

# Ram Lamb Rearing

## A Potential Enterprise in Promoting Local Breed



Process Experience of  
Andhra Pradesh Drought Adaptation Initiative (APDAI)



THE WORLD BANK



Commissioner, Rural Development  
Government of Andhra Pradesh





**S**heep rearing, integrated into natural resources is an essential complement of diversification of livelihoods. Sheep converts naturally available grasses and agriculture residues into meat, manure and wool. Though Climate Changes adversely affects other production systems, it might be beneficial to sheep rearing. Off-season rains, if any, in March-May would help in regenerating grasses and scrub biomass in the summer, which is the most fodder scarce season. This would ease the fodder scarcity. Filling up of water bodies due to high intensity rains would result in moisture spread and availability of drinking water. The changes in the rainfall distribution may bring in an element of unpredictability of diseases incidence. This type of climate change variations potentially helps the small ruminant based production systems. But the increase in temperature and higher diurnal variation necessitates a more resilient breed that can sustain such extremities. The local and time-tested Deccani breed of sheep has better resilience in these aspects and is recognized to be the most appropriate breed for the area (see Box 1). In this context, strengthening of sheep production systems and enhancing concerned livelihoods gained importance in AP Drought Adaptation Initiative (APDAI)<sup>1</sup>

### Box 1: The issue of 'Breed'

The Deccan Plateau traditionally had Deccani breed of sheep. These are black in colour and have relatively low body weight. They produce coarse wool and are adapted to the local climate and fodder availability. They are also disease resistant. With the objective of improving the 'productivity' the Government introduced the Nellore breed of sheep, which is brown colour. These have higher body weights when compared to the local Deccani breed. The Nellore breeding rams were provided on subsidy to the sheep rearers and co-operatives. Though there were advantages in the beginning, after 2 to 3 generations of hybridization, problems cropped up. The body weight gain was not upto the expectations and these animals have become highly susceptible to diseases. Now the situation is such that the sheep rearers neither have the advantage of resilient local breed, nor the highly productive 'better' breed. It is also not an exaggeration to state that it is difficult to find the 'pure' species of local Deccani breed.

### An Opportunity in Adversity

The initial situation analysis with the farmers in APDAI program villages revealed the problems of breed, access to health care services and selling of ram-lambs at very young age. The traditional rearers sell away the ram-lambs at around 4 months. By this time they would weight about 10 kgs. The following were the reasons listed by the rearers for this practice:

- ❖ Unmanageability of the flock size, with the retention of ram-lambs
- ❖ Increased risks of disease and mortality
- ❖ Chance of decrease in conceiving rates if milking is prolonged and/ or if the lambs are with the mother
- ❖ Difficulty in managing large number of ram-lambs (in a large flock)
- ❖ Cash-needs of the farmers ('ram-lambs' are the crop)

The growth rates/ conversion efficiency is very high in ram-lambs during post-weaning period. It is beneficial to rear the ram-lambs until they reach weights of 20-25 kg.

<sup>1</sup> AP DAI is a pilot program to evolve various drought adaptation measures. It was supported by the World Bank and anchored by the Rural Development Department of the Government of Andhra Pradesh. The pilot was implemented in Mahabubnagar and Anantapur districts of Andhra Pradesh. It was founded on the platforms of Mandal and Village level Women Federations (MMSs), facilitated by Society of Elimination of Rural Poverty (SERP). WASSAN extended technical and process facilitation support to the initiative. For more details, visit [www.wassan.org/apdai](http://www.wassan.org/apdai)

When ram-lambs are sold off at an early age it results in loss of opportunity. Though it is loss for the sheep rearers (who have flocks), this practice of early selling provides an opportunity for ram-lamb rearing enterprise by a different section of the village community. Shorter rearing period (4 months), dependence on commons and fallow lands, and low skill requirement makes it an ideal supplementary income generating activity for the poor. It is also a traditional income supplementation activity for wage earners and small farmers. The assured and growing markets, liquid nature of the assets and the capacity to cope with drought have added advantages for taking up this enterprise.

### Tapping the Potential

In AP DAI, ram-lamb rearing was integrated into the deccani breed conservation and promotion initiative. It was implemented by the federations of SHGs at Mandal (Mandal Mahila Samakhya) and Village levels (Village Organisation). A special insurance product was developed along with United India Insurance Ltd, to address the risks. As part of the initiative, quality deccani ram-lambs were purchased from the uncontaminated Maharashtra tracts, Karimnagar, Warangal, Mahabubnagar districts. They were reared for about 8 months and rams for breeding purpose were selected from them. The culled ones in this process were sold into the



meat markets. This proved to be a practical strategy and the production of 'breeding rams' in this process emerged as a potential enterprise option. Systems were established in AP DAI for selection of these 'breeding rams' by the traditional rearers, procurement from the ram-lamb rearers and placing them into the larger flocks. This has been integrated into the program called 'Jeeva Kranthi' implemented by the Animal Husbandry department.

A total of two cycles were completed during the program. In the first cycle 586 deccani ram lambs were procured for three Mandals of Mahabubnagar district. This had an investment of Rs.8.65 lakhs of which a part of was member contribution and remaining was met through project revolving fund (see table 1). In the second cycle, a total of 900 ram lambs were purchased in the last quarter of 2009.

Table 1: Details of Ram-lambs purchased in the first cycle in Mahabubnagar District

Sl. No	Mandal	Total ramlambs purchased	Members contribution (Rs.)	Project revolving fund ( Rs.)	Transport, exposure visit and other expenses	Total amount (Rs.)
1	Dowlathabad	155	96,875	103,075	31,000	230,950
2	Kosgi	260	162,500	172,900	46,800	382,200
3	Bomraspet	171	106,875	113,715	31,635	252,225
<b>Total</b>		<b>586</b>	<b>366,250</b>	<b>389,690</b>	<b>109,435</b>	<b>865,375</b>



## Process Steps

### 1. Selection of villages and members

Villages with functional SHGs and Village Organisations were selected. Access to fodder (fallow/ common lands) and water was also considered. Three categories of SHG members were given priority:

- ❖ Wage labour - EGS card holders having worked at least for 50 days as wage labour in the last year
- ❖ Single women/ women headed house holds
- ❖ Women with experience in sheep rearing
- ❖ Having access to and experience of grazing sheep in orchards

In this process, 221 rearers were identified in the first cycle in 9 villages. These selected rearers were organized into Common Interest Groups (CIGs) and they purchased 586 ram-lambs.

### 2. Funding modalities

Of the total cost of the ram-lamb, 50% was directly contributed by the members in cash and the rest of the 50% (with a ceiling of Rs.700 per animal) was given as loan to the member from the SHG. The cost of visiting distant markets for selection of deccani ram-lambs and transportation was borne by the project. The member entered into an agreement with VO on the terms given below.

- ❖ *Related to rams*
  - o *The ram lambs are to be reared up to nine months to one year of age when they can be selected for breeding purpose/ culled for slaughtering.*
  - o *The animals chosen for breeding must be maintained and sold only for breeding purpose.*
  - o *The rearer should not sell the animal without the notice of VO.*
- ❖ *Related to Insurance*
  - o *Rearer has to inform the insurance cell (through the VO) immediately after the death of animal.*
  - o *No insurance is paid for animal that die within 15 days of payment of the premium.*
  - o *Insurance will not be accepted for animals without vaccination*
  - o *The dead body of the animal with the insurance tag intact should be shown to the claim assessment sub-committee.*
  - o *The payouts will be used for replacement of the animal*
- ❖ *Related to Repayment*
  - o *Repayment with 3% annual interest rate*
  - o *Total amount would be repaid immediately after the sale of animal.*
- ❖ *Others*
  - o *The rearer will follow regular vaccination as per schedule*
  - o *The rearer will attend all the training programs*

The farmer's contributions were deposited in the Village Organization. Based on the amounts deposited, the MMS released the project share to the VO as an interest free loan. The rearer also pays 50% of the insurance premium.

### Box 2: Stakeholder Contribution Must

Experience in Lodhipur village of Kosgi Mandal strongly suggests the need for stakeholder contribution. The program design strongly insisted on 50 per cent contribution from individuals. However, in Lodhipur the Village Organisation integrated it with watershed development program and mobilized the member contribution from it. The beneficiary had to take 50 per cent as loan and no down-payment in cash was required. As a result the uptake of the program in that village was disproportionately high in comparison to the fodder resources. This has distorted the program and has resulted in high ram-lamb mortality rates, poor body weight gains and low profit margins. Beneficiary contribution in ram-lamb rearing serves as a proxy indicator for balance between fodder availability and stocking rates.



### 3. Members' orientation

Members were formed into a common interest group (CIG) at the VO level. An orientation program was organized for them on technical aspects of ram-lamb rearing covering program modalities, basic management, disease identification and vaccination schedules.

### 4. Purchasing Committee

A purchasing committee was formed with two VO office bearers, 2-3 CIG representatives, one or two experienced shepherds in the village and one MMS Executive Committee member. With help from WASSAN, the purchasing committee identified places from where they can procure deccani ram-lambs. Thus, ram lambs were purchased from Mahabubnagar, Karimnagar, Warangal and Medak districts apart from neighbouring Karnataka and Maharashtra tracts.

### Box 3: Ram-lambs to Breeding Rams

In a workshop on interface between the Department of Animal Husbandry and AP DAI, the department decided to supply only deccani breeding rams in the project Mandals, as part of its jeeva kranthi program. This decision was arrived after field visits and intensive discussions with the rearers. It encouraged several traditional rearers in the project villages to opt for Deccani breed. Masani Nagappa, a traditional rearer from Daultabad village visited Neetur along with others. He purchased 8 rams from the ram-lamb rearers costing around Rs.3200 to 3500 per ram. He replaced all the breeding rams in his flock with these deccani rams. He paid Rs.14,000 (50% of the cost) as his contribution and the rest was borne by AP DAI. He has to return one ram-lamb per each ram as 'repayment-in kind'. These will be added into the cycle of ram-lamb rearing.

In Bijjaram village 11 traditional rearers purchased 33 breeding rams at an average price of Rs.2600 each. These rams reached a body weight of about 25 kg. Department of Animal Husbandry provided 50 per cent subsidy for 11 breeding rams purchased by these rearers.

In Bomraspet village, appreciating the quality of the rams, Anjalappa, a traditional rearer, selected 6 rams without any project support. He paid around Rs.2,900 per each ram, based on the size of the animal (varied from 19 to 22 kg body weights).

### 5. Purchasing Ram-lambs

The Purchasing Committee visited the markets and purchased ram-lambs. The travel and transportation costs were borne by the project. The traditional rearer plays a key role in identifying the quality ram-lambs in the market. The representative of the VO paid the amount. Ram-lambs were brought to the village and distributed among the households according to their indents. Vaccination and de-worming was taken up the next day.

### 6. Typologies of individual ram-lamb units

Two rearing typologies emerged viz.,

- ❖ Households rearing about two ram-lambs: They take them along with them for work. There are 155 households in the category.
- ❖ Households taking up about five ram-lambs. This is predominant where the rearers have access to good grazing lands like horticulture plantations. Some of the households pooled their ram-lambs and hired a person to graze the animals. There are 66 households that have taken 3 to 5 animals.

### 7. Insurance

The animals are tagged after vaccination by the health worker. The Bhima Kendram at the Mandal level prepares the insurance policies and pays the premium (50% by the rearer and 50% from the project) to the insurance company. The village level worker weighs the ram-lambs and records the data of each animal.



Insurance is taken up in the name of the VO and the payouts will be received by the MMS to be paid to the individuals.

### 8. Trainings

Training on management and supplementary feeding of ram-lambs was taken up subsequently.

#### Box 4: Insuring Ram-Lambs with 'Community Based Livestock Insurance'

The insurance product of United India Insurance Company Ltd was specially designed for the ram-lamb rearing activity. The product was entirely managed by the MMS. The mandatory requirement of inspection and certification of the veterinarian has been waived in this product. Claims will be settled on the basis of assessment reports by a trained team of women from the insurance cell at the MMS level. The premium is Rs.90 per year inclusive of service charges; the project shared half the cost. Payouts are in two slabs viz., Rs.1700 (if sheep dies below 7 months age) and Rs.2000 (above 7 months) per animal.

Of the 586 ram lambs purchased in the first cycle 497 were insured under UIIC product. 61 animals were insured under the regular government program and the remaining 28 died/consumed before the UIIC product could be obtained.

Out of the total 586 ram lambs a mortality of 111 sheep was reported (about 19%). However, the mortality in rams under UIIC product (68 out of 497) was lower than that (14%). Of these 68 deaths, the MMS insurance cell did not receive calls in 5 cases and another 6 assessments were rejected by the MMA insurance cell itself. This was either due to not showing the dead body or not following the procedure. Of the 57 insurance claims forwarded by the insurance cell at MMS, 40 were cleared by the company and 17 are in process.

The payouts are received by the MMS and are used to replace the asset i.e. buying a new ram-lamb. This is to prevent the member from becoming indebted with the death of the animal. The community managed insurance product is a key aspect of the program that takes care of the major risk to members. For details refer 'Process Manual on Community Managed Livestock Insurance' published separately as part of APDAI initiative.

### 9. Monitoring

One trained animal health worker visits the village every month. During the visits s/he records and monitors the body weight gains, identifies any ailments and prepares a consolidated monitoring report.

### 10. Grazing and supplementary feeding

Though initially envisaged, no supplementary feeding was practiced by the rearers, except in Neetur village. The village has poor fodder base – the sheep mostly graze on paddy fallows. But the rearers have collected *Acacia nilotica* (Tumma/Babul) fruits during the season and fed them to the animals. This resulted in good gain of body weights. The weight gains are generally poor in paddy fallows compared to groundnut fields. Better results were seen in some cases like where the labour working in large horticulture plots purchased 5 ram-lambs and grazed them within the horticulture plots. Bijjaram and Chennaram villages have such successful case studies in this area.

### 11. Selection for Breeding Rams

Rams in Neetur, Chennaram, Bijjaram gained good body weights. Traditional rearers from within and outside the village

selected rams suitable for breeding. 45 rams were selected for breeding. Of these 11 were purchased by accessing 50 per cent subsidy from the Animal Husbandry department and 22 rams from APDAI program.

### 12. Sale and loan recovery

The rams are sold in different ways viz., a) direct sales for meat locally b) sales in local markets, c) sales to traders, d) sales in Hyderabad market and e) supply to retail chains. The last two are small experiments. Of these, sales to traders has given better price realization.

The loan amounts returned by the rearers are pooled at the MMS level and are used for continuing the activity.



## Critical Elements in the Enterprise

### Need to Balance Fodder Availability

Figure 1

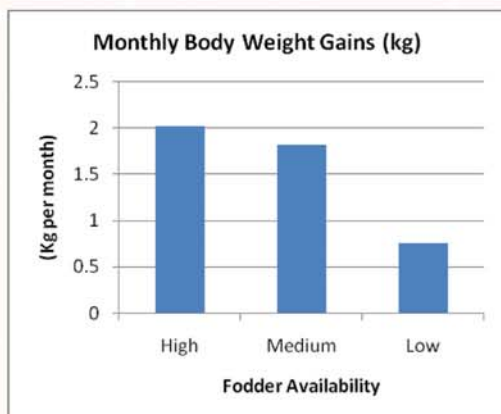


Figure 1 presents average monthly body weight gains for three different fodder situations in the villages. These are relative to the three situations. The highest monthly body weight gain is 2.44 kg. In spite of discussions, there is little supplementation of feed practiced by the rearers. Lodhipur experience also clearly brings out the need to restrict the stocking to the limits of fodder availability. It also brings out the need to use a strong proxy indicator to restrict the total number of sheep to balance fodder availability.

### Appropriate Rearing Period

Timeliness is an important factor in ram-lamb rearing. Many of the ram-lambs are purchased in the months from January to March. The ram-lambs purchased in December fared much better. They are usually sold off just before the onset of monsoons for fear of diseases/ mortality during that period. It is also felt that starting early and selling off-rams by April might be better as it can avoid the summer fodder scarcity. This must be synchronized with the breeding season.

The average age at sale is 8 months and the average body weight at the time of sale is 21 kg; 25 kg is however the ideal. Further field level analysis is required to arrive at appropriate mechanisms of low-cost feed/ fodder supplementation.

### Linking to Organized Meat Market

An attempt at linking to one of the organized meat retail chain resulted in no additional benefits. About 20 kg carcass was processed in the Mandal and transported to the retail chain's collection centre. The costs of transport, ice, wages etc, proved to be uneconomical. The price difference between the Mandal and Hyderabad city is also not very substantial. The scope for establishing a rural abattoir as a collaborative venture between the butchers (also traders) needs to be explored.

### Economics of Ram-lamb rearing

Table 2 presents the data on costs and returns. The sale price per animal varied between Rs.1400 (failed case) to Rs. 2800. The gross return per animal varied from Rs.120 to 1650. If the failed cases are excluded, the gross returns ranged from Rs.1200 to 1600 per animal. The case of Lakshmi in Bijjaram village illustrates the economics (see Box 5).

The paid out costs involved are – purchase cost, insurance premium, interest on loan (3% rate of annual interest), vaccinator's charges at Rs.1 per sheep and feed supplementation, if any. Vaccines were sourced from the Animal Husbandry Department. In most of the cases there was no dedicated labor for ram-lamb rearing. Community managed insurance covered the risk of mortality.

### Increasing natural resources productivity and meat production

Ram lamb rearing increases the rearing-time from 4 months to 10 to 12 months. This also increases the production (live weight basis) from about 10 to 12 kg to 20 to 25 kg per animal. In this experience, the 475 animals that survived gained an average body weight of 9.44 kg per animal; increasing the total meat production to 4,484 kg in just about 6 months time. This does not require any dedicated land resources and made the best use of crop-fallows and common lands.

**Box 5: Income Diversification – A case of Devarai Lakshmi**

Devarai Lakshmi is a young woman of 28 years age in Bijjaram village of Kosgi Mandal. The village is 6 km away from the Mandal head quarters. The family has 3.5 acres of owned land including 1.5 acres under bore well irrigation. The bore well is undependable and crops often dry up. They cultivate pigeon pea, sorghum and other crops in the rainfed land. Income from agriculture is very unreliable, especially in the drought years. They have fodder availability in their field.

Lakshmi purchased 5 ram-lambs (about 4 to 5 months age) by investing Rs.3125, while the Village Organization invested an equal amount from AP DAL program. The animals were purchased from Pebbair shandy within the district. She paid Rs.225 as her share of the insurance premium and the rest was met by the project. She got her animals vaccinated as part of the community based vaccination program. The total expenditure including the project investments amounted to Rs.6795.

She reared the animals for 5 months taking them along with her on wage work. One ram-lamb died after one month and the family got the asset replacement through MMS. She reared the remaining animals for four months and sold at Rs.2750 each to rearers in the same village for breeding purpose. The family realized a gross return of Rs.11000 from this sale. The net profit realized is Rs. 6,205 (Rs.13000-6795). This income added an assured livelihood portfolio to further diversify the family income presently dependent on agriculture and labour wages. They repaid the loan to the Village Organisation and requested for increasing the next loan to purchase 10 ram lambs.

Table 2: Growth and Financial parameters in Ram-lamb rearing in APDAL program villages

	Total rams purchased	Average body weights at the time of purchase	Average price at the purchase	No. of days reared (Average)	Average body weight at the time of sale	Incremental body weight gain	Body weight gain per	Average sale price (final stage)	Gross returns per animal
		Kg.	Rs.	Days	Kg	Kg	Kg	Rs	Rs
Antaram	45	11	1225	110	18	7	1.91	2650	1425
Gokaphaslavad	50	12.5	1250	125	17	4.5	1.08	2000	750
Neetur	60	11	1300	185	22	11	1.78	2800	1500
Lodhipur	164	11.5	1280	140	15	3.5	0.75	1400	120
Chennaram	40	12	1240	135	23	11	2.44	2500	1260
Bijjaram	56	11.5	1260	195	25	13.5	2.08	2600	1340
Nagireddypalli	75	11	1275	185	22	11	1.78	2100	823
Chowdarpalli	51	10	1000	190	25	14.5	2.29	2650	1650
Bomaraspet	45	12	1250	140	21	9	1.93	1850	600
Total/ Average	586	11.39	1231	156	21	9.44	-	2283	1052

The experience provided basic proof-of-concept (and quantitative evidence) that ram-lamb rearing can become a critical process in the overall sheep production systems and related livelihoods:

- ❑ It provides supplementary incomes to the poor and non-professional rearers by converting crop-fallows and grasses into incomes and manure.
- ❑ It can become a source of providing quality rams for improving the breed, in the present case deccani sheep
- ❑ Through increasing efficiency of natural resource use and the conversion rate, meat production can be substantially increased.

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