

# Sheep Shearing Device

## Background

Sheep shearing is the process by which the woollen fleece of a sheep is removed using hand scissors or a mechanized device. There are 65 million sheep in India according to the 19th Livestock Census which is being carried out by the Department of Animal Husbandry, Dairying and Fishing (DADF), Ministry of Agriculture and Farmer Welfare, Govt. of India. Presently 80% of the sheep population is shorn by hand scissors. With hand scissors, the staple length is not appropriate as per requirement and affects the quality of yarn produced by this wool. However, mechanized device can cut the woollen fleece much closer to skin giving maximum staple length of the wool which results in good quality yarn. Therefore, IIT Delhi took an initiative to develop the device indigenously. IIT Delhi developed a low cost indigenous device to boost the livelihood of the shepherds. The device is light weight and user friendly.



Sheep Shearing device Handpiece

## Area of the Project

Animal Husbandry

## Challenges

- There was no mechanized way for shearing of woollen fleece of the sheep in India.
- Pain in hands of the shearers while using the scissors for a long time.
- Hand shorn wool's length was not much to produce good quality yarn.
- The imported device was not affordable by the shearers/organization.

## Salient Features and Advantages

It is a mechanized way of shearing which has several benefits.

- A light weight flexible shaft was used to make the shearing more comfortable.
- The mechanism is easy in operation and cost effective.
- The depth of penetration is more which increases the staple length of sheared wool.

- Reduced shearing time.
- Long life of components.

### **Project Timeline**

- Problem Identification: 2007-2008
- Prototyping: 2008-2009
- Design Improvement and Modifications: 2014-2018
- Dissemination: 2018 onwards

### **Impact of the Technology**

- Good staple length improved the quality of yarn produced and the shepherds can get good price by selling this wool in the market.
- Efficient and comfortable shearing. Reduced the pain in hand of the shearers caused by continuous use of scissors for shearing.
- A significant increment in the number of sheep sheared per day by a shearer.
- Environment friendly.
- It will inspire and encourage shepherds to retain this profession.
- It will give boost to MAKE-IN-INDIA propaganda.
- Indigenization will help in employment generation.
- Dependency on the foreign device will be reduced.
- It will provide platform to Indian manufacturers to compete in International market with the possibility of export.

### **Success Stories**

- Successfully tested in the field at Peepalkothi (Uttarakhand), Kullu (H.P), Palampur (H.P.), Hisar (Haryana), Bikaner (Rajasthan), Barot (H.P.), Bharmour (H.P.).
- Vendors have been identified for fabrication, manufacturing, assembly and supply.

### **Current Funding**

- Office of the Principal Scientific Adviser (PSA) to the Govt. of India.
- Central Wool Development Board (CWDB), Jodhpur, Rajasthan.

### **Collaborations and Field Agency**

- Central Wool Development Board (CWDB), Jodhpur, Rajasthan.
- Jansamarth, Tehri, Garhwal, Uttarakhand.
- Central Sheep Breeding Farm, Hisar, Haryana.
- Central Sheep and Wool Research Institute (CSWRI), Avikanagar, Rajasthan.
- Himachal Pradesh State Wool Federation (H.P.W.F.), Palampur, Himachal Pradesh.

### **Tentative Cost of Sheep Shearing Device is About Rs. 75,000\***

\* This cost does not include freight, GST and other levies.

# Complete set of Sheep Shearing Device



Indigenous Motor



Flexible Drive



Cutter



Comb



Handpiece



Grinder