



RLN-FES Micro-level study of the village level animal markets with particular reference to small ruminants

Report of the study conducted in Northern Karnataka Markets



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ABSTRACT

Increase in urbanization and per capita incomes have led to a shift in preferences of consumers towards protein rich foods, mainly the meat and dairy products. Within the meat subsector, the consumers in the terminal markets can be segmented based on their attitude towards the type of meat in terms of its quality, age, sex and species of origin. As a result, the traditional livestock markets are getting reorganized as monopolistic competitive with focus on the above parameters. On the other hand, the data suggests that shepherding is declining in irrigated areas for want of grazing land and several other factors. But in other areas, predominantly the uplands, the trends are encouraging. The vibrant live animal markets are subtly heralding new opportunities in the subsector.

The study was intended to undertake subsector analysis for small ruminants with more focus on their markets and the supply channels operating in the vicinity of production areas. Subsector was mapped to analyze the dynamics including the gaps in order to identify and address the bottlenecks. The results point out that even though the markets appear monopolistic competitive, still, they are complex and lack considerable degree of transparency in pricing, grading the animals and flow of market information. Traders generally use “nigah” method of pricing that does not employ scientific measurements to determine price.

The price spread appears relatively thin, depends again on size of markets and presence of participants from far off metro cities. The channel length is shorter in small satellite markets where shandy traders and butchers from nearby small towns dominate. The price of the meat in such small markets is also lower compared to the one at metro cities by 20%-30%. Ideally the price of live animals should have direct correlation with price of meat in terminal markets, but we observed that it is never a straight jacket transfer. Apart from trade controlled assessments, tendencies for opportunistic behavior by the buyers based on the local market conditions (in terms of inflow of animals, distresses on part of sellers, number of participants from metros, etc.) determine price trends.

The existing channels in major livestock markets are invigorated by big players from metro cities like Chennai and Bangalore giving impetus to smallholder producers and pricing trends. Thus the resultant price spread in such major livestock markets in the region is also more when compared to the satellite markets. The major portion of this inter market difference is shared by producers and the logistic operators.

Apart from the price and relatively assured uptakes, markets are also opening up new avenues that are indicative of means to enhance returns to small ruminant producers. For instance, the increase in consumer segment relishing tender meat has created a new space for shepherds to improve productivity of herd by weaning away lambs at early age and fattening them for sale. The production practices have bearing on the quality of animals produced and hence there is scope to create a niche to group of

producers demarcated by geography, etc. A focused initiative can help producers reap benefits from niche segments. Value addition of the live animal products like wool also needs attention.

There are many other issues that markets alone cannot address, like the one associated with factors of production, risk mitigation, flow of market related information, etc. What is needed is the organized interventions addressing these critical aspects and assisting producers in accessing quality inputs and judging basal minimum price for his animals based on their live weight. Major market reforms like mechanisms to regulate market information on price of meat and indicative price of unit of live weight is yet on cards of Government of Karnataka. Still the plans are hovering around the secretariat and nothing is materialized nor practiced at the markets. Similarly the conventional approaches for productivity enhancement adapted by state agencies like Sheep Board do not seem to have grounded well on the traditional wisdom associated with shepherding. Thus, in spite of all said odds in small ruminant production, the subsector appears surging up to provide renewed impetus to the livelihoods of the marginalized section of the rural communities.

The subsector needs those programs that are cohesive with such community practices that are of much value to the circumstances on the ground. Some of such measures are discussed as possible intervention areas.

INTRODUCTION:

The role of small ruminants in livelihood security of the small, marginal and the landless laborer families across different farming situations in south Asia is increasingly being recognized within the development sector for several obvious reasons. Relatively more equitable distribution and labor intensive activity in rearing these animals has contributed to this perception. One can assess the contribution of these small ruminants to livelihoods by analyzing to quantify

- Their functions in production, consumption, as 'buffering' or insurance mechanisms, and as savings and accumulation strategies.
- Their attributes - such as holding costs; durability; security; and convertibility - and the reasons why certain attributes might be desirable or undesirable.
- The changing importance of functions and the changing effectiveness of assets in contexts of changing markets and technical and social opportunities

The importance of these animals is more evident with the fact that many of these people live in fragile, marginal environments that are unsuitable for crop production. Making a living on marginal lands with range of challenges including poor soils, erratic rainfall and extreme temperatures has been made possible by rearing these animals for livelihood. They act as insurance against crop failure and hence draught survival strategy. They are raised mainly for meat, milk and skin, and providing a flexible financial reserve (social security) in bad crop years¹.

CONTRIBUTION TO ECONOMY:

In Indian context, the contribution of the agriculture and allied sector to GDP has declined from 55 per cent in early 1980s to 21 per cent in 2009. But the share of livestock within the agriculture and allied sector has increased from 18 per cent to 23 per cent over the same period². Of this, small ruminants contribute about 10% to the total value of livestock sector, which is around Rs 24,000 million annually.³ Although small ruminants account for 14% of the meat, 4% of the milk output and 15% of hides and skin production in the country, it receives only about 2.5% of the public expenditure on livestock sector, which is much less than the contributions made by small ruminants to the total value of output of the livestock sector

¹ Puskur et al 2004; Rangnekar 2006

² Kumar Sambhav, Down to Earth Online, Dec 2010

³ Birth et al, 2003

UNORGANIZED SECTOR:

As discussed above, the small ruminants are mainly reared by the lower strata of the rural households in large numbers. They are faced by number of serious problems in India⁴. They are

1. Poorer awareness (among policy makers/intervening agencies) about importance of these animals in livelihood system of the strata referred above
2. Absence or lack of active producer organizations to take on the issues haunting them
3. Pressure on fodder resource base due to depletion of common property resources, expanding irrigation facilities, etc which this study has also noticed
4. Inadequate veterinary health care
5. Lack of adequate attention on genetic improvements

In a nutshell, in spite of their large numbers and operating in rapidly growing markets, they are squeezed directly by forces of nature, labor costs, and epidemics. The shepherding as occupation is showing sharp decline in irrigated patches in Karnataka due to scarcity of grazing lands, awareness on education for children, lucrative alternate land based enterprises, etc. However, it is otherwise in rain fed areas. The small ruminants have shown steady increase over the last decade as due to the encouraging market trends in the subsector.

THE EMERGING OPPORTUNITIES:

The emerging driving force in promoting small ruminant is the increasing demand for high value commodity like meat and leather products with the rise in per capita income of the urban consumers. In India, food products are the single largest component of private consumption expenditure, and account for as much as 35% of the total spending. With the changing lifestyle, there has been a shift in the consumption habit from carbohydrate based staples towards protein rich foods. Fruits, vegetables and meat based products have shown consistent growth thereby increasing their share in the basket. Meat products segment stands at Rs 35,892 crores with growth rate of 2.3% between 1996 to 2006 when compared to negative growth rate of cereals (-0.7% during the same period)⁵

⁴ CALPI 2005

⁵ Marketing White Book 2010- Business World

Among the categories of meat, poultry meat is the fastest growing animal protein consumed in India with an estimated year-to-year cumulative average growth rate of 13 percent. Sheep and goat meat production has remained relatively stagnant and supply has failed to keep pace with increasing demand. As a result, goat and sheep meat is the most costly meat among all categories⁶. Small ruminants are major contributors of animal proteins for human consumption in India. According to FAO statistics 2008 (2007 data), mutton and chevon production in India was 0.67 million tons during the year 2000 and was expected to reach 9.89 million tons by 2020 (14.4% growth rate)⁷. However, as of 2009-10, this total stands at 0.830 million tons (1.15% growth rate). The current availability of animal proteins (10.8gms/day/capita) is just half of the daily requirement of 20 gms/day /capita and this can be achieved by 2020 only if meat production (including fish and poultry) grows by 5.8% per year to fulfill this requirement⁸ as against the current 4.2%. All these facts show the widening gap between demand and supply of meat in general and mutton/chevon in particular.

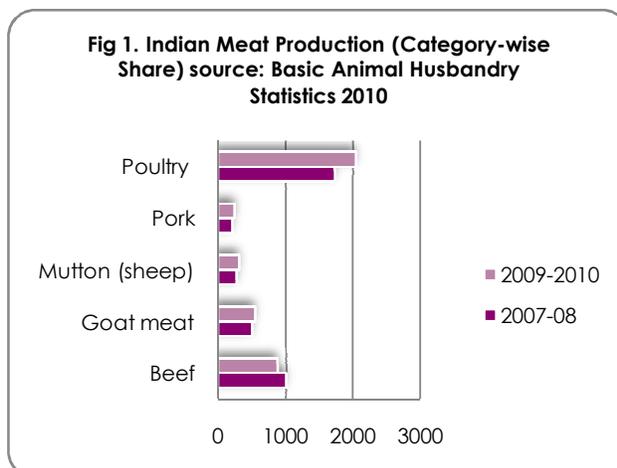


Table: 1. Estimated Meat Production in Karnataka (source: Animal Husbandry Profile 2010-GOK)

Year	Production of meat (M. Tons)	% Variation over previous Year
2005-2006	99702	1.2
2006-2007	106591	6.91
2007-2008	109953	3.15
2008-2009	114520	4.15
2009-2010	119247	4.13

On export front also there has been consistent growth over the last 3 years. India's exports of live animals like sheep and goat over the years continued to dominate with a registered growth of 9.98 per cent during this period.

The Small Ruminants sector will therefore, play a significant role in the coming decade in impacting on the livelihoods of small and marginal farmers rearing them.

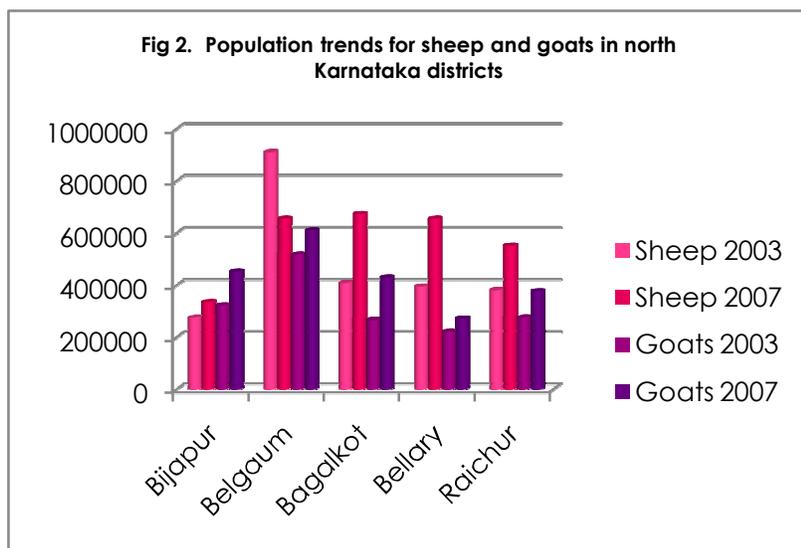
⁶ India Livestock and Products Annual-USDA-FAS 2008

⁷ Delgado et al., 1999

⁸ Jha and Chand 1999

THE POPULATION TRENDS FOR SMALL RUMINANTS:

As per 18th livestock census (2007) India had 71.55 million sheep (as against 61.47 in 2003) accounting for 14.1% increase⁹. This is as against 6.91% between 1991 and 2003. There were 140.53 million goats (as against 124.36 in 2003) accounting for 11.51% increase. This is as against 1.33% increase during 1997-2003. Where as in case of Karnataka, there have been significant trends. Sheep population (1997) that



was 8.00 million had come down to 7.26 million during 2003 accounting for 9.33% reduction in growth rate. Interestingly, it has again shot back to register 9.56 million (24.06% increase) during 2007¹⁰. Similarly, goat population that had declined by 8.02% standing at 4.48 millions during 2003 has shot back to register an increase of 27.16% (6.15 million) during 2007.

This steep increase in population is the testimony to

the fact that the markets for small ruminants are expanding due to steady rise in urban population (2.5%) and thus supports our hypothesis that the demand is driving production.

Trends in north Karnataka districts (Ref Figure 2) are more or less similar, the sheep population in 5 districts has increased by 21% against the goat population by 33% during the same period. Contrary, there has been decline in sheep population by 28% in Belgaum district during this period, which is corroborated well by the findings in focus group discussions in that district. This is mainly due to faster expansion of area under irrigation and diminishing grazing lands.

Although there are limitations to enhance production, still we can observe elasticity of the commodity. This means that the unorganized producers as a whole are responding well to the developing markets and now the issue is whether the benefits of the expanding markets are being passed on to them. Also, on the other hand, the observations¹¹ that these kind of changing dynamics in the overall farming contexts and the business environment have left these smallholder livestock keepers in lurch and the poor being negatively impacted- needs to be viewed against the transient negative

⁹ Basic Animal Husbandry Statistics-2010- GOI

¹⁰ Animal Husbandry Small Book- AH profile 2010-GOK

¹¹ Sagari. Ramdas and Nitya G, 2004

trends during 1997-2003, decline of common grazing lands and the unorganized nature of the subsector.

SCOPE OF THE STUDY:

The major intended outcome of the study was to arrive at clear understanding of the markets, primarily focusing on the village markets that are of immediate concern for the small ruminant producers. This is with the larger objective to understand the role of different players in value chain, assess the cost economics and nature of value additions in order to embark upon appropriate policy advocacy for betterment of the livelihoods of smallholder livestock keepers.

The specific objectives are to

- To undertake value chain analysis of the sheep and goat meat to ascertain the various immediate intermediaries around the vicinity of production areas (mainly villages), functions performed by them, value added by them, costs added by them, scope for replacing the functions by some other member of the chain.
- To assess and recommend possible interventions in the supply chain on issues including infrastructure, marketing, production and policy to enhance the realizations of the smallholder farmers.

COMPONENTS OF THE STUDY:

1. Trend analysis for different categories of small ruminants that are sold
2. Understanding the value chain for sheep and goat meat including their actors vis a vis competitiveness of small livestock keepers
3. Mechanism of pricing that is followed in the markets
4. Legal and regulatory environment affecting the trade at village markets, including policies and different programs of the state in promoting these livestock
5. Key intervention areas to strengthen the market systems

LOCATION OF THE STUDY:

The study was conducted in and around 6 major livestock markets belonging to three northern districts of Karnataka- Belgaum, Bijapur and Bagalkot. Two villages included for FGD and micro level survey from each of these markets. Of these 2 villages, one was selected from within the radius of 10 Kilometers from market place and the other from the distance of 15- 20 Kilometers from market place visited. All together 8 villages are under rainfed agricultural areas and 4 from irrigated ones.

District	Markets/Shandys	Villages Covered
Belgaum	Gokak	Benachinamaradi and Tavag
	Yaragatti	Chunchanur and Salapur
Bijapur	Basavan Bagewadi	Takkalaki and Budni
Bagalkot	Aminagadh	Guledgud and Kamatagi
	Mudhol	Anagawadi and Vajjramatti
	Kerur	Ugalavata and Yankanchi-Maninagara

METHODOLOGIES FOR THE STUDY:

The study used a combination of tools for obtaining the information. Participatory methodology was employed to ensure the study is a mutual learning experience to the team as well as the livestock keepers and other stakeholders/actors in the markets. The study relied heavily on key informant interviews and focus group discussions with key players in the value chain (e.g. producers, village level aggregators and trade channel.

Government agencies, regulated market yard committees, producer associations were interacted with an objective of understanding the sector, including constraints, cost structures, efficiency and value at each link of the value chain.

Thus the study employed actor centred approach rather than frequently preferred people centred approach. The actor centred approach is more comprehensive term that more clearly connotes the inclusion of individuals and institutions and organizations as the units of analysis, enabling both micro- and macro-level analyses.

Case studies are also developed to capture various factors contributing for the present circumstances and also to capture best practices followed by these individuals and institutions to strengthen the marketing systems in favour of smallholder livestock keepers.

SAMPLING FRAMEWORK:

#	Element of Analysis	Level of Analysis	Sampling Plan	Tool to be used
1.	Production	Villages	160 farmers, mainly small ruminant keepers	Structured Questionnaire and Focus Group Discussion, Rapid rural appraisal
2.	Markets	Villages and town level shanties	12 micro-markets (village level, 2 villages per intermediary markets identified already) and 6 intermediary markets, 1 terminal markets (in all, a total of 60 traders and aggregators from above	Structured Questionnaire and open ended Qs
3.	Government Institutions-	District	2 per district	Semi-structured Questionnaire
4.	CBOs/NGOs	District	2 per district	Semi-structured Questionnaire

RESULTS OF THE STUDY: ANALYSIS OF SUBSECTOR:

A detailed subsector map using the standard conventions has been drawn to understand the flow of animals from production to consumption. The animals that pass through these channels are mainly the lambs (less than 3 months age), spent ewes, breedable fit ewes for rearing (called ALUGURI) and adult rams for breeding purposes. Similarly in case of goats, it's the spent does, kids within the age group of 4-6 months, breedable fit does and bucks.

TABLE 2. AVERAGE POPULATION OF SHEEP AND GOATS IN STUDY AREAS

Markets	Catchment Villages	Avg.No.of Families	Families owning S/G	Avg. Goat Population Per Village	Avg. Sheep Population Per Village
Gokak	22	533	213	667	973
Kerur	28	298	164	449	792
B.Bagewadi	35	323	194	749	902
Yaragatti	26	276	165	883	1729
Mudhol	15	360	162	718	604
Amingadh	26	278	181	510	1024

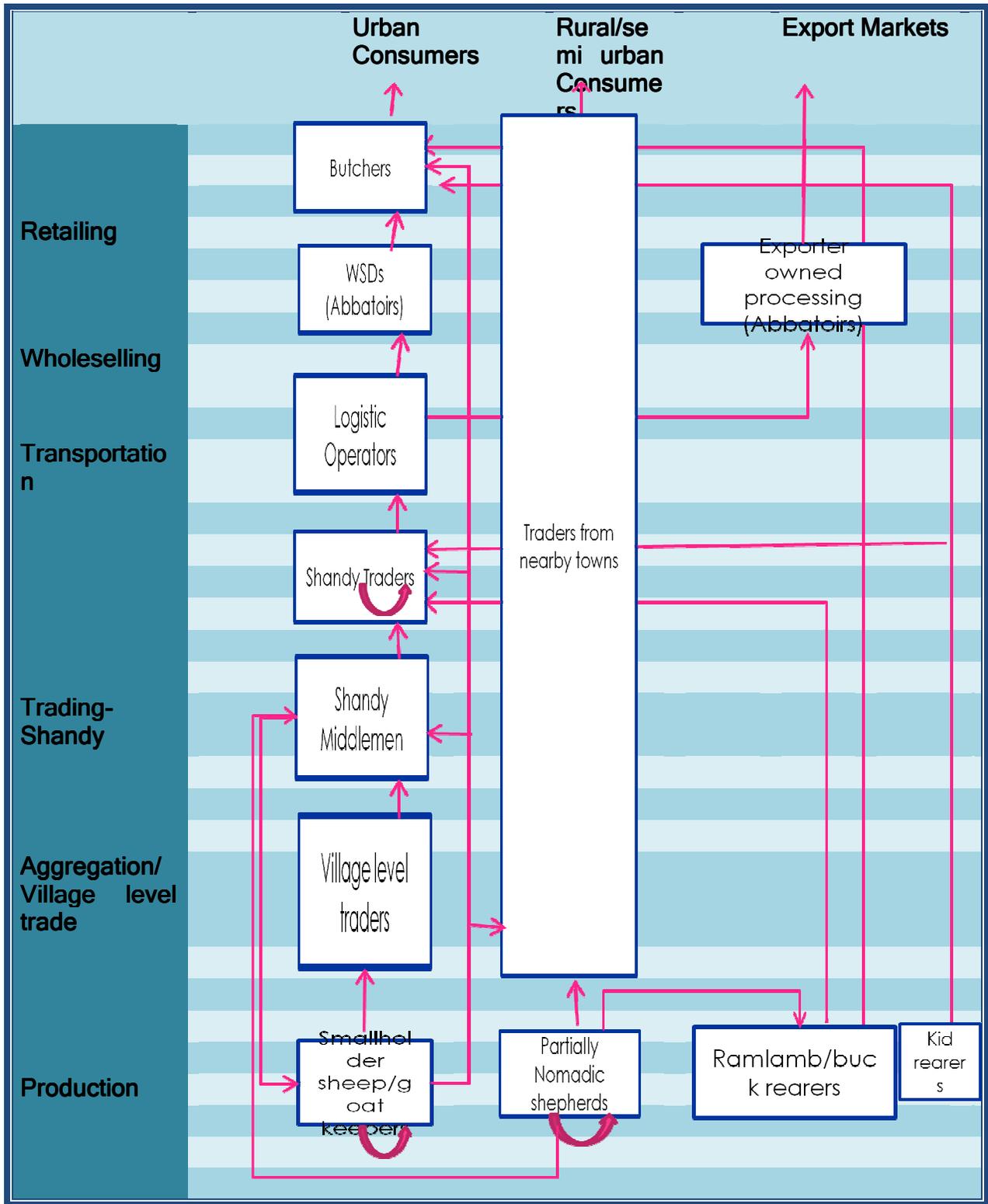
THE STRUCTURE:

The channel consist primarily 8 distinct actors. The producers are mainly shepherds, small farmers and landless agricultural laborers. It is estimated that there are approximately 152 villages (as per the counts by market players) around these 6 markets where small ruminant production is carried out in semi intensive¹² way. The estimations in table 3 is based on our observation during FGDs (in 12 villages at random) is that 55% of the families are engaged in this activity (in these villages where markets are well organized) in rain fed areas and about 40% in irrigated ones.

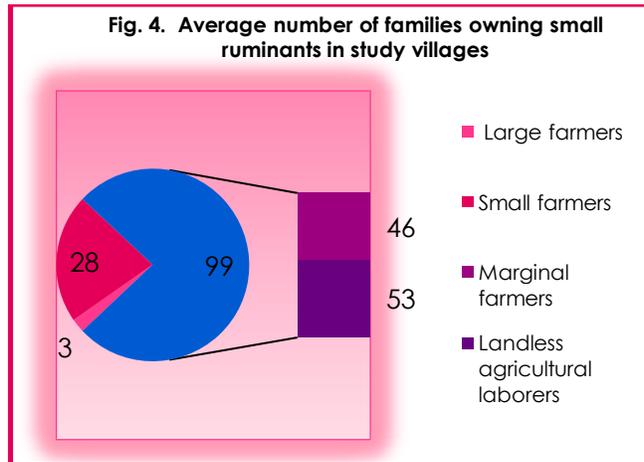
In all, there are approximately 25400 families engaged in rearing small ruminants in catchment villages around the chosen livestock markets. 36% of these owned sheep and goats, where as 64% owned only goats (as per FGD data). The average herd size for sheep varies according to rearing conditions, better herd size (40 per family) in rain fed areas and lesser in irrigated belts (25 per family). The number of goats per family is

¹² A system of rearing goats partly by stall feeding and part by taking them for grazing in CPRs and other open lands.

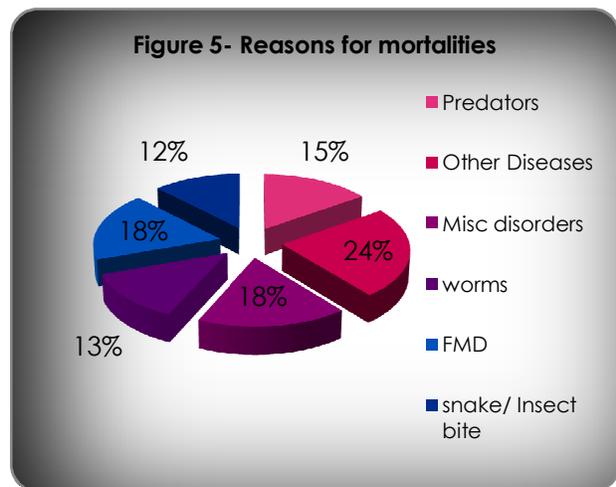
FIGURE 3: SUBSECTOR MAP SMALL RUMINANTS IN NORTH KARNATAKA



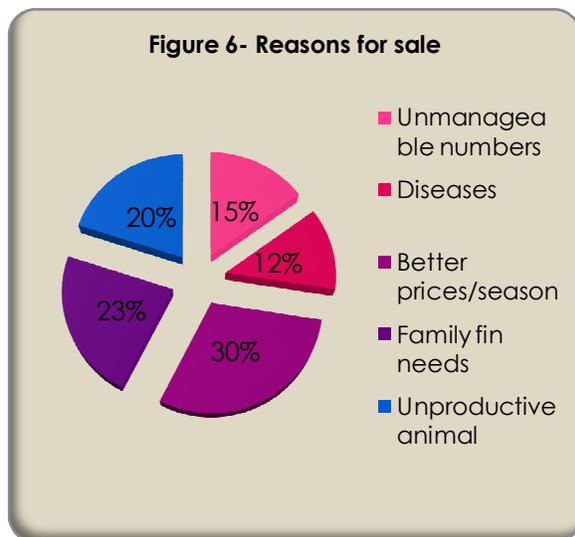
3-5 in dry regions and 2-4 in wet regions. These actors work on net returns varying between 40 to 55% of the sales value (considering the IRR values of a typical actor).



Sales between farmers do occur but mainly in breeder animal segments (about 15% of the sales). Producers felt that this happens mostly between families trusting each other as one prefers to keep good performing animals themselves except in financial crunch. Here the transaction is mediated through a village peer acting as facilitator to negotiate price. 10% of the stocks are retained by producers themselves as replacement stocks and own consumptions like festivities and jatras occasionally.



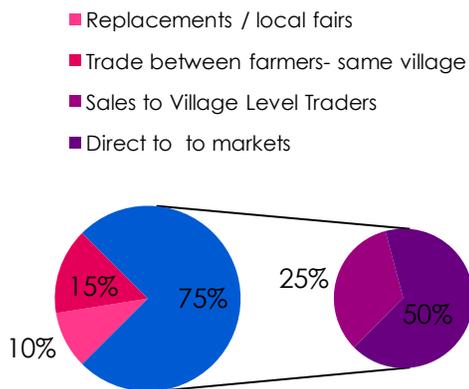
There are several factors that compel these producers to sell their stocks. Some of them on the basis of priority are market prices, family cash needs, age and sex of the animal (4 months old males fetch better demands), endemics in the area, disease problems with the animal, overcrowding beyond resources, etc.



Village level traders are the most important actors who frequent a group of 4-10 villages around market place to buy animals and aggregate them at his place for onward transport to markets. They are partially literate and sometimes illiterates but have expertise by practice. Investment does happen at this point. They generally know

sheep and goat herd keepers and their peer leaders in villages and through these they sense the availability of animals for sale. These are the people who generally keep moving to different market places in the region looking for price opportunities for the aggregated animals. There are approximately 35-50 such traders in any of the above livestock markets.

Fig.7. How the animals are disposed



The terms of trade are cash payments on the spot. In some cases, traders had paid advance money to producers in case of family emergencies as credit against supply of livestock. The average net earnings per animal for these actors is Rs 70-100 depending on the seasons, the highest during summer and festivities. The data collected by the team shows that these actors are able to trade only 25% of the animals brought to markets. These animals they aggregate are mostly from villages relatively deep interior to market places. Producers prefer to sell their spent animals through this channel as it is difficult for them to assess their market value. In general, 75% of the producers preferred taking their saleable stocks directly to markets.

Usually **shepherds** they keep moving with their flock almost 6-8 months in a year and most of the times they are hundreds of miles away from their home markets. In such cases, they keep selling their stocks to in the nearest markets. Traders and butchers from nearby town areas also keep frequenting such herdsmen, offering prices. However, the producers prefer to try their luck in the markets where more number of buyers competes. Apart from this, there is no specific reason for farmers' choosing a particular market except its convenience and the fact that it is known area.

The third in the channel is the **shandy agents or middlemen** who are large in number (about 40-60) and his role is only to facilitate sellers and buyers to arrive at price settlement for commission of Rs 50 per head. They are mainly concentrated in the rearing animal segment and keep moving to different markets in the region.

Next in the channel are the **shandy traders**, some of them buying animals on behalf of the main dealers from metros and cities, some buys on their own for onward selling to these dealers or any other buyer depending on the price advantages. Selling can also happen between these shandy traders. These participants do not end up with surplus margins every time. They do err in judging trends and buy at higher prices and end up eroding in to their capital. If the stocks remain unsold, then these traders move them to next nearby market by maintaining them in their places. They expect at least Rs 100-200 per animal sold in order to cover up their costs and earn reasonable profit of Rs 500-800 in each shandy. They are 10-15 in numbers in the markets. But what is intriguing is the holding cost and other overheads like transport expenses on these stock. The prices do not appear to vary widely between the markets in the region¹³. It is apparent that these participants are highly speculative and risk bearing in the entire channel.

The **logistic operators** act as important link between the absentee buyers from metros and cities. They operate transport vans exclusive for long distance transporting 500 small animals at a time. These players are reliable actors for 15-20 wholesale dealers outside. The operator from Chennai charges



¹³ Refer table number 5.

Rs 120 per animal to main dealer towards transport and facilitation charges. Similarly the one from Bangalore charges Rs 80 per animal. There are about 8-12 such large operators in these shandys.

Apart from these, there several **other small scale transporters** with carrying capacity of 50-100 animals, usually to nearby consumption places like district head quarters. They are 6-10 in numbers. Retailers from nearby towns also flock in to buy their requirements directly from farmers and traders. Usually they do not entertain middlemen.

Money is transported from metros to these livestock markets through this channel. Either the transport operator himself distributes money to sellers or pays as lump sum advance to shandy traders appointed by main dealers. Direct communication happens between main dealers in metros and shandy traders over mobile indenting for number and type of animals, money sent through transporter, approximate nigh price range are agreed upon couple of days before. These are never disclosed to anyone for obvious reasons. Accordingly the traders through their links downwards start buying the stock. Surprisingly what works in this channel is the trust. Each trader has specific markings on the animals in the form of hair cuts on different parts, number of such stripes, paint marks, etc which the transporter recognizes while delivering animals to the intended buyer.

The main dealers or the WSDs in metro takes these supplies to abattoirs for halal processing and distributes the dressed carcasses to retail butchers. Apart from this, they will invariably have their own outlet for whole sale supplies to institutional buyers on regular basis. A few of the retailers may also indent to transport operators, keep slaughtering the animals as and when needed, there by gaining advantages of price fluctuations and offal sales. However, there is an additional maintenance costs on such short cuts. WSDs operate on margin of 12-15% of the retail meat prices.

At retail level, it is the **butchers** operates on a margin of Rs 225-300 per carcass including sale revenue from offal as studied in Hubli market.

RESULTS OF THE STUDY: PRICING AND DYNAMICS OF THE MARKETS:

MARKETS AND MARKET SIZE:

The catchment villages around the markets in north Karnataka are located within 30 Kms radius and they are conducted briskly in the morning hours. Arrivals start the previous night till 9-10am the shandy day. The transactions are complete and the unsold ones move back by 2 pm in the afternoon. There afterwards the place looks abandoned.

Size of the markets under study is estimated by looking at the total number of inflows and net sales. Here we had to depend more on the information provided by the experienced traders rather than the one maintained at APMC office. For instance, numbers were estimated at Gokak and Basavan Bagewadi markets by visual methods and were cross tallied with the records maintained at APMC offices. The market inflow and sales were grossly under

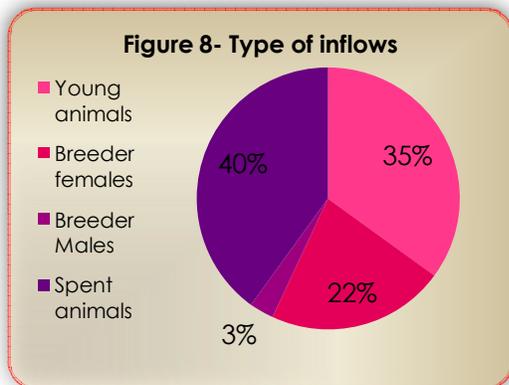
estimated by more than 50%. When asked, it was found that they take only on the basis of sales fees (@ just Rs one per animal) received from organized transporters before leaving the market premises and the number is recorded not on actual head count! Other sales go unaccounted as hardly anybody volunteers to pay the market fees. Even the sales prices mentioned are arbitrary. We were told that it is practically difficult to keep tab on inflows due to multiple entry gates and outflows as nearly 40%-50% of the animals may remain unsold (depending on the seasons) and the owners/sellers takes them back and are unwilling to pay market fees. This does not happen in case of large animals as the buyers would like to establish ownership on the animal by registering it in

Table 3: Categories of goats in different markets (As per group count)

Market	Breeder does	Spent Does	Kids	Breeding bucks	Total Goats
B. Bagewadi	504	840	630	126	2100
Amingad	432	720	540	108	1800
Kerur	240	400	300	60	1000
Mudhol	456	760	570	114	1900
Gokak	384	640	480	96	1600
Yaragatti	384	640	480	96	1600
Total	2400	4000	3000	600	10000

Table 4: Categories of sheep in different markets (As per group count)

Market	Adult females	Spent ewes	Lambs	Breeding Rams	Total
B. Bagewadi	660	1200	1050	90	3000
Amingad	550	1000	875	75	2500
Kerur	440	800	700	60	2000
Mudhol	506	920	805	69	2300
Gokak	572	1040	910	78	2600
Yaragatti	550	1000	875	75	2500
Total	3278	5960	5215	447	14900



market yard. Here, it is not the case since the animals purchased will be sent to slaughtering within few days and even the stake value in cases of rearing animals is very low.

However, this is an important issue in creating credible database to assess seasonal fluctuations, analyze price spreads and turnover from small ruminants, etc. We feel that the problem can be addressed by market yards by

regulating entry through single points, tying entry fee tags on the necks and if sold and loaded on to carriage, an additional tag can be stuck to it. The carriage vehicle brought by traders can be assigned a separate parking space just to distinguish them from the ones bringing animals from surrounding villages. This way the APMCs can improve their revenue, maintain credible database and assist policy makers in taking appropriate decisions.

The total inflow of goats in these markets under study is 10000 and sheep 14900 per week put together all 4 major sub products like young ones (35%), breeder females (22%), breeder males (3%) and spent animals (40%). Considering sales at 60% of the inflows and at conservative average market prices for all these sub categories, the total sales turnover works out at Rs 4.33 Crores per week or Rs 225.4 Crores per annum.

MARKET TRENDS DICTATING PRODUCTION PATTERNS- UNIQUE IN THE REGION:



As the demand for meat products is rising, there is proportionate rise in value of live animals. This coupled with diminishing returns from crops is prompting more number of new entrants take up the occupation. Earlier the shepherding was mainly done by Kuruba communities. Now the segment has gained entry of other communes like Valmiki, Chaluvadi and Madar with smaller herds (less than 50) that are generally localized. This phenomenon we have observed predominantly for sheep

in upland areas in proximity to markets. This is in contrast to the goats where we noticed financial bottom line as criteria across all castes. The herd size is also limited to 2 to 5, beyond which it is difficult to manage along with their mainstream occupation, mainly as

agricultural laborers. However, we have also encountered shepherds who are having both sheep and goats in their herds in varying proportions. Generally they feel they can easily accommodate goats up to 20% of the herd size, beyond which it would be difficult to manage them. This happens mainly due to the change in feeding habits and behavior of the species. 6 of the 10 FGDs have brought out these facts. An average 4 new entrepreneurs are rearing in each of these villages.



There is increased preference for young animals that give better meat products and tender meat for consumers. Market insiders like the Vice President of meat traders association recall that a decade ago, the average saleable age of these animals was 8 months. Now at least 20% of the inflow is from younger age group between 3-5 months in case of kids and 2-3 months in case of lambs. In his opinion, it is mainly due to consumer preferences for tender meat as the new meat eating segment from middle class families of traditionally vegetarian background prefers soft meat. Apart from this, every household is using LPG stoves and they are conscious of fuel expenses in cooking meat.

This market trend has actually prompted shepherds to adapt ram lamb fattening where they wean away lambs at the age of one month and start feeding it on high value feeds like oilcakes mixed with buffalo milk for another 30-45 days before offering for sale. This is the reason why nearly 35% of the stocks in the markets are of younger age group. The practice enables the ewes to resume estrus cycle and thereby reducing inter-lambing periods considerably. Almost two lambings can be obtained within a period of 14 months, which otherwise were to be once a year. Thus the yield in terms of number of lambs and price per lamb have gone up considerably.

The impact of this new trend is visible even in the rural areas of north Karnataka. Several of the women engaged in dairying have taken up ram lamb rearing as a profitable subsidiary livelihood. They purchase ram lambs at the age of 4 months from shepherds at Rs 2000 per lamb and rear them with the available resources like coarse grains and oil cakes, milk and green forages till they attain one year age. Although this is carried out throughout the year, producers maximize their profits by synchronizing their micro venture to coincide with major muslim festivals like Ramzan and Bakhrud when they get prices ranging between 7500 to 8500 per animal .

However, the data collected from southern region markets at Bangalore shows the trend otherwise. The slaughter houses run by BBMP (Bruhat Bangaluru Mahanagar Palike) do not slaughter younger animals below the age of maturity and this is as per the rules. The live animal markets within Bangalore city hardly had any young animals. However, the data gathered (figure 2) from North Karnataka markets indicate that substantial number of younger ones is moving to Metro cities including Bangalore. Traders corroborated that it is only from Northern region markets these young stocks flow in and are directly

slaughtered by retailers in the city at their premises. Dr.K.P Ramesh, Assistant Director (AH) supervising the slaughter house, opines that it is the steep rise in demand for meat that is prompting sale of younger ones. He also adds, this might have influenced production trends and shepherding objectives. He was not sure of the consumer preferring soft meat in general, as he deals only with adult animals in slaughterhouses. However, the data depicted in



table 3 and 4, the findings in FGDs and the observations in markets testifies the trend. It has been the result of market pulls as well the benefits it accrues to producers.

The increase in demands in cities¹⁴ and also the export potentials¹⁵ over the last 3 years has prompted many meat dealers to stretch-out to far off places, as long as 1200 Kms crossing across state boundaries. New market places have emerged (eg. Kolar and Babaleshwar in Bijapur, Belur in Bagalkot districts). This in a way has enabled better access to markets for producers from interior rainfed areas. This is also influencing policies at macro level. Setting up of Sheep and goat development board and an effort to introduce weighing platforms (as consequence of efforts from NGOs) in the markets in Karnataka is an example for realization of importance of small ruminant production and marketing systems in place.

As pointed out earlier, in order to meet the daily per capita availability of animal proteins at 20 grams per day from the current 10.8¹⁶, the projected growth rate of nearly 6% is to be ensured every year to meet the increasing demands for meat till the year 2020. This calls for organized interventions by the state to provide impetus to the sector. But there is other side of the coin that needs to be addressed through policy initiatives. The

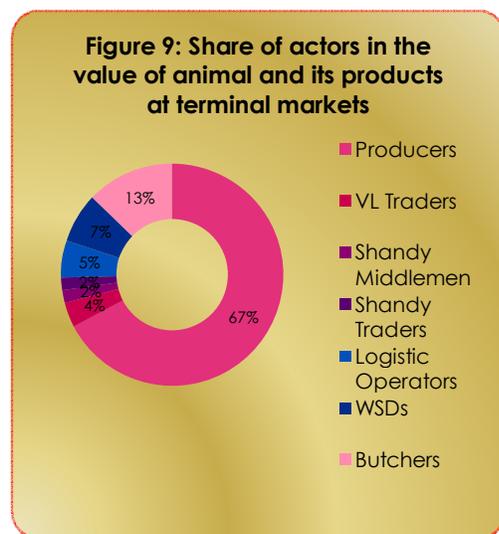
¹⁴ DNA (Daily News and Analysis, July 16th 2010) Bangalore-quoting Department of AH-Karnataka- says, " the consumption of mutton in the city has increased from about 10,050 tonnes in 2004-2005 to about 13,800 tonnes in 2008-2009 while that of beef has decreased from about 1,270 tonnes to about 925 tonnes."

¹⁵ Basic Animal Husbandry Statistics- GOI- 2010. There has been steep rise in export of sheep/goat meat by **29%** between 2008-2209 and 2009-2010.

¹⁶ Jha and Chand 1999

market is undergoing rapid structural changes that in itself pose threat to smallholder livestock production in terms of consumer demand for food safety, quality and consistency that needs to be addressed at micro level planning stage¹⁷. Thus the development imperative is to enable market access and necessary back ward linkages in terms of production logistics.

VALUE UP IN THE CHANNEL:



Study of the meat markets in Hubli (North Karnataka) and Bangalore were done to understand the opportunities existing in the terminal part of the value chain. As per the authorities at the slaughter house and the whole sellers, approximately 4000 animals (sheep and goats) are slaughtered every day in Bangalore alone. Of these, only about 1000 are slaughtered in the BBMP monitored facilities and the remaining in the premises of the retail butcher shops. Most of the inflow (about 85%) in Bangalore is contributed by sheep. The supplies are brought from nearby areas in Karnataka like Chitradurga, Tumkur, and even from Tamil Nadu and Andhra. Movement of animals between the markets by the traders is the

hallmark of their opportunistic behavior.

BBMP has a system of licensing these shops where meat inspectors visits randomly to certify the quality. Transporters cum whole sellers who buy animals from the study area and elsewhere perform two types of activities. One is the supply of live animals to retailers and the other to push the dressed carcasses in the channel. Two WSDs agreed to divulge trade information. It was found that they retain about Rs. 150-200 net per animal, including contribution from offal (Rs 350-400 from skin (Rs 50 more if it is from males), digestive tract, head, etc). They say it again depended on seasons and the live animal market trends. If the carcass is between 6-8 Kgs, he gains another Rs 50 more on the premise that it is softer one. There is hardly any difference between the price of mutton and chevon, its only the preference of the consumers that matters at the retail. These findings did not vary with Hubli market data considerably. In all the price spread was Rs 900 per lamb between producer and the realization at terminal markets. (or approximately 33%). That is, if the producer price was Rs 1850 for a lamb weighing 12-13 Kgs, then its total value at the retail end would be Rs 2750. At the level of butcher, he recovers this value by sale of mutton worth Rs2400 (8Kgs@Rs300) and the sale of offal Rs 350, some times this is at the WSD level.

¹⁷ John Mellor 2005

At the level of retailers, the sale price of the meat was between Rs 300-320 per kilo. Here the price varies with the type of consumers. Households whom we interacted preferred soft meat and were charged Rs 320 per kilo. Surprisingly the retailer mixed it with the spent animal meat pieced and heaped on the same platform without notice of the customers! The meat consumers are segmented and can be grouped based on income levels, end use and the religion. At the retail shop in Russol market where we went, sells between 50-150 Kilos meat (5-18 animals) depending on the season and we were told that an average retailer sells 50-60 Kilos a day, earning a net income of Rs 800 per day excluding all charges. This work out to Rs 120-150 per animal slaughtered. This is as against Rs 225-300 per animal in Hubli markets where average sales per day is considerably low- between 35-40 Kgs and the animals are generally brought to retails directly by butchers from nearby small rural shandies.

The hotel segment is catered both by WSDs and retailers. Spent animals' coarse meat is pushed at the lower price ends.

OPPORTUNISTIC BEHAVIOR OF PLAYERS IN THE VALUE CHAIN:

Negotiating and coaxing for better prices in an art that the traders and agents have mastered as professionals. Producers sometimes tend to be gullible losing right prices they are entitled to. Generally the producers seem to be making enough by enquiring about recent price trends with the local agents or shepherds, and their intuitive predictions assigning expected price tag to their stock. A few of them also make sure to take a person reasonably proficient with livestock trade along with them to markets.

As in any other commodity markets, the livestock markets also have tendency for collusions between actors, mainly the shandy traders during adverse environmental phenomena. This generally happens whenever there is distress sale by producers triggered by various factors. Some of these factors, the farmers recollect are:

1. Endemics like severe diarrhea due to parasitic infestation, unknown paralytic ailments within the herds, etc
2. Epidemics like Pox, F and MD, etc
3. Incessant rains and no fodder resources to graze
4. Natural calamities like floods affecting the flocks.

When the study team visited Yaragatti on 21st January 2011, there was endemic sheep pox prevailing for the past one week. The traders got news and anticipated arrival of more morbid stock in the markets. The result was sudden decline in the prices by an average Rs 600 per animal and we were told that major share of this localized trend belonged to shandy traders and logistic operators from Goa.

THE PRICING MECHANISM:

The study reveals that pricing livestock is a complex and contentious issue. It is based on age, sex, weight, body conformities as well as the region where the markets are located. The regional differences in preferences for goat and sheep meat also have bearing on the prices of small ruminants. Each player in the sector seems to use their own method to judge the animal, making the process difficult to understand. However, generally the producers and the channel actors determine the price by inspecting the animal also called the *Nigah method*. Nigah includes keen inspection of the body size, age, sex, vigor, etc of the animal based on which the sale price is fixed. This is correlated to the existing prices in the markets for similar group of animals. Market information keeps flowing through word of mouth; frequent visits by village level traders trying to coax producers sell their stocks, shepherds visiting market places, etc. If producers are unaware of market prices, then they show it to local experts keeping track of livestock trade.

The prices across the markets under study have been compared. It is noticed that those markets flooded by buyers from metros have upward valuation to the extent of Rs 150-200 per animal when compared to the other markets. Prices, as discussed earlier, vary according to season and end price for meat at retails.

The study team has tried to compare the scientific method of determining prices through body weight. This method presumes that weight is the prime variable, where as nigah method takes in to account several other variables like age, sex, etc which matters to consumer preferences. This was done by weighing 5 sold stock randomly. Considering

Markets	Gokak**		Kerur**		Yargatti**		B.Bagewadi*		Aminagadh**		Mudhol*	
	Sheep	Goat	Sheep	Goat	Sheep	Goat	Sheep	Goat	Sheep	Goat	Sheep	Goat
Young animals (12-15 Kgs, 4-5 Months age)	2100	1900	2000	1800	2200	2000	2200	1850	2100	2000	2100	1900
Breeder females (4 Teeth, 25-30Kgs)	4800	5000	4600	4750	4700	5000	4800	5100	5000	5200	5000	5200
Breeder Males (35-40Kgs)	9000	8500	9000	8000	8700	8300	8500	9000	8500	8000	8500	9000
Spent animals (28-30kgs)	3100	3200	3100	3000	3200	3100	3200	3200	3200	3000	3100	3300

* According to data maintained by APMCs, average for the month of Jan 2011, ** As per the observation made by team

55% dressing percentage, sale value of offal and costs incurred by forward channel, the expected price per kilo of live weight for young ones was in the range of RS. 140-150. The prices fixed as per nighah fell short by Rs 8-10 per kilo making a difference of Rs 140-180 per animal. This difference went as high as Rs 600 per animal in case of spent animals and the explanation could be due to other variables. This is the area where retailers try to increase their margins by mixing various category meats. Thus, the nighah method is more or less the judgment of the meat yield as against the live weight basis.

WHO CONTROLS THE PRICES?

It is apparent that markets are on many sellers to many buyers, if the animals are considered homogenous commodity, then we can say the markets close to perfect ones just like vegetables. If we consider the commodity (Live animals) as heterogeneous due to their age, body weight, species, sex, etc and the the varying preferences of consumers, then we can term it monopolistic competitive. We have also observed¹⁸ that it is the demand and supply mechanism that determines prices of meat in the end user markets and unlike food grains it does not vary on daily basis. However, these variations in meat prices do not get reflected in live animal markets. It is evident from the fact that the increase in mutton prices by Rs 40 per Kilo during last 6 months is not being reflected on the sales prices of animals during the same period. These marginal increases get distributed within the channel for considerable duration. The wholesalers indicate the preferential price bands and the type of animals to their shandy middlemen the previous day of the markets over phones. Most of the time it is the quantum of arrivals of animals and the number of metro buyers in the local markets that determine the price trends but invariably keeps hovering around the preferred price band. The shepherds who frequent markets recall that these fluctuations are to the extent of (+/-) Rs 150-250 per animal (or say Rs 10 to 15 per Kilo of live animals).

Thus, unlike the poultry counterpart, the real time variations in mutton prices are hardly realized in the live animal markets. But in the long term, upward trends influence the forward shifts¹⁹ as the supplies are not unlimited.

¹⁸ Discussion with wholesalers and retailers in Bangalore and Hubli meat markets, state sheep board officials- all of them opined that it varies according to seasonal demands (due to festivities, inflow of animals, etc) and the type of market segments.

¹⁹ Insiders experience when asked about the trends for meat price vis a vis live animals over the last 5 years.

On the contrary, the prices of animals for rearing/breeding is directly influenced by these trends and takes on depending on age, breed characters, pregnancy and nutritional status, the number of buyers, etc.

THE STATE INITIATIVES- SHEEP AND WOOL DEVELOPMENT BOARD IN KARNATAKA

Sheep Board is set up in Karnataka to foster the interest of sheep and goat producers, mainly the profitability through institutional mechanism. The stated aims are:

1. Breed development
2. Imparting training in scientific management of sheep
3. Health care of sheep
4. Establishment of sheep and wool producers cooperatives
5. Loan schemes for development of sheep rearing
6. Insuring shepherds and sheep
7. Collection, processing and marketing of wool
8. Providing marketing facilities for marketing sheep and sheep products
9. Training shepherds in fodder development
10. Promote Mechanized shearing

To realize these objectives, the board is implementing several related schemes sponsored from GOK. The implementation of GOI sponsored schemes like “central bhed palak bima yojana”, integrated wool development scheme, setting up of small scale wool processing facilities and research in value addition and development of Deccani wool also vests with the board.

Mode of operation is through organized sheep and goat producers’ cooperatives for provision of inputs and market support. For initiatives in improvising markets, the GOK has issued policy guidelines²⁰ during Dec 2009 to implement sale of small ruminants on live weight basis. The circular elaborates the process to weigh each animal entering the market premises, print the weight on label that should be then tied to the neck of the animal. The APMC can levy the charges from farmers for such service as it is the premarket service they are availing. Accordingly the concerned APMCs have purchased weighing scales for major market yards on pilot basis. The Sheep Board also has initiated action to supply 70 weighing scales to it’s’ cooperatives with the intension to assist the farmers in

²⁰ Circular No. ಕೃಷಿ/479/ನಿಯವಿ/2009-10 Dated 7th Dec 2009 from Director -Department of Agricultural Marketing

estimating the price of their stock before taking them to markets. However, nothing is practiced in the field.

But the real issue here is practical difficulties with present set ups at market yards. Most of them do not have enclosures/protective compound walls, even if it is there, multiple entry points prevail without gates, sale of animals outside the market yards before they reach it, sudden influx of animals in the wee hours, short duration of the markets, etc. The initiatives from sheep board are also a step forward, the issue here is the place where the cooperatives should install weigh scales. Is it in villages? Then the shepherds will have to get in to villages from far off places as the flocks are not stationary just to weigh their stock, may not be feasible. In both the cases, the equipments are yet to be installed.

Once the weight is known, then there has to be guidelines on live weight prices. The GOK also has formed a high powered committee to determine prices based on live weight basis. But so far no guidelines are available and the whole process is still in incubation as the pricing is complex issue.

The Board is also contemplating²¹ to intervene in marketing along 3 lines.

1. Aggregation through cooperatives and sale to butchers locally based on body weight
2. Through weigh scales at APMC, sharing of market cess with board, operating on MSP (minimum support price), etc
3. Direct aggregation/purchase of animals by the Board and sale in bulk.

Apart from this, the Board has several schemes to promote genetic up gradation of stock, encourage stall fed commercial farms, health coverage programs in select areas, etc.

We noticed that the role of the board is still obscure among the communities in rural areas except for a couple of elite politicians from their communities. They were not sure whether various facilities existed for improvement of their livelihoods. The conventional scientific development approaches of the board do not seem to have grounded well on the traditional wisdom associated with shepherding.

²¹ As per discussions with the Managing Director of the Sheep and Wool Development Board-Karnataka

MARKET FOR DESI / BACKYARD POULTRY- PROMISING FUTURE:

Another important growing sector within lean meat segment is the local poultry that is reared as backyard venture by marginal farmers and agricultural laborers in rural areas. The demand for this “*Naati* Chicken” is far exceeding the production. It is interesting to note that the price per kilo of this meat is Rs 300 to 350 in the areas surveyed. Mostly consumed in households on special occasions, there are restaurants specialized in dishes prepared from this meat.



The channels are bit hazy and not organized. According to insiders in the trade (4 interviewed), roughly around 30% of the producers sell local poultry directly in rural *haats/shandy*. Rest is utilized within the production areas. There are occasions like festivities and religious compulsions when consumers approach producers directly. Significant proportion is also consumed by producers for their own family needs especially when there are guests in the house.

The prices depend on the live weight, season and sex of the bird. More or less it is the nigh method that considers the look of the bird also. Weight is judged mainly by lifting the bird in hand. The Males during festival seasons are sold as high as Rs 500 per bird against the normal average price band of Rs 250-350. There was difference of Rs 50 between male and female birds

Traders operating in urban areas generally aggregate birds (herds of 20-50 birds) from haats for onward sale. The sales are done on shandy days. The average gross margin per bird is Rs 20-30.

RESULTS OF THE STUDY: POSSIBLE INTERVENTION AREAS:

i) Issues at the production level / Impacting productivity:

Issues are different based on the agricultural production trends. Due to diminishing grazing fields, and better income from working on commercial crops, a decrease in shepherding is observed and is corroborated during meeting with communities. This is mostly seen in irrigated belts like Belgaum area where the population of sheep has reduced by 30%. In spite of this, however, it was noticed that there are ample opportunities at small ruminant producer level to enhance their returns. Primary constraints that impact their profitability are:

1. High mortalities (21%)²² on account of diseases, predators, snake bites, etc. Diseases and predators were ranked highest perceived risks. Distresses due to diseases that are endemic, is a primary factor that calls for serious review of vigilance mechanisms against recurrences. In addition to this the subsector is facing high risks due to poor quality inputs like preventive vaccinations and post morbidity care. Result is appearing disastrous with shepherds themselves injecting spurious antibiotics and growth promoters spending heavily. This cost apart, would be causing environmental damages with possibilities of increase in drug resistant bacteria in the ambience.
2. Improper feeding practices for kids and adult animals in general. While professional shepherds practice lamb fattening practices, the same is not commonly observed with goat producers.
3. High incidence of internal parasites affecting weight gain
4. Genetic makeup of the native breeds. Though the issue is debatable, one cannot afford to negate the circumstances and the contexts under which the production system operates. Osmanabadi goat breed in this area is considered best among meat type breeds due to its' higher twinning percentage (80-85%) and several occasions we have observed triplet also. However, the milk production ability of doe is limited. As a result we feel that the offspring fail to pick up desired saleable weight. Cross breeding as instant solution may not work on the ground. Among various reasons, it may call for input intensive production system making communities dependent externally. There are animals within the breed that yield better milk and prolific breeding history. Hence the idea of advocating selective breeding²³ within the area for higher productivity needs to be explored. One should explore new avenues that are affordable and are coherent with rearing practices at community level to achieve end goal. The better example here is the

²² Ref figure 5- based on the data gathered from household surveys

²³ Selective breeding is the process of breeding animals for particular genetic traits. The principal objective of selective breeding is to maximize the pairing of good genes. Various forms like inbreeding, line breeding and out crossing are the options

new practice of lamb weaning for fattening as response to market demand. In case of Deccani / Yelaga sheep, twinning is very low (10-15%)²⁴. Even then the advocated cross breeding is never accepted as solution by the shepherds. Their preferences and priorities are based on the field resources, culture and practices.

As already observed, the efforts of state to tackle these issues do not seem to have made much impact in the subsector. Geographical clustering of activities in an integrated way can have profound impact. An effort was made to assess the possible impact of an intervention plan to manage these factors under field conditions. Illustration using pragmatic performance outcomes on these factors and the estimates for one village are given below.

Table: 6. Additional Value Created annually by comprehensive action plans involving disease surveillance and control, de-worming, concentrate feeding of kids, etc in one village with 130 families engaged in small ruminant production- 600 animals

Outcome	Value (Rs)
Decrease in mortality by 25% (31 additional kids that enter markets)	63000
Enhanced weight gain and the price (average outflow of 10% per month)@Rs 60 per animal sold-increase of 500gram per kid/lamb sold	43200
Enhanced price realization @Rs 80 per animal due to weighing animals prior to sale- considering 10% (60 animals) outflows per month	57600
Total additional benefit for the village	163800
Average additional value per family	1260
For a cluster of say 100 villages around the markets studied	163.8 Lakhs

It is also estimated that the cost of such interventions would be around Rs 80 Lakhs per year, with cost benefit ratio of 1: 2. Hence good leveraging opportunities exist at production level to impact on returns to producers.

²⁴ As it came out during Focus Group Discussions and interactions with shepherds in markets. They claim the rate was still lower (less than 5%) 8-10 years back and the increased usage of medicines- de-wormers and tonics have contributed for the trend.

ii. Focusing on explicitly differentiated products and market niches:

As pointed out earlier, the markets are operating on a state of monopolistic competition where there are a large number of sellers producing a similar but differentiated product - small ruminants for meat purposes but differentiated in terms of age of the animal, weight, vigor, sex, end usage, etc. These are differentiated features in the minds of the traders who have assessed consumer preferences, but still camouflage it by mixing with cheaper portions to maximize trade gains. These features contribute for texture, cooking qualities and taste of the meat cuisines in consumer plates. The live animal prices are negotiated by producers based on these differentiations as competitive advantages. The reason it is termed a monopolistic competition is because due to imperfections in the market, each producer has a small degree of monopoly power. If for example Yealaga lambs are preferred by the buyers that these yield meat better than those of other breeds and or other criteria, then producers have created small monopoly for their own product. This we have observed as the shandy traders fall behind such producers/aggregators before they actually enter the market yards.

The nighah method of pricing by buyers subtly embeds the differentiation features of individual animals. Unlike other consumer products, these differentiated features are hardly exploited in favor of producers. These kinds of issues requires professionally planned interventions in organizing producers around product features preferred by end consumers, training producers and adopting appropriate animal husbandry techniques to foster these features, etc. We envision a situation where a buyer gets into a market yard and asks by particular type-may be classified and branded based on the breed, age, rearing methods, etc- then the producers have succeeded in their efforts and be able to reap the award for their monopoly. When we went to terminal markets at Hubli and Bangalore, consumers were found making choices between the carcasses. Thus the consumers can be segmented and the differential pricing for product categories can be reflected back in the live animal markets/production areas. This obviously makes pricing more transparent, competitive and encourages adaption of improved production systems in rural areas.

The study does not notice the trends of exploitative abnormalities in price spread between producers and consumers in the regional markets. These anomalies are more evident with distant metros for obvious reasons like increased channel size, distance, prevalence of elite consumer segments, cost of retailing, etc²⁵.

The issue here is the transparency in pricing. There can be methods to determine prices with multiple variables as it is done in other food grains by grading methodology. Weighing still remains a prime mover for pricing.

²⁵ Refer Figure 9.

Given the size and nature of subsector, interventions along identified leverage points /nodes across the channel can yield better payoffs are discussed below:

1. **Formation of producer collectives** at village level for promoting micro entrepreneurial activities:
 - a. This facilitates implementation of relevant productivity enhancement programs at producers' level
 - b. These collectives can play a vital role in market reforms in small ruminant sector. One can ensure transparency in determining price by weighing and grading live animals at the level of producers' collectives instead of introducing it at market level where the methods might complicate the present systems as discussed. Weighing animals at the village level by providing facilities and information on price per unit of live weight can give better returns to producers as it gives opportunity to a maintain cutoff price at the markets - which is needed. These systems can be introduced initially in select clusters around low profile markets (where bulk buyers are not participating and only shandy traders try to depress the value of animals). By this, the producers have options to take them to nearby developed markets and get better paid.

There are a few initiatives by NGOs in North Karnataka area where NABARD sponsored projects to revitalize goat rearing economies is being implemented. For instance, POWER NGO has installed such a system in place in Bijapur district. However, there is still a long way for the system to crystallize so that it can be replicated elsewhere. A concerted effort to make this a workable model is suggested.

- c. These collectives enables better bargain power due to volume/scale they offer to buyers
- d. Sense of unity and focus of activities, forum for exchange of better practices and idea, building up managerial capabilities of groups are the softer returns to communities

iii) Reorganizing/clustering smaller markets can result in better prices:

There are many smaller markets in the area at the level of village clusters, usually held weekly on shandy days that fall on different days, need not be in a row. Village level aggregators and farmers keep frequenting between smaller markets with their stock for price opportunities. It is observed that if they do not see any improvement in prices, they invariably take stocks to major markets where metro buyers participate. It is suggested that Clustering and synchronization of the smaller markets must be done in succession on week days in a region. This is to enable operational feasibility for metro operators and other buyers resulting in improvement in the base price of the animals on par with the

developed markets. This will also reduce the marketing costs considerably due to reduction in holding time and distances between these markets. This measure also has potential to accrue substantial value within the lower end of the chain. Based on data collected on transactions an estimated Rs 14.04 lakhs or additional 6-8% of the turnover between 3 markets per annum is seen.

iv) Installing an effective institutional regulatory mechanism

Lack of institutional /state support in regulating markets is an issue that is haunting producers as they are expressing deficiencies in governance of the markets. Unlike in food grains, there are no regulatory mechanisms to ensure straight jacket transfer of prices to producers depending on end user prices. This has been achieved in poultry meat, but yet to get translated to small ruminants on organized scale.

Thus, there should be mechanism that monitors prices based on end user prices, ensure information flow through state owned institutions as in food grain prices, and regulating prices to producers in market yards. A new initiative by the Government of Karnataka in this regard is yet to see the light and practicability. As discussed in sheep board section, the Government is also examining feasibility of facilitating the flow of information on price of meat, and thereby indicating sale price of live weight of animals is on priority. A high level committee is constituted to look in to the matter and come out with realistic model.



V). Value addition of coarse wool as an effective tool to enhance livelihoods of artisans

Diminishing prices for carpet type wool, increasing shearing costs and better returns from focused rearing of meat type animals is prompting a rapid shift in breeds from the local Deccani sheep to the kenguri/Yelaga breed. This trend is seen from the past 10 years. This shift is definitely not favorable to the livelihoods of the artisans. Now the relative advantage to producers in terms of financial benefits and the ecosystem as whole are debated.

Lack of avenues and market support for value added products from wool is another factor that is responsible for the trend and the carpet weavers are abandoning the profession. This is an important area where in the study tried to undertake flash analysis of the markets for coarse wool. The traders for wool were mainly engaged around the small animal markets in Yaragatti and Gokak of Belgaum district where Deccani herds are maintained. Traders, only two in

numbers at Yaragatti and the same persons in Gokak recall the trade has lost the charm. The prices are standstill at Rs 6 per kilo due to constant decline in demand. Right now, the main markets for this carpet wool are far flung in Rajasthan and the commodity aggregated here is shifted to these markets through a main dealer based in Nasik.

Local value addition is limited to few traditional weavers in this block. A couple of them still exist mainly due to active weavers' institutions. We happened to visit such collective weaving in Benakatti, a village near Yaragatti where carpet weavers work on job work basis for the shepherd cooperative.

An organized and much promising intervention is happening in the area by a collective called "Shramik Kala" near Bailhongal of Belgaum district. The wool based aesthetic products produced by this collective are linked to export markets through "Mitan", a company dedicated to marketing such handicrafts. These are a ray of hope for revival of dual purpose sheep breeds like Deccani and for promoting mix of livelihoods around small ruminants. But again, the main challenge here is to revive Deccani breed with new traits so that both meat and wool are comparable to Yelaga. Selective breeding can be an effective way acceptable to shepherds.

CONCLUSION:

- Although the markets are complex, opportunistic and operate on variable margins, traditionally, principal players in small ruminant marketing channels were producers themselves. They carved out a portion of the trade through shrewdness and determination to adapt to the new market trends. However, there is still a substantial gap in terms of transparency in pricing, and other factors detailed above for streamlining the flow of commodity and thereby enhancing margins to producers.
- Markets are better organized realizing increased value to producers where multi state traders operate. It is important to improve inflows in other smaller markets to attract these operators. These target markets can be clustered over the timeline to ease aggregation by these operators.
- Price realization at producers' level is only partially dependent on end user prices for meat. The flow of information across the channel and the opportunism of the channel actors are the reasons for this. However, much needs to be done on policy front.

- Even though the consumption is fast surpassing availability of adult animals, it is also the demands for tenderness in meat that is dictating inflow of young animals in these markets. It can be cross verified by the fact that this sells at higher prices in the retail. But here the issue is, it is benefitting producers also. Such kind of niches has opened up avenues for livelihood interventions.
- Reducing risks, production costs are the major priorities for producers. The distresses generally occur during rainy days when small ruminants cannot graze on open lands. The exposure to worm loads during these days and the lack of alternate nutritional supplements results in stress making stock vulnerable to many infectious diseases. Shepherds who are partly nomadic are more vulnerable to this vagary. They tend to thin down the stocks by removing the weaker and suffering ones resulting in distressed sales in markets where prices start crumbling down. The state intervention in animal health services must focus on these issues. It appears the services are heavily lopsided in favor of large animals. Added to this, increased and irrational uses of higher antibiotics / multivitamin supplements by shepherds themselves are straining their pockets substantially. These practices are potentially hazardous to consumer health and the environment at large. This has been clearly the issue raised in FGDs.
- Policy initiatives are already on the cards to adapt weighing scales in the APMC market yards. This has potential to ensure transparency and may, to some extent, inculcate confidence among producers. However, the practicability and price advantages are debatable.
- Organizing producers for collective marketing and organized flow of improved production inputs can ensure better returns to producers by increased productivity in terms of reduced risks, enhanced weight gain of lambs/kids and improving quality of meat.