lakh cu.ft was constructed toward hill. The percolate tank was constructed after first tank having capacity 1.3 lakh cu.ft. The sub storage tank was constructed next to percolate tank having capacity 2.7 lakh cu.ft and forth main storage tank was constructed with 10.6 lakhs cu.ft capacity. A well is constructed after the main storage tank. Now the well is full with water and 5 Hp electric motor continuously runs for irrigation. The period required for the construction is three years. The new agricultural land measuring about seven hectors is prepared from silt and soil from these tanks. Now the Jowar, Pea and Gram crops are standing in the field and about four hector land is ready with pits for horticultural plants. The drip irrigation system is under construction. Now this is the ideal role model for other farmers and other farmers started such project in their fields for sustainable water resources.

Key words – Water management, farm ponds, irrigation.

Introduction :

There is wide variation in rainfall in Maharashtra. An undependable and erratic monsoon introduces an element of risk, uncertainty and instability in crop production. Ravikumar 2012 reported micro-watershed developing planning can be done by following an integrated approach using remote sensing data and criteria based analysis in GIS. Water scarcity faced by the rural community is affected. The Kathav tahsil in Satara dist is under rain fed area. Rain fall is insufficient and irregular. The government water survey department declared that in the year 2012 the ground water level of Khatav tahasil is declined by 5.09 meters.

Materials and Methods :

Farmer Nalawade's own 20 hectors land was barren due to unavailability of water. For solving the problem he decides to construct check dams / nala bunding and farm ponds in such area without any financial support. This project was selected for the case study. The survey of the project was organized in frequent intervals (2011-12) in village Vethane. The data was collected by the farmer on the basis of pond construction, water storage capacity, land prepared through extracted clay, cultivation of crops irrigated by storage water and total yield. The pre percolate tank of capacity 1 lakh cu.ft. was constructed toward hill. The percolate tank was constructed after first tank having capacity 1.3 lakhs cu.ft. The sub storage tank was constructed next to percolate tank having capacity 2.7 lakhs cu.ft. and forth main storage tank was constructed with 10.6 lakhs cu.ft capacity. A well is constructed after the main storage tank.

Result and discussion :

Farmer B. J. Nalawade from village Vethane showed that proper planning and managing the water resources for its long term sustainability is helpful in rural area. Now the well is full with water and 5 Hp electric motor continuously runs for irrigation. The period required for the construction is two years. The new agricultural land measuring about five hectors is prepared from silt and soil from these tanks. The collected data was tabulated.

Year	Construction of ponds	Storage capacity of water (Cu/ft)	Land prepared in hectare	Yield of Jowar in quintals	Yields of Pea in quintals
2011	2	2,30,000	1.5	20	5
2012	3	13,30,000	3.5	30	15

Five hectare land was prepared by the clay and slit from the constructed ponds. In the year 2011 20 quintals Jowar and 5 quintals pea were yielded while in 2012 Jowar and pea production was 30 and 15 quintals respectively. Near about 23 farmers from same village were awarded about such project scheme. Now this is the ideal role model for other farmers and other farmers started such project in their fields for sustainable water resources.

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