Research Article **Patnaha *et al.*, 10(9-10): Sep/Oct, 2019:6355-6358]**
CODEN (USA): IJPLCP **ISSN: 0976-7126**

INTERNATIONAL JOURNAL OF PHARMACY & LIFE SCIENCES
(Int. J. of Pharm. Life Sci.)

Madhuca latifolia: A plant of Tribal Economy

S. Anita Patnaha[1], G.P. Dwivedi[2] and Satish Kumar Tiwari[3]
1. Research Scholar in Sociology
2. Professor of Sociology, Yamuna Prasad Shastri College, Sirmour, Rewa (MP)
3. Environmental Engineer, Council for Environment and Social Research (CESR)

Abstract

Madhuca latifolia is an Indian tropical tree found largely in north Indian plains and forests. The flowers are fermented to make an intoxicating drink. Oil extracted from the seed is used for cooking and medicinal purposes. The flowers and bark is used for medicinal purposes. Hence, it is considered one of the most useful trees in India. ***Mahua*** is used by tribals in the treatment of various diseases and disorders, viz., diarrhea, dysentery, asthma, bronchitis, hi-cough, paralysis, nervine tonic, diuretic, actogenic, anti-pyretic, pacifier burning sensation, etc. Moreover, its seed oil has been utilized by the tribal's as cooking oil and also as lubricant. Various aspects of this plant boost the economy of tribal's have been included in the present communication.

Key-words: Mahua, Bark, Gulli, Flower, Tribal

Introduction

Mahua tree is one of the prominent multipurpose Indian forest trees, not because it possesses valuable timber and is hardly ever cut for this purpose but because of its delicious and nutritive flowers. It is considered as most friendly trees for the tribal of Central India for cultural and economic reasons.

Mahua has a special status among NTFPs, as it is linked to the tribal livelihood system in different ways. It is also an important source of seasonal income.

Though mahua provides livelihood security to poor household who collect it not only for self consumption but they also sell it for purchasing daily household items. Mahua flower collectors were getting very low rates as there are no fixed rates for flowers.

Secondly, lack of sufficient storage facilities and dearth of money forces, the collectors sell the major part of what they have seasonally collected to the petty traders at very low rates. The amount earned by the collectors from a day's effort is less than the minimum wages.

*** Corresponding Author**
E.mail: anitapatnaha01@gmail.com

Collectors were exploited by the local traders who use the barter system rather than cash payment. This phenomena of Distress selling is common in most of the mahua producing states, where out of total mahua collected 60 % is consumed and 40 % is sold in the local grocery in exchange of food items either by barter or monetized exchange. The exchange value of the barter is much lower than the actual price of the purchased material.

Another fact is that due to the addiction of mahua liquor the villagers buy the sold mahua at double rates. In many cases collectors take advance payment or grains / commodities during their needs in off seasons and in return traders take this produce at very low rates.

Moreover, mahua storage requires considerable skill, the quality of the stored mahua flowers deteriorates rapidly as a result of which the collectors are forced to sell mahua flowers immediately at low rates. Though, if they are able to hold on their stock for few months, they can get much better price in the off season.

On one hand mahua flower collectors are getting low rate of their collected mahua flower after drying. They are exploited by the traders, middle man and distress selling. On the other hand, mahua flowers are hand picked from the floor from the forest land, which is sometimes bushy and inaccessible. Therefore, for the convenience of collection, the forest floors are set on fires so that the floor becomes charred and the white flowers are clearly visible. But

if the fire is not controlled it transforms into a forest fire which destroys lot of biodiversity in the region.**Material and Methods**

Objectives

Short Term Objective

- Fair price rate to the Mahua flower collectors.
- To eliminate middle man.
- To promote innovative approaches for value addition in Mahua flower collection.
- To promote edible Mahua flower products.
- To increase the quantity of Mahua flower collection.
- Complete availability of Mahua flowers to Mahua collectors.
- To promote people to work in groups.
- To develop competency and approach to the communities technically about hygienic Mahua flower collection, drying, storage & processing.
- To develop infrastructure to support hygienic Mahua flower collection and storage.

Long Term Objective

- To develop the workmanship in groups in Self Help Groups.
- To develop unity among Mahua collectors.
- To create self dependency

About the Plant

Madhuca latifolia is a tall tree with stout, massive and barky trunk belonging to family Sapotaceae. It is mostly distributed in the tropical forests of Madhya Pradesh. The tree produces edible flowers and fruits during leanest agriculture season (March – May). Collection of mahua flowers and fruits is one of the most important sources of employment for the poorest of the poor in India. The flowers are edible and rich source of sugar, protein, vitamins and minerals (Madumita Patel, *et. al*) The leaves are large enough that about 8-10 leaves can be joined together with small sticks to make disposable bowls and platters of about 12" in diameter. Till today these are used to serve food during weddings. Ripe fruits are aromatic, edible and sweet in taste. Flowers are aromatic, sweet and are used to prepare a dessert 'lapsi' with a thick soup like consistency.

The flower contains sucrose-2.2 %. **Bark** contains cupeol acetate, b-amyrn acetate, a spinastrol, erythro-didlamono-caprytase, betulinic and oleunollic acids, capryliases, xylose, rhamnose, glucose, galactose. **Leaves** contains b-esosteroles acid, myricelin. **Seeds** contain saponions, Mi-Saponin A, Mi Saponins B seeds. **Karnal** contains protobassic acid, prosopogenol, Mi Saponin C. Seeds contains semisolid fixed oil 50-55 % which yield eleic acid 13.5 %, myrestic acid 16%. **Air dried flowers** contain inverse sugar 52.6 % cane sugar 2.2 % albuminoid 2.2 % and other substances.

Methodology

Owing above mentioned problems, Forest Department with the help of ***N.G.O Council For Environment and Social Research (CESR)*** a pilot project was started in 2008 at East Sidhi, Forest Division now Forest Division (G) Singrauli (MP) with 50 groups ie., 500 mahua flower collectors followed by 2000 mahua flower collectors in 2009 and 6500 mahua flower collectors in 2010 who were organised in the form of SHGs. In the year 2010 the same project have been extended to the whole Vindhyan region ie., Rewa, Sidhi, Satna and Shahdol districts.

Observation

Collection

Mahua flowers are hand picked from the forest floor, which is traditionally done from long back. But since, the commencement of this project, the mahua flowers are being collected on nets. Hand picked collection is traditional and common method in which all the family members of the villages, goes early in the morning say 4 o'clock till late afternoon. Mahua flowers collected through this method are neither hygienic nor edible. After a day's of hard work the collectors do not get fair price because of its quality.

But the mahua flowers collected on nets are hygienic and edible

Post Harvesting Treatment

This involves cleaning, grading, drying and storage. However, due to lack of knowledge of proper techniques, the collectors resort to the traditional methods and do not grade flowers based on quality parameters. The drying is also not done under hygienic condition and is often not properly dried, which results into moisture accumulation leading to deterioration of the quality of the whole collection.

Storage

Almost 30 % of the mahua flowers collected is spoiled due to lack of proper storage facility. Mahua flower is hygroscopic in nature and gathers moisture during monsoon from the earthen floors and kachcha roofs.

Processing

Almost 90 % of the collection is used for the production of mahua liquor. Existing collection practice make the mahua flowers unfit for human consumption and are being sold at a throwaway price

for liquor production only. Although the nutritive and medicinal value of mahua flower is quite high and many edible products like mahua namkeen, kachauri, biscuits, laddu, kismis, jams,etc. have been developed but its translation into an enterprise has not yet taken place.

Pricing and Trading

One of the major challenges in mahua trade is 'distress selling'. The lack of sufficient storage space and need for money, forces people to sell a large part of their collection, despite realizing that within a few months they will need to go to the local traders, who usually double the price at the time of selling and also act as money lenders, to procure more mahua.

Transportation

Transit passes, though not required in Madhya Pradesh but in the neighboring states it is still required and therefore, free trade is not always possible.

Capacity Building

The panchayats have the right of procurement and trading of mahua flowers but it requires proper capacity building for sustainable harvesting, processing and marketing of mahua flowers in order to be effective in enterprise.

Microfinance

Though trading in mahua requires huge investment, which is provided by MFP Bhopal and in tribal areas facilitation and infrastructure by TRIFED. There are distress selling which also discourages any group to establish mahua based enterprise but with the help of District Union and NGO **Council for Environment and Social Research (CESR)**, this problem of distress selling have also been sorted out.

Contribution of Mahua in Tribal Economy

The income from mahua flowers is from Rs. 5,000 and above per household, which requires 15-20 days of hard work. Mahua flower collection is done in a scattered manner in which women and children are largely involved. They repay their credit money by selling mahua flowers and mahua seeds.

Cost Benefit analysis

S.No.	Description	Quantity (qt.)	Amount (Rs. in Lakh)
1	Collection	4800	54.60
2	Expenses on Transportation, Sack purchase, Storage.etc	LS	08.575
3	Received after drying of Mahua flowers (10%)	4320	1015.15
4	Net income on selling	4320	6118.24
5	Expenditure on per quintal	01 quintal	0.0142
6	Income on per quintal	01 quintal	0.0235
7	Net profit per quintal	01 quintal	0.0093

Division of Net Profit

S.No.	Description	Quantity (qt.)	Amount (Rs.)
1	**Bonus to collectors (65% of Net income)**	**per quintal**	**617.67**
2	**10% commission of SHGs**	**per quintal**	**93.35**
3	**20 % support amount of SHGs**	**per quintal**	**186.70**
4	**Encouragement Bonus to Animators/NGOs/Staff on training (5%)**	**per quintal**	**35.90**
	Total		**933.62**

Record Keeping

- ✓ MoU between District Union and SHGs will be furnished (loan amount with 4% interest)
- ✓ MoU of SHGs with RO/Nodal officer for receiving material, transportation, protection, etc.

Important Records

- ✓ Collector's card
- ✓ Voucher forms
- ✓ Collection register
- ✓ TP/Challan/Receipt
- ✓ Godown register

Monitoring and Evaluation

- ➢ The monitoring and evaluation will be done by TRIFED, Madhya Pradesh State Minor Forest Produce (Trade and Development) and MDs of the District Union.
- ➢ Policy Regulating Mahua Trade and Hurdles to Trade Problems
- ➢ Mahua flower is a non-nationalized produce in Madhya Pradesh coming under freely tradable item, free from any excise duty.

Taxation

Mahua flower is a freely tradable produce with 2 % mandi tax but it is not sold in mandi as it is far off from the villages which forces the collectors to sell it to the local traders. Along with this 12 % sales tax is imposed on mahua flower within Madhya Pradesh while it is 3 % outside the state. Taxes and duties on mahua flowers are lower in the neighboring states like Bihar and Chhatisgarh which affects the livelihood of the primary collectors badly and provide wider opportunity for smuggling in the border markets. These taxes have restricted the community access to better markets within the state as well as outside the state.

Restriction on Trade

Free trade of mahua flowers has to be restricted.

Recommendations

Following recommendations have been make during the course of present investigation:

- Systematic survey of the species found in tropical forests of Madhya Pradesh
- Status of the species in their natural habitats
- To adopt the scientific methods for the Collection , Drying, Grading, Storage and Packing of the dried mahua flower in hygienic condition
- Trade and marketing of dried mahua flowers and mahua seed oil
- As the dried mahua flower is rich in nutrients and presently it is used mostly by the tribal and rural people, hence, the edible product should be recommended to use the other mass of our society
- Moreover, the products prepared by the dried mahua flowers such as mahua namkeen, mathari, laddu, etc., may be a good source of tribal economy

Acknowledgement

We are grateful to the tribal's of the project area for providing the valuable information's during the course of present work. Thanks are also due to the MFP Bhopal, TRIFED, New Delhi, IIFM Bhopal, Mr. P. K. Chaudhary, Retd. APCCF (Trade) MFP Bhopal and the then Managing Director Mr. R. B. Sharma, Zila Union, Singrauli for cooperation and encouragement during the course of this work.

References

1. Charak Sahinta
2. Patnaha Anita S. and Tiwari Satish Kumar. *Madhuca latifolia*: A Plant of Tribal Economy. Abstracted in the National Symposium & Workshop on 'Recent Advances in Prospects and Potential of Medicinal Plants' organized by the Department of Botany, Janata (PG) College, APS University, Rewa (MP), sponsored by UGC, CSIR & MPCST.
3. Patel Madumita and Naik Satya Narayan: Flowers of mathuca indica J. F. Gmel.: Present Status and Future Perspectives. Indian Journal of Natura Products and Resources. Vol. 1 (4), December 2010 pp. 438-443.
4. Vanaushadhi Visheshank – Published by Shree Jwala Ayurved Bhawan, Aligarh

How to cite this article

Patnaha S. A., Dwivedi G.P. and Tiwari S.K. (2019). *Madhuca latifolia*: A plant of Tribal Economy. Int. *J. Pharm. Life Sci.*, 10(9-10):6355-6358.

Source of Support: Nil; Conflict of Interest: None declared

Received: 26.08.19; Revised: 26.09.19; Accepted: 01.10.19