



**Cover** : Floriculture in Andaman and Nicobar islands

Courtesy : Dr V. Baskaran et al.

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## In Degraded Lands...

## Brahmi cultivation fetches more

**Brahmi cultivation plays an important role in low-laying area, especially in central Gujarat for livelihood. Integration of brahmi into existing farming systems was thought to be one of the viable options for poor farmers. Even brahmi could bring high return per rupee investment and better productivity. The agri-economics of brahmi have also been worked out to attract its adoption by farmers. On an average, a farmer can get an approximately ₹2,49,000/-ha/year as net return with a benefit:cost ratio of 2.99. Brahmi growers not only get the remunerative income, but it also provides employment opportunities to the local people. Thus, its cultivation is a profitable venture under low-lying area of central Gujarat.**

**T**HE Indian farmers are looking at farming options for achieving income enhancement and livelihood security. In recent years, biodiversity conservation and poverty reduction through sustainable resource use has become a fervent agenda. This is possible only through bringing need based success stories. Medicinal and aromatic plants are gradually recognized as source of significant livelihood opportunities besides conserving soil for marginalized farmers. The cultivation of brahmi (*Bacopa monnieri*) is less risky in terms of incidence of wild animals, pest, diseases attack, weed management and crop can be grown in degraded and marginal soils.

The entire plant of brahmi is used in indigenous system of medicine as a nerve tonic and cure for epilepsy and insanity. This crop is under cultivation at small scale in Uttar Pradesh, Punjab, Haryana, Bihar, Bengal, Tamil Nadu, Kerala, Karnataka, foothills of Himachal Pradesh and Uttarakhand. The scientists of

DMAPR, Anand, demonstrated the successful cultivation of brahmi in low-lying area of village, *Pandori*, in Anand. The farmers from neighbouring village participated and were convinced about the new crop. Its story starts with the plantation of brahmi in one *bigha* land by a farmer, Neil Saha. He collected 10kg cuttings as planting material from the institute. First year, he multiplied planting material. The whole plant was cut into small divisions to about 4-5cm long, each with few leaves and nodes were planted directly in the beds with a spacing of 40cm × 40cm to get maximum herbage yield.

The plants were transplanted in May and were allowed to grow and proliferate through hot and humid monsoon till September after which harvesting was done. The plants maintained in a perennial state with three harvesting in a year, the first ratoon in February and second ratoon crop taken on or before

June. On an average, a yield of 150q/ha dry herbage obtained from three harvestings. After first harvest, about 15-20q/ha additional dry herbage yield was obtained from the ratoon crops. The harvested material turned over in alternate days, during drying and the dried material was packed in waterproof bags and stored in a cool dry room. After a year of cultivation, farmer could achieve good amount of profit. Previously, the farmer was cultivating traditional crops like wheat, rice but



Multiplication of Brahmi planting material



Brahmi cultivation in low-lying field at Porda, Anand, Gujarat

Table 1 Components of cost and returns for brahmi cultivation/ha/year

Particular	Unit	Value (₹)
Human labour (mandays)		
Family labour	39	4,680
Hired labour	94	11,280
Planting material cost (60,000 cuttings from 22,500 plants @ ₹1/plant)	60,000	22,500
Manures	15	4500
Irrigation	30	13,500
Weeding (manual)	04	4,800
Harvesting, drying etc.	03	18,040
Miscellaneous	-	2,640
Depreciation	-	2,480
Interest on working capital	-	3,766
Rental value of own land	-	20,000
Interest on fixed capital	-	5200
Managerial cost		11,338.60
Cost A		83,506
Cost B		1,08,706
Cost C <sub>1</sub>		1,13,386
Cost C <sub>2</sub>		124,724.60
Dry herbage (q/ha)	149.50	373,750

after getting profit, he decided to grow only this crop in low lying area. On an average, a farmer can get approximately ₹2,49,000/ha/year as a net return from the cultivation of brahmi as a sole crop under low-lying field. The benefit: cost ratio over cost C<sub>2</sub> was 2.99 (Tables 1 and 2). This emphasize that *brahmi* cultivation is a profitable venture under low-lying area of our country.

Brahmi growers not only get the remunerative income from this enterprise, but also provide employment opportunities to the local people. Previously, the farmers of nearby villages were growing traditional crops but after seeing the good crop of brahmi, farmers were impressed and



Farmers training by DMAPR scientists

Table 2 Economics of brahmi cultivation under low-lying area of central Gujarat

Particular	Value (₹)
Gross return	3,73,750
Return ₹/ha over:	
Cost A	2,90,244
Cost B	2,65,044
Cost C <sub>1</sub>	2,60,364
Cost C <sub>2</sub>	2,49,025.40
Cost of production (₹/Q)	
Cost A	558.57
Cost B	727.13
Cost C <sub>1</sub>	758.43
Cost C <sub>2</sub>	834.28
Input-output ratio over	
Cost A	1:4.48
Cost B	1:3.44
Cost C <sub>1</sub>	1:3.29
Cost C <sub>2</sub>	1:2.99
Benefit:cost ratio	2.99

motivated with this crop. One more progressive farmer Shri Nishant Kumar M. Bhai Patel from Porda, Petladh grow this crop during rainy season under 1.1 ha.

The planting material was supplied by our progressive farmer, Neil Saha, to new farmers. After a year of cultivation, he gets a good amount of profit (Table 2). This was only possible through through several training programmes conducted at farmer's field and finally they were impressed about the profitability of brahmi cultivation and they decided to cultivate this crop. Based on the performance and economics under marginal land, brahmi gradually recognized as source of income besides conserving soil for marginalized farmers.

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