INTRODUCTION OF CORRIEDALE RAMS FOR IMPROVING MEAT AND WOOL QUALITY IN HILLY REGIONS OF JAMMU AND KASHMIR

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ABSTRACT
Sheep is one of the most important source of livelihood and a sustainable source of wool and meat for farmers in hilly areas. Sheep farming plays an important role for the upliftment of livelihood security and also improves socio-economic status of farmers in J & K hills. Sheep is a good source of wool and fibre but due to poor genetic trait for wool quality of local non-descript breeds and consequent less returns, farmers in Doda and Kishtwar have now stopped rearing sheep for wool purpose. A good breeding program is required which results in a flock of sheep that has a high reproductive rate, good lamb survival and good lamb growth rates. So with these points in mind pure breed Corriedale rams were introduced for breeding purpose in these hilly areas of Jammu under NAIP-Doda. Near about 20 pure bred Corriedale breeding rams were distributed among different farmers in all the three clusters near about 18 villages. Breeding in these hilly areas is mostly done twice in a year. These lambs were then used for wool or meat purpose depending on the need of farmer. Shearing of wool is done twice in a year. Wool is sold at a rate of Rs. 40-50 per Kg and meat can be sold at a rate of Rs. 230-240 per Kg. These lambs attain weight of approximately 20-25kg in a period of 1.5 to 2 years. So introduction of Corriedale ram was a great success in improving the livelihood security and generating a sustainable source of income among the farmers. Moreover it was also seen farmers were now more interested in meat production then wool production.

Key words: Corriedale, NAIP-Doda, Meat, Wool.

INTRODUCTION
Livestock systems occupy about 30 per cent of the planet’s ice-free terrestrial surface area (Steinfeld et al., 2006). In rural India where over 15-20% families are landless and about 80% of the land holders belong to the category of small and marginal farmers, livestock is the main source of livelihood. While the land owners prefer cattle and buffaloes, the landless prefer to own sheep, goat and poultry. In hilly areas of Doda and Bhaderwah farmers mainly prefer sheep and goat as a source of livelihood. They rear sheep for meat and wool purpose. The State of Jammu and Kashmir is ideally suited for rearing of sheep and goats owing to its favourable agro-climatic conditions, rich alpine pastures and host of other natural endowments. Sheep and goat rearing is the core activity of rural masses in the State and plays a vital role in socio-economic upliftment of weaker sections of the society viz; Gujjars, Bakerwals, Chopans, Gaddies and Changpas. Prior to independence, no distinct breed of sheep was available in the State except a few recognized local breeds viz. Karnahi, Gurezi, Kashmir Valley, Gaddi and Baderwahi which were having low productivity both in respect of wool and mutton by crossing Lincoln rams with Merino ewes (Lotsy,1925).The Canadian Corriedale was developed by interbreeding and selecting among foundation stock formed by crossing Lincoln x Rambouillet crossbreed ewes with Corriedale rams (Nicholas,1927). Similar attempts for developing Corriedale ewe also made in Russia (Dobrogorskiev,1937), Australia (Peacock,1938) and France (Portal and Quittet,1951) Corriedale sheep have a long life span, and are hardy and evenly balanced all over the body. They are docile, easy care mothers, with high fertility. They adapt well to a wide range of climate conditions. They are large

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framed and plain bodied, hornless and have a broad body. Corriedale produce a thick stapled, bulky fleece, which is popular with spinners and can be used for a range of hand spun garments. Their dense fleece is medium-fine and high yielding, with good length and softness, somewhat between medium wool and long wool. Corriedale lambs produce good quality carcasses and have a high pelt value. The Corriedale produces bulky, high-yielding wool ranging from 31.5 to 24.5 microns diameter. Fleece from a mature ewe will weigh 10 to 17 lb (4.5 to 7.7 kg) with a staple length of 3.5 to 6.0 in (8.9 to 15 cm). After cleaning, a yield of 50 to 60% of the raw fleece weight is common.

Thus Corriedale rams were introduced under NAIP-Doda with following objectives in mind:
(i) Upgrade the local germplasm of the sheep in Doda and Kishtwar districts under NAIP-Doda
(ii) Improve Socio-economic status of farmers and making small but steady flow of income.
(iii) To see whether interest of farmers is more towards meat or wool production in the state.

**MATERIALS AND METHODS**

20 pure breed Corriedale rams were distributed in all the 3 clusters under NAIP-Doda almost 1 each in the adopted village. Breeding in these areas is mostly done twice in a year. There were mainly 2 seasons of breeding March-April and July-September. In government farm breeding is being done mostly once in July-September season but the local Bakerwals prefer twice a year breeding in March-April and July-September month. Mostly one lamb is produced from a ewe in each breeding thus there were two lambs produced in a year from each ewe. The lamb produced can be used for both meat as well as wool purpose depending upon the need of farmer and demand of market. If lambs were used for wool purpose then shearing was mostly done twice in a year March-April and Nov-December months. On an average 1-1.25 Kg/year wool was produced from each sheep. Good quality wool was sold at a rate of Rs. 80-100 /Kg. Lamb kept for meat purpose have good income returns. Lambs attain weight of approximately 20-25 kg in a period of 1.5 to 2 years. Meat sold at a rate Rs. 240-250 / Kg. Dressing percentage in sheep was about 45-50% that means approximately meat is obtained from each lamb. Total income from each lamb after sale of meat was Rs 2,880.

**Annual income generated by each household by introduction of corriedale rams**

Mostly 2 lambs from each ewe were produced in a single year.

Total income from sale of meat from each sheep (12Kg meat)@ Rs. 240 = Rs. 2880

Mostly 2 lambs from each ewe were produced in a single year

Total income from sale of meat of 2 lambs obtained from each sheep = Rs. 5760

**Income from wool production during one year**

On an average about 1-1.25 kg wool is obtained from each sheep in a year

Wool sold @ 80-100 Rs /Kg

Total income from sale of wool from each sheep/year = Rs.200

Annual Income per sheep (meat+ wool) = Rs. 5960

So, even if a sheep farmer has a herd size of 10-15 sheep, he can earn an annual income of Rs. 59600 (10 sheep) to Rs 89400 (15 sheep) which can be considered a good return by less investments on feed and other variable costs as they graze on pastures.

Historically the production of sheep meat has been a by-product of wool production, with practically no areas specialized in the production of fat lambs. However, in the last 5-10 years, as a result of low and fluctuating wool prices, meat production has increased its importance in sheep production systems, representing a higher proportion of total sheep income. At present about 90% of meat in state is contributed by sheep and goat. From sheep the total mutton production was about 16000 tonnes in 2007-08 and about 18000 tonnes in 2010-11. The goat and sheep population of Jammu division is adequate to meet the meat requirement and also spares meat for Kashmir. The annual consumption of mutton in state is about 500 lac kg and state is producing 50% of requirement only. Therefore a large number approximately 225 lac kg is imported every year from neighbouring states. It can be seen from the Graph No 1 and Graph No 2 that there has been a change in scenario of meat and wool production in last 10 years. It can be inferred that farmers are now more interested in meat production as compared to wool production as monetary returns
from meat production are more than from wool production.

A perusal of the Table-1 tells that production of both meat and wool is increasing in the state. The table also tells that over the time the sheep meat has been the main contributor in the total meat production. Also, the share of sheep meat in total meat production is increasing which tells us about the rising demand of sheep meat in the state. The Compound Annual Growth Rate (CAGR) for meat production over the period from 1998-99 to 2008-09 is 0.91 per cent whereas the CAGR of sheep meat production is much higher i.e. 2.07%. The wool production has even greater CAGR than sheep meat production which is 2.72%. The higher wool production can also be attributed to higher wool quality which has huge demand in other parts of India as well as world (Government of India, 2012).

The results from the above table make a perfect case for a sheep breed which serves the dual purpose of meat as well as wool. So, introduction of Corriedale breed makes a perfect proposition in temperate regions of J&K as it has already been seen that reproductive performance of corriedale sheep in Kashmir is very effective which has a climate very similar to Doda and Kishtwar proving that the introduction of Corriedale sheep is highly desirable in these parts of the state. NAIP Component III project was started in these disadvantageous districts of Jammu in October 2007. Corriedale rams were distributed in these districts from a period of 2007 to 2011.
## TABLE 1: Current situation of the J & K state’s meat and wool production

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Meat (in '000 tonnes)</th>
<th>Sheep Meat (in '000 tonnes)</th>
<th>Sheep Meat as % of total meat</th>
<th>Wool (in ‘000 kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-99</td>
<td>25.56</td>
<td>13.03</td>
<td>50.98</td>
<td>5450</td>
</tr>
<tr>
<td>1999-00</td>
<td>25.81</td>
<td>13.22</td>
<td>51.22</td>
<td>5440</td>
</tr>
<tr>
<td>2000-01</td>
<td>26.29</td>
<td>13.48</td>
<td>51.27</td>
<td>5583</td>
</tr>
<tr>
<td>2001-02</td>
<td>26.64</td>
<td>13.6</td>
<td>51.05</td>
<td>5810</td>
</tr>
<tr>
<td>2002-03</td>
<td>27.05</td>
<td>13.76</td>
<td>50.87</td>
<td>6034</td>
</tr>
<tr>
<td>2003-04</td>
<td>27</td>
<td>-</td>
<td>-</td>
<td>6200</td>
</tr>
<tr>
<td>2004-05</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7120</td>
</tr>
<tr>
<td>2005-06</td>
<td>27</td>
<td>-</td>
<td>-</td>
<td>7400</td>
</tr>
<tr>
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<td>-</td>
<td>7100</td>
</tr>
<tr>
<td>2008-09</td>
<td>28</td>
<td>16</td>
<td>57.14</td>
<td>7133</td>
</tr>
</tbody>
</table>

Source: BAHS 2012, DAHDF

## CONCLUSION

J & K, for cultural and climatic reasons, has huge demand of both wool and meat. Wool is required to protect against the extreme cold prevailing in the state during the winter. Also the sheep meat consumption is quite high in colder regions of the state. Moreover, the population of the state is growing at a very faster decadal growth rate of 23.71 per cent, therefore the production of both meat and wool has to be augmented. Currently, the demand of both meat and wool is met with the help of other states. So, if the production of sheep meat and wool is increased, it will be easily sold in the domestic market and sheep farmers will earn handsome returns. Also, the corriedale sheep protects the farmer against the risk of poor production from one trait. For example, in a year, if the wool quality is not so good, then the farmer can secure himself by slaughtering the sheep and selling its meat along with the production of lambs. On the other side, if meat production is less, then even the farmer is secured with income from wool. The risk above mentioned is production risk. Dual purpose of this breed also helps to protect the farmer from price risk i.e. if due to glut in the wool market, the price of wool falls and farmer may face losses. The selling of the meat will prevent the farmer from going totally bankrupt. Introduction of Corriedale rams not only resulted in upgrading the local germplasm but also helped in improving socio-economic status of these farmers as these farmers had good income returns by selling of animal for meat purpose. On an average each farmer received about Rs 5860 by sale of each sheep for meat and wool purpose in a year. Study indicates that farmers are now more interested in rearing sheep for meat purpose in comparison to wool production as income returns are comparatively better from meat then wool. Thus introduction of Corriedale ram under NAIP-Doda was a big success and more and more farmers were interested to breed their local sheep with pure breed corriedale rams for breed up-gradation of their flock.

## REFERENCES


