277. A STUDY ON TRAINING NEED ASSESSMENT FOR THE FARMERS WITH REFERENCE TO EXPERT FARMING PRACTICES OF JATROPHA BASED BIO-FUEL IN KARNATAKA

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1. INTRODUCTION:

Global warming is changing climatic conditions which have real implications for everyone. One of the factors causing Global warming is burning of fossil fuels. Globally, there is a much hue and cry about alternate environment friendly sustainable energy. While bio-fuel is considered to be the alternate source of energy, there is arguable case about the cultivation which might affect the cultivation of food crops. Moreover, the question of economic viability and feasibility are yet to resolved by the ongoing research efforts. It is interesting to note that there are variety of Tree Borne Oilseeds (TBO’s) used for producing bio-diesel which are abundantly available in Karnataka.

However, the Tree borne Oil seeds (TBOs’) which is used for producing bio-fuel is also found to be used for several other benefits. It provides excellent lubricate to the fuel injection system. TBO’s are being used for extracting Lamp oil, medicinal properties and other by-products. While growing TBOs’ provides as additional source of income to farmers, there are poor people who collect TBO’s for their livelihood income.

Against this backdrop a study on training need assessment for farming community with specific reference to TBOs’ was conducted in Karnataka. The study aimed at gaining insights about TBOs from experts and study about the awareness of TBO’s among farmers and training need for farmers to grow TBO’s.
The study brings out interesting results about the most commonly found TBOs, awareness of the farmers about TBOs and its benefits, interest of the farmers to grow as a hedging Plants, and the TBO's collection for secondary source of income to the poor people and the farmers preference to use TBOs for multiple benefits.

1.1 KEYWORDS:

Fossil Fuel, TBO’s – Tree Borne Oil Seeds, Hedging Plant, Intercrop, Bio-diesel extraction, KVK (Krishi Vignana Kendra), Bio-fuel Park, Pongamia, Simaruba, Neem, Hippe, Pongamia Cake, Jatropha, Gober Gas, Glycerin, Middlemen, Expelling unit, Insect Repellent, Manure,

2.1 RESEARCH GAP:

The research team reviewed the relevant literature (some of which is presented here now) and identified the research gap. The research gap of this study was identified as the training need for farmers for growing TBOs as an Intercrop and secondary source of Income.

3. OBJECTIVES:

The literature review and the discussion we had with an expert at KSBDB helped to set the following objectives:

1. To gain insights regarding TBOs and understand the opinion of experts regarding the training for farmers to cultivate TBOs.

Brief about Objectives: It was important to gain insights on TBOs before meeting farmers and hence the objective was set to meet the experts.

2. To Know the awareness level of farmers regarding Tree Borne Oil Seeds (TBOs)

It was essential to know if the farmers are aware the trees that are having high oil content which could be collected and sold for secondary income purpose. Apart from oil, there are other uses and the study was aimed at understanding if the farmers know the benefits and from where it could be marketed.

3. To understand if there is any training need for cultivating TBOs:

The study also made an attempt to know from the experts if any specific cultivation practice is needed for growing TBOs. Accordingly, it was also studied from farmers to know if there is any training or awareness programme is required for them.

4. To identify the need for educating low income group public regarding the awareness of TBOs for their secondary income.

Though, TBOs are grown as Intercrop and considered by the farmers as secondary source of Income, it is also one of the sources of income to the low income group which
necessitated to study if the low income group is aware of such source of income and their willingness to procure and sell it to institution expelling oil etc.

3.1 : HYPOTHESIS:

The following Hypothesis is set :

1. The farmers who are aware of TBOs are interested to grow trees yielding TBOs
2. The lower income group having awareness about TBOs are interested in collecting TBOs.

4. METHODOLOGY:

4.1 Research Design: Descriptive research design was adopted for the study to describe the expert opinion and the farmers training need assessment. Descriptive is appropriate as the researchers did not have any control over the variables. It has been reported what is happening and what has happened with the farming community with respect to growing of TBOs.

4.2 Nature of Data: Both primary and secondary data was used for the research. Secondary data was used for the study to know about the TBOs and primary data was collected both from experts to gain insights and farmers.

4.3. Sampling Design:

i) The sample unit for the study was experts and the farmers and low income group people

a) Experts Include:
   a. Rajeshkumar, Research Associate – GKVKBanglore
   b. Mr.Dayanand, Marketing Manager, KSBDB
   c. Dr.Halesh, Bio Fuel Park, Hasan
   d. Dr.Srinivasappa, KVK, Dodapalapur
   e. Dr. Srinvas, Aspathrika, KET

b) Farmers:
   25 Farmers in and around Kinnerahalli at Hasan District, Karnataka.

C) Low Income group – Housekeeping staff at SIRMVIT, Bangalore:
   TBOs collection is one of the sources of income for low income group. This study also made an attempt to know if the low income group was aware of such sources and are interested in seed collection.

ii) Sample Size: The total sample size: 50
   Sample size for Experts : 5
   Sample size for Farmes : 25
   Sample size for Low Income Group : 20

iii) Sampling Technique:
   Purposive sampling technique was adopted for the study as only the respondents who are into the field of agriculture could respond to study. And low income group is studied purposefully as this seed collection may be a secondary source of income only to this group.

4.4. Method of Data Collection:
The data for the study was collected using: 1) **Expert Opinion Method** – to collect data from respondents; 2) **Survey Method** - A structured questionnaire was designed for farmers and low income group and which was administered through interview schedule.

4. **5 Tools used for Analysis:** The statistical tools used for the study include Chi-Square test, Percentage Analysis

5. **RESULTS AND CONCLUSIONS:**

The Experts opinion method gave us an insights as to the TBOs and the multiple benefits associated with the TBOs. Although, Government policies regarding Jatropha cultivation was impetus during 2006, it was later found that the Jatropha was not an economical bio-fuel crop and hence the experts were of the opinion that there are other varieties of TBOs which can be grown for multiple benefits other than Bio-diesel alone. Also they are of the opinion that TBOs could be cultivated on hedges, wasteland and also an intercrop. It is also understood, the institutions are supporting farmers for collection of seeds, and selling of seeds expelling oils.

The farmers located in and around of *Kinnerahalli, Hasan District* were studied and it revealed the fact that the Government initiated efforts for spreading awareness on TBOs through institutions like KVK has really made dent in some farmers as they have a strong favorable opinion on growing TBOs. And some farmers are turned out to be Opinion Leaders to recommend to his neighbor farmers for growing TBOs for the purpose of secondary income.

However, most of the farmers are not much aware of the TBOs especially it as grown in hedging and intercrop for their secondary source of income. It is also found that the farmers who are aware of TBOs are interested growing TBOs. Some of the farmers were informed about TBOs and its benefit by researchers and instantly they were interested in getting saplings for growing in their waste land. Accordingly, the researchers requested the officials at *Bio Fuel Tech Park at Hasan* to make necessary arrangements for distributing saplings and supporting those interested farmers. Further, it is found that the lower income group which is aware of TBOs are interested to involve in seed collection.

**CONCLUSION:**

Although, TBOs are one of the alternate sources for energy or bio- fuel, still a research is needed for making it more economically viable and competent source of energy. TBOs are considered for other uses like Oil, Cake, glycerin etc. and hence the necessary arrangements for creating more awareness among the farmers and low income group may be useful to society.
6. SCOPE FOR FUTURE WORK:

There are TBOs grown naturally across villages and waste land and a research can be initiated to know the places where more TBOs are grown and people who are within the proximity of these places can be created awareness for their source of income.

Further, research can be undertaken to study the opinion leaders in villages and imbibe training with these farmers so as to spread the awareness among the village community to grow TBOs for hedging or intercrop so as to enable poor farmers and lower income group with a secondary source of Income.

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