## Research Article

# SOCIO-ECONOMIC STUDY ON AMLA AND TAMARIND GROWING FARMERS IN TAMIL NADU

## C. CINTHIA FERNANDAZ*[1], K.T. PARTHIBAN[2], R. JUDE SUDHAGAR[3] AND I. SEKAR[4]

[1]Forest College and Research Institute, Mettupalayam, 641301, Tamil Nadu Agricultural University, Coimbatore, 641003, Tamil Nadu, India
[2]Dean (Forestry), Forest College and Research Institute, Mettupalayam, 641301, Tamil Nadu Agricultural University, Coimbatore, 641003, Tamil Nadu, India
[3]Forest College and Research Institute, Mettupalayam, 641301, Tamil Nadu Agricultural University, Coimbatore, 641003, Tamil Nadu, India
[4]Professor and Head (Agroforestry), Forest College and Research Institute, Mettupalayam, 641301, Tamil Nadu Agricultural University, Coimbatore, 641003, India
*Corresponding Author: Email - cinthia.tnau@gmail.com

**Abstract:** The regional setup in Tamil Nadu in houses various plantations such as Amla, Tamarind and other fruits crop. The sustainability of the establishment and management of the plantations mainly rely on the social status of the people. There social determinates pave way towards the wealth of the plantation. Hence the study was designed as an export facto research design. Amla widely grown in various agroforestry systems by the farmers for profitable income and other benefits. Purposive sampling method was adopted for the selection of the district with the criteria of maximum area under cultivation of Amla. The study was conducted in Tirunelveli, Dindugaland Tirupur district of Tamil Nadu. In each district thirty farmers were selected; the total sample was 90. The required information was collected through personal interview method, with the help of comprehensive pre tested interview schedule. Percentage analysis was done for making sample comparisons. Social determinates were analysed in the selected district. The basic social variants such as age, educational status, family composition, farming experience in amla cultivation and land holding were the major attributes discussed for the study. These attributes play a major role in managing various technologies among the farmers.

**Keywords:** *Socio economic, Profile status, farmers*

**Academic Editor / Reviewer:** Dr Gangavarapu Subrahmanyam, Dr Hemangi Mehta

## Introduction

Among various trees, Amla is widely grown in various agroforestry systems by farmers for profitable income and other benefits. Tree components overwhelmingly produce consumable or saleable products on a regular or seasonal basis. Thus, within fruit-tree-based agroforestry systems, the importance of competitive resource losses to crops is likely to be diminished because the tree component produces a valuable good in exchange for its competitive with the crop over a similar time scale. High return per unit area under upland conditions is the ultimate result of fruit-based agroforestry system. Aonla or Indian gooseberry (*Emblica officinalis*) has hardy nature, suitable to various wastelands, high productivity per unit area (15-20 t/ha), nutritive and therapeutic value. Hence, it has become an important fruit. Aonla has sparse foliage which allows 87.5 percent area for intercropping during the initial 10 years. In order to analyse the social status of the Amla growing farmers the following study was conducted.

## Objectives of the study

Objective of the study was to analyse the Socio-economic status of the Amla and Tamarind growing farmers through social determinants.

## Material and Methods

Amla (*Phyllanthus emblica*) Family: Euphorbiaceae
Amla commonly known as the Indian gooseberry is a small to medium sized deciduous tree, 8-18 meters height with thin light grey bark exfoliating in small thin irregular flakes. Amla fruits are very rich in vitamin C having an ascorbic acid content varying from 0.9 to 1.3 percent. This is the second highest among all the cultivated fruits. This fruit is highly valued among indigenous medicines. It is acrid, cooling, refrigerant, diuretic and laxative.

Dried fruits are useful in hemorrhages, diarrhea, dysentery, anemia, jaundice, dyspepsia and cough. Tripala and Chyavanprash are well known indigenous medicines in Ayurvedic system using amla fruits. Amla is used in a wide range of applications including processing, fast foods, cosmetics and extraction of alkaloids and antioxidants for use in pharmaceutical industry. It is hardy, prolific bearers suitable for cultivation in all types of soils with good drainage facility. In India, Amla is cultivated in Uttar Pradesh, Gujarat, Maharashtra, Karnataka and Tamil Nadu. The area under Amla cultivation in Tamil Nadu has increased to 3190 ha during 2013-14 with production of 57420 MT and first in productivity (18 MT) in the country. The agro climatic conditions in the south ensure that the produce is available during 10 months of the year against 3-5 months in the north, which till recently was considered the major amla growing region. Traditionally, forest pickings represented the major source of Amla for industrial requirements. In Tamil Nadu, major Amla cultivating areas are Salem, Nagarcoil, Dindigul and Villupuram. The farm gate prices range between Rs. 18 to Rs. 25 and can go down to Rs. 10. Economically viable and bigger fruits can be got from the third year of planting. Each tree will yield about 25kg of fruits a year. An annual increase of 50 kg can be witnessed after five years and similarly after 8 years the yield increases as 100 kg. There are over 30 value added products of Amla available for consumers. The most popular cultivable varieties of Amla are Banarasi, NA 7, Krishna, Kanchan, Chakaiya and BSR 1.

## Use and Benefits of Amla

The fruits are sour and has a very good medicinal utility. They are useful in vitiated conditions of tridosha, diabetes, cough, asthma, bronchitis, cephalalgia, ophthalmopathy, dyspepsia, colic, flatulence, hyperacidity, peptic ulcer, erysipelas, skin diseases, leprosy, haematogenesis, inflammations, anemia, emaciation,

hepatopathy, jaundice, strangury, diarrhea, dysentery, hemorrhages, leucorrhoea, menorrhagia, cardiac disorders, intermittent fevers and greyness of hairs.

## Methodology
Purposive sampling method was adopted for selection of districts with the criteria of maximum area under cultivation of amla tree species. For amla Tirunelveli, Dindigul and Tiruppur districts together comprising 54 percent of the state's area (season and crop report 2012-13) under Amla was selected. In each district thirty farmers cultivating amla species were identifies with the criteria that farmers having varying age of plantation of these trees, so that the fruit yield, cost and returns data for the entire range of economic yielding period would be covered. The required information was collected through personal interview method with the help of comprehensive pre-tested interview schedule.

### Location, weather and climate of the study area

| Study area | Latitude | Longitude | Avg. rainfall | Avg. temp |
|---|---|---|---|---|
| Dindigul | 10º3'N | 77º15'E | 717.0 mm | 19.9-35.8ºC |
| Tirunelveli | 8.73ºN | 77.7ºE | 752.0 mm | 22.3-35.6ºC |
| Tiruppur | 10º24'N | 77º26'E | 605.2 mm | 18-35°C |

### Soil type of the study area

| Study area | Soil type |
|---|---|
| Dindigul | Red to dark red, deep, fine loamy, non-calcareous, slightly acid to neutral soils |
| Tirunelveli | Very Gentle slope lands, Moderately well drained, brown soil very deep (> 100 cm), Sandy day loam, Moderately slow |
| Tiruppur | Dark brown, shallow, coarse loamy, calcareous mildly alkaline, well drained soils |

## Tools of analysis
## Percentage analysis
For making simple comparisons, details on yield and cultivation aspects of selected tree species will be analyze through simple percentage analysis.

## Results and Discussions
The present study examines the social attributes of Amla growing farmers on the specified objectives, the data collected from sample respondents were analyzed. The results thus obtained are presented and discussed in the following titles:

## Social attributes of the Amla growers
In the selected districts the social attributes of the amla growers was analysed. The basic social variants such as age, educational status, family composition, farming experience, farming experience in amla cultivation and land holding were the major attributes discussed for the topic. These attributes play a major role in deciding the awareness and adoption of various technologies among the farmers. The results are presented in percentage and discussed in [Table-1].

## Age of the farmers
The result furnished in the [Table-1] shows that 72.22 percent of the heads of sample households belonged to the age group of above 45 years, followed by 23 percent in the middle age group of above 35-45 years. About 4.44 percent of the heads of sample farm households were in the age group of less than 35 years *i.e.*, Young age group. Thus, majority of the heads of households were in the middle age and above 45 years group.

## Educational Status of farmers
The literacy levels of heads of sample households are presented in [Table-1]. From the table it could be observed that the illiterates accounted for 30 percent. The heads of the sample farm households having primary education and higher secondary education was found to be 32.2 and 16.6 percent respectively. The highest percentage of heads of the households was found to be having high school education (32.2 percent) and the lowest was found to be educated at collegiate (7.78 percent) level.

## Family Size of farmers
The mean of the data on family size could be seen from the [Table-1] that among the amla producing sample farm households 76.67 percent belonged to small

family size with less than seven persons, 13.33 percent belonged to medium sized family with a family size of seven to eleven persons and 10.00 percent of the farm households belonged to large family size with more than eleven persons.

### Table-1 *Social attributes of the Amla growers, n=90*

| Age | | | |
|---|---|---|---|
| SN | Age (in Years) | Number | Percentage (%) |
| 1 | Below 35 (< 35) Young | 4 | 4.44 |
| 2 | 35-45 Middle | 21 | 23.33 |
| 3 | Above 45(>45) Old | 65 | 72.22 |
| | Total | 90 | 100 |
| Educational status | | | |
| SN | Particulars | Number | Percentage (%) |
| 1 | Graduate/diploma | 7 | 7.78 |
| 2 | Higher secondary | 15 | 16.67 |
| 3 | High school | 12 | 13.33 |
| 4 | Primary | 29 | 32.2 |
| 5 | Illiterate | 27 | 30 |
| | Total | 90 | 100 |
| Family composition | | | |
| SN | Particulars (nos) | Number | Percentage (%) |
| 1 | Small (<7) | 69 | 76.67 |
| 2 | Medium (7-11) | 12 | 13.33 |
| 3 | Large (>11) | 9 | 10 |
| | Total | 90 | 100 |
| | *Mean: 6.5* | *SD:4.9* | |
| Farming experience | | | |
| SN | Particulars (years) | Number | Percentage (%) |
| 1 | Low (<10) | 40 | 44.44 |
| 2 | Medium (10-15) | 24 | 26.67 |
| 3 | High (>15) | 26 | 28.89 |
| | Total | 90 | 100 |
| | *Mean: 37.5* | *SD:1.76* | |
| Farming experience in Amla | | | |
| SN | Particulars (years) | Number | Percentage (%) |
| 1 | Low (<7) | 33 | 36.67 |
| 2 | Medium (7-10) | 46 | 51.11 |
| 3 | High (>10) | 1 | 1.11 |
| | Total | 90 | 100 |
| | *Mean: 7.5* | *SD:3.5* | |
| Land holding | | | |
| SN | Particulars (acres) | Number | Percentage (%) |
| 1 | Small (<5) | 65 | 72.22 |
| 2 | Marginal (05-10) | 24 | 26.67 |
| 3 | Big (>10) | 1 | 1.11 |
| | Total | 90 | 100 |

## Experiences in Farming
It could be inferred from the [Table-1] that 28.89 percent had the experience of more than 15 years in farming, followed by 26.67 percent with experience of 10-15 years. Majority of the farmers (Nearly 44.44 percent) of the farmers are having an experience of less than 10 years.

## Experiences in Amla Farming
Nearly 51.11 percent of the farmers have an experience of between 7-10 years in amla cultivation, followed by 36.67 percent with experience of below 7 years and 1.11 percent with the experience of above 10 years.

## Land holding
[Table-1] conveys that around 72.22 percent of the farmers were small farmers with less than 5 acres land holding, followed by 26.67 percent were marginal farmers of 5-10 acres of land and 1.11 percent were big farmers of above 10 acres of land.

## Conclusion
The social analysis of the Amla growing farmers reveals that majority of them belong to Old age group with less experience. And most of the land holdings is small farming. Hence the farmers could be provided with technical training and the acceptance level would also be high. As the farmers are literate training also would be more effective for them.

**Application of research:** To study the socio-economic sustainability of the farmers and the yield of the plantations

**Research Category:** Extension Education and Rural Development

**Abbreviations:** TNFD-Tamil Nadu Forest Department

**\*\*Research Guide or Chairperson of research: Dr C. Cinthia Fernandaz**
University: Tamil Nadu Agricultural University, Coimbatore, 641003, India
Research project name or number: A Study on The Yield Table of Amla and Tamarind in Tamil Nadu

**Author Contributions:** All authors equally contributed

**Author statement:** All authors read, reviewed, agreed and approved the final manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

**Study area / Sample Collection:** Tamil Nadu

**Cultivar / Variety / Breed name:** Amla species and Tamarind species

**Conflict of Interest:** None declared

**Ethical approval:** This article does not contain any studies with human participants or animals performed by any of the authors.
Ethical Committee Approval Number: Nil

**References**
[1] Parthiban K.T., Jude Sudhagar R. and Cinthia Fernandaz C. (2019) *Current Science*, 117, 1.
[2] Parthiban K.T. and Cinthia Fernandaz C. (2017) *Indian Journal of Agroforestry*, 19(1), 1-11.
[3] Chandana P., *et al*, (2020) Current Science, 118, 3.
[4] Roy P. and Batachariya S. (2020) *Indian Journal of Agricultural Sciences*, 90, 9.
[5] Choudary K., *et al*, (2019) *Indian Journal of Agricultural Sciences*, 89, 5.
[6] Kanaujia V.K., Choudhary H.P., Kumar K. and Verma M. (2019) *Current Advances in Agricultural Science*, 1(1), 38-40.
[7] Kareemulla K., Tewari R.K., Singh B. and Kumar K. (2017) *Indian Journal of Agricultural Marketing*, 21(2), 39-45.
[8] Gondalia V.K. and Patel G.N. (2007) *Agricultural Economics Research Review*, 20, 2.