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Rural Technology Action Group (RuTAG)
-A Mechanism to develop and disseminate technologies for rural areas by the Office of the Principal Scientific Adviser to the Government of India

Development of mechanized roller for making handcrafted woolen felt
Development of mechanized roller for making handcrafted woolen felt

Details/Cost/Novelty
Felt made from woolen fibres is amongst the oldest form of fabrics known to mankind. Decorated felt sheet known as namda has been a popular floor covering material in cold climatic zones of Asia. Due to its relative low cost, namda is also used during winter months in lower altitudes and plain areas. Prayers mats made from felt are commonly sought after due to a popular belief that woolen fibres are pure for rituals and religion ceremonies. Wollen felt is also used in buildings for sound proofing, wall hangings, decorations, and for bags and toys.

Namda felt craft is based on wet felting of wool which requires matting, rolling, and pressing woolen fibres. Manual wet felting enables craftsman to embed designs and decorate it exquisitely. Manual felt requires excessive physical labour and strength. There is a strenuous pressure on leg joints and muscles while rolling namda felt. The craft requires excessive physical work yet remunerations for the work are far from adequate.

RuTAG center at IIT Roorkee has developed a rolling device for wet felting which saves a lot of labour and reduces physical strain. Besides its benefits of high production and ease in rolling, the rolling device has many other benefits.

Features/ Impact of the Rolling Equipment
• Limited shrinkage in felt size while rolling. Layered wool remains in place and there is no distortion of imbedded designs.
• Easy to roll and far less strenuous operations. It is based to hand pushing instead of kicking and pushing by legs. There is substantial reduction in physical labour.
• Can be transported easily and does not require major modification of existing floor used for felt making.
• Can be operated by unskilled labour, while the traditional rolling requires highly skilled craftsman.
• Winding and tying of mat for rolling is much easier and faster.
• Saving in rolling time when felting in bulk and felting large sized pieces.
• The cost of equipment is about 5 to 20 thousand depending upon the size of felt.
• It allows production of 6-7 excellent quality felt sheets per day of different sizes by a skilled craftsman against 3-4 by conventional method.

Suitability for states
Jammu & Kashmir, Rajasthan, Himachal Pradesh, Uttarakhand and Punjab

Country and Present status
Felt is made manually in various Asian countries such as Kyrgyzstan, Uzbekistan, Kazakhstan, Turkey, China, Iran, Mongolia, Nepal and India. Large numbers of families are engaged in making felt for floor covering, tent material and decorative items. Introduction of this rolling equipment will save manual labour and physical strength used for making felt manually.

Prototype disseminated so far and aspects like entrepreneur, Government support etc. explored
A testing of the equipment was carried out in association with highly skilled craftsmen of Kashmir. RuTAG IIT Roorkee has received request from group of namda makers of Uttarakhand and Kashmir for introduction of equipment and training programs on the use of the equipment.

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Design Namdas

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