

## **Title: Propagation of *Emblica officinalis* (Amla)**

**A: The propagation will be carried out as intercropping on community land already fenced under Departmental scheme**

**Background:** Medicinal plants are a great gift to mankind due to their therapeutic uses. *Emblica officinalis* (also known as Aonla, Amla or Indian gooseberry), belonging to the family Euphorbiaceae, is a deciduous tree with feathery, light green foliage attaining average height of 5.5 m and girth of 70 cm. This plant is native to India and occurs from subtropical to sub-temperate areas of Himachal Pradesh at an elevation of 700-1600 m. Besides being an important ingredient of 'triphala' (an Ayurvedic preparation), it is the principle constituent ingredient of *Chyavanprash*, an important Ayurvedic health promoting tonic. It is considered to be a potent rejuvenator and immuno-modulator effective in stalling degenerative processes/senescence and promoting longevity, enhancing digestion, treating constipation, reducing fever and cough, alleviating asthma, strengthening the heart, stimulating hair growth, enlivening the body, enhancing intellect and suppressing cancerous cells. While traversing through districts Bilaspur and Mandi, its natural zone of occurrence has been found at the aforementioned altitudinal range. Therefore, it is felt that if the propagation of this species is initially undertaken in these districts, the same may easily be developed into a model site and replicated to other appropriate areas subsequently.

**Scheme:** The scheme includes identification of areas in the above altitudinal zone of Bilaspur and Mandi Districts as per availability, suitable soil and water source. CIGs of interested families will be formed to take up its propagation in the adjoining fenced forest plantation areas of VFDS. In order to compare and monitor the progress more efficiently, the propagation will also be undertaken on private land. Marketing will be carried out by the marketing committee set up at Cluster level of VFDS and under the aegis of Manager (Marketing) from PMU.

**Activities:** The suitable areas for propagation will be identified in the above mentioned districts. Depending on the soil moisture and season, the irrigation in pit areas is required and the plants may need to be irrigated at least once a week in summers. In addition, Potassium acrylate will be used for moisture retention as per requirement in the field.

**Nursery raising:** The improved quality grafted plants will be procured from COHF, Neri (Hamirpur) @ Rs.70/plant as agreed with them. Also, the stock will be raised in the JICA nurseries for 2.5 years and subsequently used for grafting with the genetically improved stock, therefore, 3 years old plants will be used for planting in VFDS areas. Initially, the grafting will be done under the supervision of experts from COHF, Neri and subsequently by master trainer field staff being trained in the Project. The expected cost per plant for the improved stock will be Rs.70/- (approx.).

**Costs involved:** Estimated projections have been broadly worked out as below:

No.	Activities	Units	Quantity	Norms	Cost
1.	Constitution of CIG from VFDS	1			
2.	Cost of Planting Material	1	2,000	70	<b>1,40,000</b>
3.	Agricultural Implements	LS		LS	<b>7,000</b>
4.	Digging of pits (90x90x90) cm size	%	2,000	12,477.20	<b>2,49,544</b>
5.	Filling of pits (90x90x90) cm size	%	2,000	1,063.5	<b>21,270</b>
6.	Planting of plants in P-bags	%	2,000	436.50	<b>8,730</b>
7.	Potassium acrylate	LS		LS	<b>15,000</b>
8.	Manure cost/NPK	LS		LS	<b>20,000</b>
9.	Carriage of manure	LS		LS	<b>2,000</b>
10.	Initial Watering Cost	LS		LS	<b>50,000</b>
11.	Carriage of extracted material	LS		LS	<b>20,000</b>
12.	Cleaning & Packing cost	LS		LS	<b>20,000</b>
13.	Packaging material cost	LS		LS	<b>5,000</b>
14.	Cost of labels				<b>1,000</b>
15.	Sale & Auction	LS		LS	<b>1,000</b>
16.	General Overheads/Other Charges	LS		LS	<b>50,000</b>
	<b>Total</b>				<b>6,10,544</b>

The maintenance and recurring costs will be reflected in the Business plan.

**Financial Returns:** Total expected average yield/annum (**from 5<sup>th</sup> year onward**) will be 25 kg/tree (approx.) which on the minimum market price of Rs.2,000/quintal may give annual return of Rs.10,00,000/- (for 10 ha). However, the average yield/annum may increase up to 2 quintal/tree after 15 years of propagation under ideal conditions.

**Cost Benefit Analysis:** The Benefit : Cost =  $10,00,000/6,10,544 = 1.64$ . Any project which on PNV gives a value of 1.64 times that of investment is sustainable.

**Sustainability:** The sustainability of this activity will depend on motivation of people after the project period. If the practice of cultivation coupled with proper care of the above medicinal plant species is adopted on their cultivable land and/or village common lands, they are bound to get rich dividends out of it.

#### **B: Public distribution of Plants:**

The beneficiaries of VFDS will be encouraged for propagation of Amla on their private lands. The cost and carriage of planting material will be borne by the Project.