Extension Journal

International Journal of Agriculture Extension and Social Development

Impact of Indian gooseberry (AMLA) production on the socio-economic condition of farmers in Kunda block, district of Pratapgarh, UP

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Abstract
Amla has a great potential with Rasayana potential (rejuvenating) which boost our immunity and help us live longer, and helps in disease-free lives. Amla is scientifically known as Phyllanthus Emblica. Amla is much higher in vitamin C when compared with other available natural food resources, making it an exceptionally rich food. In addition, it has plenty of antioxidants, calcium, potassium, vitamin A, and other nutrients. Traditional medicine uses Amla extensively because of its many health benefits. It is thought to strengthen the immune system, facilitate better digestion, promotes healthy hair growth, and improves skin health. Three primary varieties and seven cultivated varieties exist, each with unique fruit characteristics. It is extensively utilized for pharmaceutical products as well as commercial bases. Due to its growing commercial use and increased demand cultivation of Amla through sustainable techniques is essential. Certain techniques have been developed for cultivation of Amla that provide better, higher yields in shorter span of time. This article reviews about different aspects of cultivation technique of Phyllanthus Emblica.

1. Introduction
Indian gooseberry, commonly known as amla ("*Phyllanthus emblica*"), is the first tree to be created in the universe. It is a highly valued fruit crop in India due to its medicinal, nutritional, and economic importance. Pratapgarh district, particularly Kunda block, is a major hub for amla production, with many small and marginal farmers relying on this crop for their livelihood. This research aims to examine the socio-economic impact of amla cultivation on farmers in the Kunda block and propose strategies to enhance their income and living standards.

Indian gooseberry, commonly known as amla (*Phyllanthus emblica*), is a fruit of immense economic, nutritional, and medicinal importance in India. Known for its high content of vitamin C and antioxidants (Jain *et al*., 2019) [17], amla has been a staple in Ayurvedic medicine for centuries and is now increasingly recognized for its commercial value in food, pharmaceutical, and cosmetic industries. The cultivation of amla has emerged as a profitable venture for farmers, particularly in regions like Uttar Pradesh, where favorable climatic conditions and fertile soil support its growth.

Pratapgarh district, and specifically the Kunda block, has gained recognition as a significant hub for amla production in India. The region's farmers, many of whom are smallholders, have increasingly adopted amla cultivation as an alternative to traditional crops (Attar, J.R. and Aski, S.G. 2018) [3]. This shift is attributed to the crop's resilience, low input requirements, and high market demand. Moreover, the establishment of processing units and value-added product development has further boosted the profitability of amla farming in the region.

This study aims to investigate the socio-economic impact of amla production on the farmers in the Kunda block of Pratapgarh district. By assessing the economic benefits, analyzing improvements in social indicators such as education and healthcare, and identifying the challenges faced by amla farmers, this research seeks to provide actionable insights for enhancing the livelihoods of these farmers. Additionally, the study will propose sustainable and scalable strategies to maximize the benefits of amla farming while addressing the constraints that limit its growth.

Classification
- Kingdom: Plantae
- Division: Angiospermae
- Class: Dicotyledonae
- Order: Geraniales
- Family: Euphorbiaceae
- Genus: Emblica
- Species: officinalis Geartn.

Table 1: Vernacular names of E. Officinalis

Sr. No.	Language	Vernacular Names
1.	Sanskrit	Amla, Amaliki, Dhatriphala, Amalkan, Sriphalam, Vayastha
2.	Hindi	Amla
3.	Punjabi	Aula
4.	Gujarati	Amla
5.	Urdu	Aavnlaa, Amlaj
6.	Bengali	Amloki
7.	Marathi	Avala
8.	Odiya	Anla
9.	Kashmiri	Aonla
10.	Assamese	Amlakhi
11.	Maithili	Dhatric
12.	Malyalam	Neilli
13.	Telugu	Usiri kaay
14.	Tamil	Neilli
15.	Manipuri	Heikru
16.	Kannada	Bettada neikkayi
17.	Nepalese	Amba, Amala
18.	French	Phyllanthe emblica
19.	Chinese	Anmole
20.	Persian	Aamlah
21.	Italian	Mirabolano emblico
22.	Tibetan	Skyu-ru-ra
23.	Malaysian	Popok Melaka
24.	Portuguese	Mirabolano emblico
25.	German	Amla
26.	Arabic	Halilaj or Ihliilaj
27.	English	Indian Gooseberry
28.	Indonesia	Balakka
29.	Lao	Mak Kham bom
30.	Thai	Mak Kham pom

2. Materials and Methods

1. Research Design
Ex-Post facto design will be followed for the present study. Descriptive research is used to describe characteristics of a population or phenomenon being studied. Descriptive research design is a scientific method which involves observing and describing the behaviour of the subject without influencing anyway.

2. Locale of the Study
The research was conducted in Pratapgarh district, Uttar Pradesh, selected due to its high concentration of land under Amla cultivation. Specifically, the study was carried out in Kunda block, known for the active participation of respondents in amla cultivation activities.

3. Sampling Procedure
A multi-stage sampling technique was employed for the selection of respondents in this study. At the first stage, Pratapgarh district in Uttar Pradesh was selected purposively, considering its relatively high concentration of Indian Gooseberry cultivators. In the second stage, Kunda block within the district was chosen, as it is known for having a significant number of Amla cultivators actively engaged in various cultivation and non-cultivation practices. From this block, four villages: Bharatpur, Bramhauli, Dewara and Dilerganj were selected, based on the presence and density of Amla in these areas. Finally, at the respondent level, 30 respondents from each of the four

selected villages were randomly chosen, resulting in a total sample size of 120 respondents for the study. This structured sampling approach ensured the representation of diverse socio-economic backgrounds among respondents in the study area.

4. Data Collection Methods
Primary data were collected through structured interview schedules, developed to align with the study's objectives and variables. Personal interviews were conducted during pre scheduled visits to ensure reliable, first-hand data from respondents.

5. Variables and their measurement
The study included both independent variables (age, education, occupation, age, landholding, etc.) and dependent variables (knowledge and perception). Standard scoring and classification methods were used to categorize responses into low, medium, and high categories using cumulative frequency and statistical scoring.

3. Results and Discussion
- The socio-economic profile of the respondents were studied under various characteristics like age, education, occupation, land holding, annual income, type of family, size of family, sources of information, mass media exposure and scientific orientation. The findings are presented in Table 1.

Table 1: Socio-economic profiles of the respondents

S. No.	Socio-economic profile	Characteristics	Response	
			Frequency	Percentage
1.	Age	Young	45	37.50
		Middle	54	45
		Old	21	17.50
2.	Educational Qualification	Illiterate	45	37.50
		Primary school	33	27.50
		High school	25	20.83
		Intermediate	11	9.16
		U.G.	4	3.33
		P.G.	2	1.67
3.	Occupation	Only agriculture	81	67.50
		Agriculture + business	36	30
		Agriculture + service	3	2.50
4.	Land Holding	Marginal Farmers	75	62.50
		Small Farmers	33	27.50
		Medium Farmers	12	10.00
5.	Annual Income	Low	45	37.50
		Medium	48	40
		High	27	22.50
6.	Types of Family	Nuclear	83	69.17
		Joint	37	30.83
7.	Source of Information	Low	27	23.45
		Medium	88	73.24
		High	4	3.31
8.	Mass Media Exposure	Low	53	44.17
		Medium	56	46.67
		High	11	9.16
9.	Scientific Orientation	Low	62	51.45
		Medium	54	45.22
		High	4	3.33

From Table 1, it can be seen that majority of the respondents were middle aged (45%), followed by old aged (17.50%) and young aged (37.50%). Majority of the respondents are illiterate (37.50%), followed by primary (27.50%), high school (20.83%), intermediate (9.16%), graduate (3.33%) and post-graduation (1.67%) level of education. Most of the respondents has agriculture as their occupation (67.50%), followed by respondents with agriculture + business as their occupation (30%) and agriculture + service. Majority of the respondents had below 1 ha. (62.50%) of land holdings, followed by 27.50 per cent had 1-2 hectares of land holdings, 10 per cent had 2-4 hectares of land holdings. Most of the respondents earns medium level of annual income (40%), followed by low level (37.50%) and high level (22.50%) level of annual income. Higher proportion of the respondents possessed nuclear family (69.17%), followed by 30.83 per cent of respondents with joint family. Most of the organic farmers had medium level of sources of information (73.24%), followed by low level (23.45%) and high level (3.31%) level of information sources respectively. Majority of the respondents have medium level of mass media exposure (46.67%), followed by low level (44.17%) and then high level (9.16%). More than half of the respondents have low level of scientific orientation (51.45%), followed by medium level (45.22%) and low level (3.33%).

- The knowledge level of the respondents was studied and presented in Table 2.

Table 2: Knowledge level of the respondents (n=120)

Knowledge level	Frequency	Percentage
Low	12	10.00
Medium	91	75.83
High	17	14.17

From Table 2, it can be seen that most of the respondents had medium level of knowledge (75.83%), followed by high (14.17%) and low (10%) level of knowledge respectively.

- The perception level of the respondents was studied and presented in Table 3.

Table 3: Perception level of the respondents (n=120)

Perception level	Frequency	Percentage
Low	14	11.67
Medium	83	69.17
High	23	19.16

From Table 3, it was evident that nearly three fourth of the respondents had medium level of perception (69.17%), followed by high (19.16%) and low (11.67%) level of perception respectively.

- The constraints faced by the Indian Gooseberry farmers was studied and presented in Table 4.

Table 4: Constraints faced by the Indian Gooseberry farmers (n=120)

Sl. No.	Constraints	Response		Rank
		Frequency	Percentage %	
1.	Lack of technical guidance.	66	55	X
2.	Lack of agricultural knowledge.	61	50.83	XII
3.	Lack of irrigation facility.	95	79.17	IV
4.	Lack of skilled labour.	73	60.83	VIII
5.	Fertilizers, insecticides, weedicides and pesticides are not available easily.	102	85	III
6.	High cost of weedicides, insecticides, pesticides and fertilizers.	110	91.67	I
7.	Heavy attack of insects, pests and diseases.	87	72.5	V
8.	Lack of good transportation and road.	58	48.33	XIV
9.	Lack of finance.	47	39.17	XVI
10.	Lack of knowledge about crop insurance.	65	54.17	XI
11.	Irregular supply of electricity.	67	55.83	IX
12.	High cost of plant protection equipment's (example: sprayer).	59	49.17	XIII
13.	Fluctuation in market price.	76	63.33	VII
14.	Storage facilities are poor.	107	89.17	II
15.	High losses during storage due to pest infestation.	42	35	XVII
16.	Lack of funding by the government.	82	68.33	VI
17.	Inadequate resources or machinery.	48	40	XV

The above Table 4. represents the constraints faced by the respondents which have been ranked in order of

significance. The foremost limitation was high cost of fertilizers, weedicides, etc. for Amla cultivation practices, which accounted for approximately 91.67% (1st rank) of the respondents' responses. This is followed by lack of storage facilities of the harvested Indian Gooseberry before sending to various market facilities in and outside the country, which comprised roughly 89.17% (2nd rank). Lack of availability of fertilizers, pesticides, etc. for Indian Gooseberry cultivation practices is in 3rd rank at 85% followed by lack of irrigation facility at 79.17% (4th rank), heavy attack of pests, insects and diseases at 72.5% (5th rank), lack of finance and credit facilities from the government at 68.33% (6th rank), fluctuation in market prices at 63.33% (7th rank), lack of skilled labour at 60.83%

(8th rank), irregular supply of electricity at 55.83% (9th rank), lack of technical guidance at 55% (10th rank), lack of knowledge about crop insurance at 54.17% (11th rank), lack of agriculture knowledge at 50.83% (12th rank), high cost of plant protection equipment at 49.17% (13th rank), lack of good transportation and road at 48.33% (14th rank), inadequate resources or machinery at 40% (15th rank), lack of finance at 39.17% (16th rank) and high losses during storage due to pest infestation at 35% (17th rank).

- The suggestions given by the Indian Gooseberry farmers was studied and presented in Table 5.

Table 5: Suggestions given by the respondents for improving the Indian Gooseberry cultivation practices:

SI No.	Suggestions	Responses	
		Frequency (%)	Rank
1	Providing knowledge and adoption techniques to the farmers about Indian Gooseberry (Aonla) varieties and cultivation practices.	83 (69.17%)	IV
2	To create awareness about bio-fertilizers among the farmers.	92 (76.67%)	III
3	Providing knowledge about various disease control measures among the farmers.	105 (87.50%)	II
4	To make available various farm equipment at more affordable price to the farmers.	87 (72.50%)	V
5	To increase the contact of farmers with the extension personnel/KVK experts	107 (89.17%)	I
6	Requirement of exposure visits of farmers	67 (55.83%)	VI

The above table 4.5.2 represents the suggestions given by the respondents, which have been ranked in order of significance. The most important suggestion was to increase the contact of farmers with the extension personnel/KVK experts, suggested by approximately 89.17% (1st rank) of the respondents. This was followed by the suggestion of providing knowledge about various disease control measures among the farmers at 87.50% (2nd rank); creating awareness about bio-fertilizers, suggested by approximately 76.67% (3rd rank). Suggestion for providing knowledge and adoption techniques to the farmers about Indian Gooseberry (Aonla) varieties and cultivation practices accounted for 69.17% (4th rank). This is followed by the suggestion of making available of various farm equipment at more affordable price to the farmers at 72.50% (5th rank). The last suggestion given by the farmers was increasing the exposure visits of farmers to different amla cultivation farms in the country to increase their first-hand knowledge by direct contact with the farmers, who are already successful in amla cultivation, suggested by 55.83% (6th rank).

4. Conclusion
It is concluded that majority of the respondents were engaged in farming, illiterate having less annual income and belonged to nuclear families. The maximum numbers of the respondents have a medium level of knowledge and attitude regarding Indian Gooseberry (Aonla) cultivation practices. The independent variables like age, educational qualification, types of family, types of houses, annual income, source of information, mass media exposure and scientific orientation have positive and significant effect on the knowledge and attitude of respondents. The major constraint faced by the respondents was high cost of fertilizers, pesticides, insecticides, etc. and non-availability of cold storage facilities to store the harvested Amla before sending to various markets in and outside the country to

preserve the freshness of the fruit. To improve the attitude level, extension agencies should give more emphasis on the practices which require specialized skills like post-harvest technology and packaging.

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