

# The Use of Pine wood for Cooking and Lighting in the Basantatar VDC of Dhankuta District

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**Abstract:** This article explores the use of the pine wood for cooking and lighting in the Basantatar VDC of the Dhankuta district. This paper reviews the early evaluation of development sector from the trees in the world and Nepal to preserve the pine trees for the rural development. This paper draws interviews, group discussion, focus group discussion for the analysis with stakeholders. On the other hand, researcher collect the publish and unpublished documents for the data analysis and found that there is heavily use pine wood for cooking and lighting because local people do not have knowledge about the commercial and environment application of pine trees.

**Keywords:** Cooking, pine, lighting, oleo-resin, Basantatar.

## 1. Introduction

Energy and income are inseparable from development activities. They are needed for the every field of development like education health, communication, agriculture, industry, transportation, etc. so they are taken as indicator of the development. Due to this every families and countries try to formulate new sources. But energy supply mechanism is import mechanism in Nepal. Next, energy consumption rate is highly increasing due to the rapid growth of population, industrialization and modernization. In the name of the modernization many modern technologies and vehicles are used in energy field of human. As a result, energy shortage problem is existing frequently in Nepal. According to annual report of Nepal Rastra Bank “the country Nepal import petroleum product of Rs. 53.43 Million last year. It is an increment of 12.39% past year”. It adds economic burden for the people. But petroleum product is not reviewable source on bio-fuel plants. On the way, researchers found pine is one of the reliable and renewable sources of bio-energy. So, many scholars and institutions research on the pine tree in different aspects. After that some ole-resin and turpentine industries are establish in Nepal. On the other hand rural people do not know the commercial and environmental value of the pine trees. Hence, rural people heavily used the pine wood for lighting and cooking in Nepal. They think pine is value less tree in the rural area. So this article reviews the early evaluation of bio-fuel sector from the trees in the world and Nepal to extend the value of the pine trees in rural development.

According to University of Georgia “pine trees are fasted growing trees in the south America making then a reading available and renewable resource. The wood is also loaded with sugars that the yeast uses in the fomenting process”. It is also fast growing trees in hill parts of Nepal. But, this research only search on the plant growing process and as a source of bio-fuel. It does not search on the value of pine trees in the rural area and how much pine wood is lighting and cooking in the rural pine wood is area. So this article focuses of use of

pine wood for lighting and cooking to create awareness and formation of policy for saving pine forests.

According to Jeffery Dean, professor biotechnology in the university of Georgia warn ell school of forestry and natural resources “ Globally pine is the primary target this research project because of its current commercial importance in the south state of united state as its potential for providing biomass to futures bio-fuel market” . But this research project focuses commercial value and source as bio-fuel only. But it does not search on the use of pine wood for cooking and lighting in the rural area. Because, they do not know the importance of pine trees. So, this article explores the quality of pine wood which is used for cooking and lighting in the rural area in Nepal.

According to Mellon University scholars “pine trees are one of the biggest contributor of air pollution deduction because pine gases chemically transformed by free radicals”. When we examine research scholars mainly based on the environmental aspects. But rural people are no ready to save pine trees in Nepal; they say it is less quality tree in the forest because it is soft wood. It is not durable for the timber. So they are ready to preserve hard wood trees in the forest. They use mainly pine wood is cooking and lighting so number of pine trees are decreasing in the context of Nepal. Thus, this article tries to search quantity of pine wood which is used in lighting and cooking in study area.

Similarly , Jeckin said that if “ the people stop growing pine trees in the pasture land that change may affect soil health, regional greenhouse gas admission and one all profitability of the from enterprise”. These sentences make clear that pine trees are important health for soil and environment. But the rural people who live in Nepal are cutting down the pine trees for lighting and cooking. These activities badly affect the soil and environmental conservation. Due this article tries to find the quality of pine wood which is use in the study area and it helps to make effective role for the local government for forest preservation.

According to Jackson “pine tree is a reliable source of bio-fuel. For this resin should be need to extract from pine trees. It

needs certain types of tapping. They are as follows :- a) cup and lip method, Silva hill Basula method, Bark method. Among of these, Rill method is practice in Nepal". But, most of the common people do not know why it is needed to tap and collect oleo-resin. Oleo-resin collector is not local people. They come from resin and turpentine industry. They do not share their ideas. Next, oleo-resin collectors provide Rs 4 to 6 rupees per kg of oleo-resin. So rural people are not ready to sell oleo-resin to the resin and turpentine industry in low price instead of this work they like to use pine trees for cooking and lighting. Next, rural people want to finish all pine trees from forests instead of pine trees they want to preserve had wood trees in the forest. Hence, this article explores the habit of using high quantity of pine wood in the rural area.

According to Paudyal, D. "Rill method is not used systematically is Nepal. Due to this cause 2% of pine trees frown which resin is extracted is dying". These case study main studies on the application of rill method. But this study also neglects the use of pine trees in the rural area. So, this research tries to dig out the use of pine trees in the rural area.

Jackson claimed that "about 10,000 people are involving in the resin tapping work. The resin tapping activities would provide regular supervision of forest which controls the activities like illicit, felling, forest, fire poaching, and illegal collection of NTFPS collection of diyalo". This term paper of forestry also misuses in Nepal. For tapping process local people are not involve by the industry workers. They think using local people in tapping and storing activities, they will know the value of oleo-resin. After that, local people do not provide us in low cost. Due to this cause, local people do not get job, knowledge and good price from pine trees. They are ready to destroy the pine trees from forests and ready to use the heavily pine wood for cooking and lighting. This situation is tries to reflect from article.

Cesar says "by processing in the distribution methods in the plant resin gives two main products that are rosin and turpentine. In normal condition pine oleo-resin processing gives 76% rosin and 18% turpentine". 9) But in the context of Nepal, rural people are familiar the oleo-rosin and turpentine. They do not know they are products of oleo- resin as well as application of those products. Hence, rural people think pine is less useful tree in the forest. Due to this cause, they want to destroy as much as possible and use for cooking and lighting. So this article focuses on quantity of pine wood which is use for cooking and lighting.

Further Ceres says "Rosin is the major product obtained from pine, it is in voltaic residue, it is brittle transparent glass solid insoluble in water but soluble in a number of organic solvents. Most resin is used chemically modified from rather than the row state in which is it obtained. It consists primarily of maximum mixture of biotic and primate types of acids with smaller amount of neutral compounds. It can be converted to a large numbers. Of downstream derivatives that are used wide range of application, synthetic, rubber paint food-stuff adhesive, printing oil, electrical equipment, paper making, soap, construction materials, linoleum and floor covering, metal processing, Bactericide, pine chemical, plastic oils and greases printing inks, shoe polish and seated materials". This Journal widely expresses the use of rosin which is product of oleo-resin. But rural people do not have knowledge about it. So

they get a few advantages from pine tree and they do not want to save the pine forest. They use heavily pine wood for lighting and cooking than the hard wood. Rural people give high priority for hard wood trees than the pine tree. Thus, this article gives priority for the pine wood which is used for cooking and lighting.

Susil Adhikari claims "utilizing one of the states as the most valuable and widespread commodities pine trees to produce liquid fuel such as Gasoline and diesel. It is only one practice in Nepal". This research claims it is only one practice in Nepal to produce liquid fuel. But, in real situation, rural people are not familiar about it. They are only familiar about the tapping process. From these activities rural people get very low price than the hard trees. Hence, they want to destroy the pine trees from jungle to use wood for lighting and cooking. Thus, this research article tries to investigate causes of the destroying pine trees in the Jungle for lighting and cooking.

Pierre, B. discussed as "for two years research grew the yeast, altering, it just enough to produce the maximum amount of ethanol as possible from pine trees. Culturing the yeast in increasing in hospitable environment. The researchers were able to form a strand that services when places on pine with a high biomass percentage, which could typically stress the yeast". This research also searches on the pine about the amount of ethanol. But not search on people causes of using pine wood highly for cooking and lighting. As a result, this article explores to find the causes of heavily use pine wood for cooking and lighting instead of preserving in the forest.

According to Gimire "Pine trees improves soil drainage in central Nepal". This article mainly gives geographical importance of pine trees. In reality, it has geographical environmental and in economical importance. However, rural people do not give priority. In this situation all researchers research on environmental, geographical and economical aspect. But they neglect the causes of the destroying the pine forest. So this research is going on quality of pine wood for cooking and lighting.

Forest research institute, Deharadun, India explains the social economical advantages of oleo-resin tapping in Nepal. They are as follows: 1) create employment, 2) enhancement of business and other industries. 3) Revenue for government, 4) Income of community forest user group and 5) source of foreign currency". It is also based on advantages of oleo-resin tapping. This research explains very good advantages of oleo-resin tapping; in real situation rural people do not like to tap pine trees for oleo-resin collection. Instead of this activity, rural people use pine trees for cooking and lighting in Nepal. Hence, this article tries to find the causes of destroying the pine trees for cooking and lighting.

Limbu. L. research article tries search to feasibility of oleo-resin based turpentine industry in Dolakha district and then he claims there is feasible to establish oleo-resin based turpentine industry". But this article does not investigate causes of stopping tapping and storing oleo resin in the pine forest. So, this article mainly investigates on the cause of heavily use pine wood for cooking and lighting in rural area.

According to Dolakha District forest office, evaluation and analysis book community user group have been selling 16,559 kg oleo-resin to the oleo-resin based turpentine industry in a year. But, this district capacity of oleo-resin collection is 2, 80,000 kg in a year". 16) This book does not explain the causes of negligence of collection of oleo-resin collection. Thus this research article digs the negligence of preserving pine trees in forest and finds the quantity of pine wood for cooking and lighting.

When we examine above literatures, most of them explore the pine is as source of reliable bio-energy. Only a few researchers were conducted on environmental, geographical economical and tapping system. But, none of them conduct research on causes of destroying pine trees in the forests in Nepal. So, my question is for researchers, why rural people do not give importance on pine trees but it has environmentally, economically, geographically and socially important. This question's partial answer is fulfilled by this research article.

## Methodology

This study mainly based on "the use of pine wood for cooking and lighting in the Basantatar VDC of Dhankuta District" has descriptive analysis and observational in nature. For this study, samples were randomly selected 76 households from 380 households who are members of six pine community forests.

Data collection is based on both primary and secondary sources. Primary data were collected by using field survey, field observation, discussion, focus group discussion and interview methods by the help of the structured check-lists and questionnaires. The field observation, discussion, Focus group discussion and interview were carried out to get data required to find out use of the pine wood quantity for cooking and lighting and find out the causes of cutting down pine forests in the Basantatar VDC of Dhankuta District. The secondary data were collected from CBS, CES, Department of Forest Ministry FAO, Ministry of Forest and Soil conservation, Babar Mahal Nepal, Nepal Soil Corporation, HMG Nepal, DFO, LFT office Dhankuta and community forests record of Basantatar VDC.

A master table was prepared from structured questionnaires and check-lists for tabulation which are based on use of pine wood quantity for cooking and lighting in the study area. At last, data were processed for analysis with the help of scientific calculator and computer.

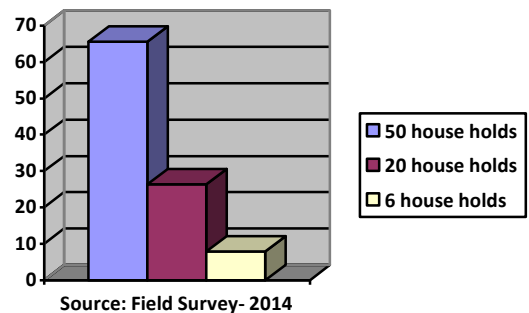
## Data Analysis and Presentation

Basantatar VDC is eastern part of Dhankuta district. It has subtropical climate in the low part and cool temperature in high part. In the low part of VDC is covered by pine forests. But, they are mixed with different types of trees. There are six pine community forests in the study area. Around these six community forests, there are 380 households who are the member of community forest user groups. Among of them, 76 households were taken samples for this study. Those are from different caste, ethnicity, age groups, gender, profession and religion. They are presented here for analysis.

### 1) Pine wood use for cooking and lighting:-

Pine wood use for cooking and lighting of respondents in the study area is illustrated in this Figure-1

Figure -1 pine wood use quality distribution of respondents:



Above chart indicates that most of 5 households 65.79% households use 100-500 kg pine wood for cooking and lighting in a year. Twenty household 26.32% used 501-1000 kg pine wood for cooking and lighting and only six households 7.89% of respondents used above thousand kg pine wood for cooking and lighting in a year. In Basantatar VDC of Dhankuta district.

## Conclusion

Pine forests are spread in low part of Basantatar VDC of Dhankuta district. It is very fertile land for pine trees. Due to this, there is found dense forests in the past. But, people are destroying pine forest even though it is income source of community forests. They have been earning money from by selling oleo-resin and timber. They use pine wood is heavily cooking and lighting them preserving the pine forests because of bed experience of tapping and staring oleo-resin process. They can get less money from by selling ole-resin. Due to this, they think pine trees are less valuable trees them other trees. It is not good wood for furniture. It demises very soon.

On the other hand, rural people do not get employment opportunity from tapping and storing process of oleo-resin. Hence local people do not know the commercial value of pine trees. Tapping and storing worker are brought from different parts of country. They are involved in illegal work like theft, girl seduction etc. they left negative impact for the local people. Next, broken get high price then local people. In the process of convening the local people, they informed about less importance of the pine trees. Thus, they cut down the pine forests. So, the government give knowledge, skill and information about the pine trees, which will bring the positive impact of the pine trees. If, they get about three things, they will start to preserve pine forest. It enhances local people income and job opportunities by establishing pine in the rural area. It promotes local people skill, knowledge, technology and production. It is become source of nation income for the country. Thus, Nepalese government provides skill, knowledge and information about pine trees for the local people as much as possible. If the government to do so, pine will become very valuable trees in the Nepal as well as in the world because it

will become one reliable and renewable source of energy, income, industries and employment in future. It will fulfill the demand of energy because petroleum source will be finished in the future. So government should provide them training, knowledge and skill for the people about the pine trees. If the government does not provide these things, local people destroyed all most all pine forests in the study area.

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## Author Profile

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