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Title: ANALYSIS OF EXISTING AGROFORESTRY SYSTEM IN ANGARA BLOCK, (RANCHI) JHARKHAND

Publisher: Birsa Agricultural University, Ranchi, Jharkhand-6

Language: en_US

Type: Thesis

Pages: 80

Agrotags: null

Keywords: ANALYSIS OF EXISTING AGROFORESTRY SYSTEM IN ANGARA BLOCK, (RANCHI) JHARKHAND

Abstract: The present study entitled "Analysis of existing agroforestry system in Angara Block, (Ranchi) Jharkhand was carried out at Angara block of Ranchi district of Jharkhand, India 2016-17. By adopting multi-stage random a total of four panchayats Getalsud, Nawagarh, Haratuand Bisa, eight villages and 120 households were selected for data collection related to agroforestry practice. The present study was designed considering the following objectives: 1. Survey and documentation of the existing Agroforestry system in the selected block. 2. Study the influence of socio-economic trait on adoption of Agroforestry practice and soil organic carbon content of various plots. 3. Find out the constraints in adoption of Agroforestry practice Ex-post facto research design was adopted for this study. The data were collected by personal interview of the respondents through a structured interview schedule and soil sample was collected from the field and soil organic carbon analysis was done. Considering the objectives of study adoption of agroforestry practice was considered as dependent variables. Independent variables that were supposed to influence the dependent variables were size of household, farm holding, education, annual income etc. and data was gathered by question survey. The statistical method used to analyze the data of investigation include percentage, mean, standard deviation and correlation test. □ Perception of farmers in agroforestry helped in analyzing that almost one third of population doesn't understand the basic definition of agroforestry. Very few farmers were aware about various

agroforestry models though few excellent agroforestry models of intercropping were found. Majority of farmers, i.e. 51% of them had adopted Homestead agroforestry. Agrihorticulture was adopted by 19% of the selected population. Agrisilviculture was adopted by 20% of selected population. Apart from this silvipastoral was adopted by 8.5% of population. Silvihorticulture model was seen negligible in the selected village. Gamhar was the most dominating species after bamboo. Out of 100% population in 83% household bamboo was found. The details of the association between independent variables and extent of adoption of agroforestry practices by farmers results showed that out of thirteen independent variables only five factors are significantly associated with adoption of agroforestry and they are education, social participation, Mass media participation, cosmopolitans and external participation. The soil organic carbon ranged from 0.49 - 0.75. It was gathered by questionnaire that large sample size farmers were practicing organic farming and there was significant use of organic manure over chemical fertilizers in the field. Agricultural crop field had carbon range from 0.49 - 0.70 whereas in fields where agroforestry was practiced in scientific organized manner had organic content to the maximum of 0.75. Soil organic sequestered kg/ha was found at the range of 98-150 kg/ha. 35 farmers reported to have soil organic carbon sequestered around 120-150 kg/ha. Thus agroforestry contributed a lot in sequestering soil organic carbon. Only 36.67% of sample constituted the category of farmers who did organized agroforestry adoption. The study also reveals that 66.67% of population was highly motivated for agroforestry adoption whereas 40% of population belonged to high risk orientation category. Most of the farmers had medium level management orientation knowledge. It indicated that there is more work to be done in this area to improve farmer's management skills. 50% of farmers were self-motivated to adopt agroforestry interventions which were supported mainly by various NGOs functional in that area. 82% of farmers had adopted scattered/ Random planting pattern followed by 65% planting along field borders. Least practiced pattern of planting was silvipasture practices. Situational constraint was more dominant overall which consisted of about 42% in proving as hindrance in adoption of agroforestry. Situational constraints here were mainly uncontrolled grazing by the livestock, lack of proper irrigation facility, lack of proper market and smaller landholding by the farmers. Economical constraint here consisted of about 30% which mainly included lack of money to gather various facilities like organic manure, quality planting material and equipment and machines like tractors, sieve, driller etc. Technical constraint here constitutes to about 28% which mainly included lack of regular training regarding the various agroforestry intervention. The finding of the study concludes that there is need to promote organized agroforestry system in the region. It is important to work on socio economic significant factors which affect agroforestry adoption in such a way that maximum agroforestry adoption is done in the region. It will help the farmers in enhancing their socio-economic condition. Policy and support by government is required so that the farmers are equipped with basic infrastructures like irrigation, land reform, quality planting material and training. The emphasis should be in resolving situational constraint like open grazing, and lack of proper market. Thus this study helped us in not only analyzing the existing agroforestry system in Angara block it also helped in understanding the perspective of agroforestry understood by farmers. This study not only helped in analyzing the socioeconomic factors that leads to adoption of agroforestry, it also helped in understanding the factors which acted as inhibition to farmers in adoption of agroforestry.

Description: ANALYSIS OF EXISTING AGROFORESTRY SYSTEM IN ANGARA BLOCK, (RANCHI) JHARKHAND

Subject: Silviculture and Agroforestry

Theme: ANALYSIS OF EXISTING AGROFORESTRY SYSTEM IN ANGARA BLOCK, (RANCHI) JHARKHAND

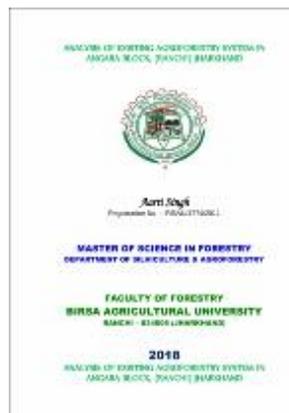
These Type: M.Sc

Issue Date: 2018

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