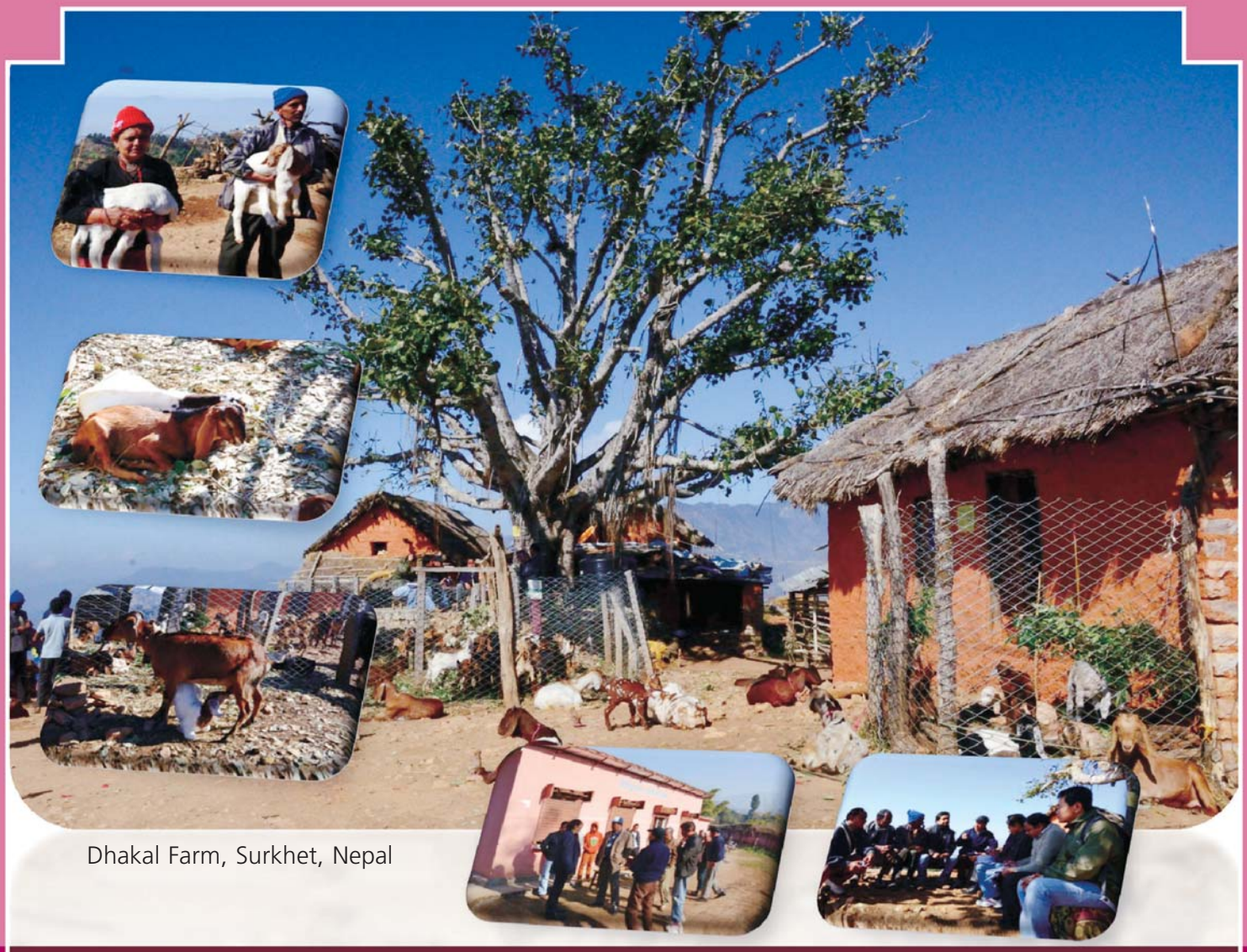
APRACA FinServAccess Programme

Mainstreaming Small Ruminant Value Chain Finance in Nepal and India Stakeholders

(Replication and Pilot Testing of Small Ruminant Value Chain Financing)



Dhakal Farm, Surkhet, Nepal

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Preface

Agriculture is any part of the world is still considered the prime mover of local development. It provides an avenue for collaborative effort among actors wanting to have an increase in production and profit through appropriate activities. Not to mention, majority of the agricultural stakeholders desire to improve the living condition and well-being of rural people and communities.

In so doing, it is very important to consider technical assistance and financial support in enhancing agricultural development. These are provided by government and non-government organizations including private sector to address effective agricultural operation coupled by financial support necessary in making farmers and entrepreneurs productive and profitable.

Over the past decades, studies show that the production of small ruminants particularly goat and sheep were given importance in livestock development especially in South Asia. These studies highlighted the inclusion of effective production management system for sustainable livestock development.

It is in this important aspect that financial institutions started incorporating the provision of value chain financing schemes for livestocks.

With the advent in improving operation through livestock value chain, financial institutions are constantly in search of best practices that ensure appropriate products and services easily accessible and beneficial to their clientele.

In Nepal, the need to address the requirements of livestock value chain is an important concern of such financial institutions. This was revealed during the Nepal Policy Dialogue last September 2013 where efforts are slowly developed and provided.

Based on this, it is very fitting to assess and test some agricultural value chain finance best practices from other countries and evaluate them in terms of their acceptability, utility, applicability and adaptability. In so doing, the Agricultural Development Bank Limited (ADBL) together with the IFAD support project – High Value Agricultural Project in Surkhet, Nepal agreed to test the Small Ruminant Value Chain Finance through experiences from India.

The integrated report consists of the two Phases of the activity, namely: Phase I – Nepal Small Ruminant Assessment including financial capacities of stakeholders and best practices to be replicated in strengthening the capacity on improving the access by clientele and Phase II – Exposure Study Visit of Nepal stakeholders to India to understand the dynamics of small ruminant value chain system necessary to encourage massive participation and empowerment of key players and stakeholders of Nepal's small ruminant production, processing and marketing activities.

Furthermore, the report provides description the processes, lessons learned, issues and concerns encountered by individuals and development institutions required for acceptability, utility, applicability and adaptability of small ruminant value chain financing. Also, this will serve as learning material for those individuals willing to finance small ruminant producers, traders and entrepreneurs particulalrly in rural villages and marginalized areas

Acknowledgements

The completion of this very important activity for Nepal stakeholders particularly those providing the technical and financial facilitation and engaging themselves to support the enhancement and development of the small ruminant production would not have been possible without the support and assistance from all of them.

We would like to extend our gratitude and appreciation to the following individuals and organizations in extending assistance to the study team especially during the conduct of the commodity assessment, focus group discussions, key informant interviews and field visitations:

- Agricultural Development Bank Limited (ADBL) headed by Mr. Tej Bahadur Budathoki, Chief Executive Officer, Mr. Ghuran Thakur, focal person of Nepal FinServAccess Project, and other officials of the ADBL Regional Office in Nepaljanj and Surkhet Branch
- Mr. Rajendra Bhari – Project Manager, of the IFAD-High Value Agriculture Project in Surkhet, Nepal and his team
- Mr. Kishor Kayastha – Regional Director, Regional Directorate of Livestock in Surkhet, Nepal and his team
- Dr. Avinash Deo, Mr. R.S. Sharma and other team members of BAIF Development Research foundation for contributing to understand the role of the NGOs in capacity building and mobilization of the goat rearing community.
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- The farmer-participants, goat raisers, entrepreneurs, traders and processors for sharing their valuable time and resources including the provision of useful information, sharing facts and figures and ideas and insights for a sustainable small ruminant development and financial structuring.

We appreciate your participation and involvement including your valuable time in making this activity a success. We would like to share the results of this undertaking to strengthen further knowledge exchange and dissemination to all interested stakeholders.

Acronyms

ADBL	Agricultural Development Bank Limited
AEC	Agro Enterprises Centre
AGDP	Agricultural Gross Domestic Product
AI	Artificial Insemination
ANSAB	Asia Network for Sustainable Agriculture and Bio-resources
APP	Agriculture Perspective Plan
APRACA	Asia-Pacific Rural and Agricultural Credit Association
CBO	Community Based Organization
CLF	Cluster Livestock Facilitators
CLDP	Community Livestock Development Project
CMF	Centre for Microfinance
DADO	District Agricultural Development Office
DCCI	District Chambers of Commerce and Industries
DDC	District Development Council
DLSO	District Livestock Service Office
FAO	Food and Agriculture Organization of the United Nations
FNCCI	Federation of Nepalese Chamber of Commerce and Industry
GDP	Gross Domestic Product
GoI	Government of India
GoR	Government of Rajasthan
GOs	Government Organizations
HVAP	High Value Agriculture Project in Hill and Mountain Areas
IFAD	International Fund for Agriculture Development
ILRI	International Livestock Research Institute
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Programme
MoAC	Ministry of Agriculture and Cooperatives
MPoWeR	Mitigating Poverty in Western Rajasthan
NARC	Nepal Agriculture Research Council
NEAT	Nepal Economic Agriculture and Trade
NGOs	Non-Governmental Organizations
NPA	Non Performing Assets
NRLM	National Rural Livelihood Mission, India
NRs	Nepalese Rupee
SDP	State Domestic Product
SHGs	Self-Help Groups
SRVCF	Small Ruminant Value Chain Finance
TLDP	Third Livestock Development Project
VAHW	Village Animal Health Worker
VDC	Village Development Committee

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Phase I

Assessment of Nepal Rural Condition in relation to Small Ruminant Production and Marketing

1. Introduction

1.1 Background

Asia-Pacific region is heavily banking on agricultural development and it is the prime movers of the economy and local development of many countries in the region. It provides an avenue for collaborative effort among actors in the sector to optimize their returns through adopting appropriate activities. Needless to mention, majority of the agricultural stakeholders desire to improve the living condition and well-being of rural people and communities. In so doing, it is very important to consider technical assistance and financial support in enhancing capacity of the actors to develop business acumen for incremental income and overall development of the sector. In general, government policies and development agenda of the countries address the needs of the players who are active in agricultural development and management. The private sector and the non-government agencies could also play an important role in this direction which has been proved in many parts of the world.

1.2 Rationale

Over the past decade, studies show that the production of small ruminants particularly goat and sheep were given importance in agricultural development especially in the low income countries of South Asia. Noting the relevance of small ruminants in livelihood enhancement in many countries, the overall management and production system along with value chain development emerged as one of the important development agenda. Provision of value chain financing to the actors in this subsector by the financial institutions in developing countries became an area of interest in the international communities.

With the advent of improving system of operation through livestock value chain, financial institutions are constantly in search of best practices that would ensure that appropriate financial services are provided and access to them are beneficial to clientele. In Nepal, the need to address the requirements of agricultural value chain is an important concern now especially for the financial institution. This was revealed during the Nepal Policy Dialogue September 2013 where efforts are directed to address it.

Based on this, it is very fitting to assess and test some agricultural value chain finance best practices from other countries and evaluate them in terms of their acceptability, utility, applicability and adaptability. In so doing, the Agricultural Development Bank Limited (ADBL) in Nepal agreed to test the Small Ruminant Value Chain Finance done by India.

The best practice will be replicated as part of a financial strategy of ADBL in strengthening the capacity of its staff as well as improving the access of its clientele through joint implementation. The replicated best practice will encourage massive participation and empowerment of key players and stakeholders of Nepal's livestock production, processing and marketing activities.

1.3 Objectives

Small ruminant value chains (with special reference to goat) are complex and comprise many different sets of people and organizations with diverse interests and incentives. The replication and pilot testing of SRVCF will develop and test organizational and technical models for value chain finance using multi-stakeholder mechanisms and processes which will lead to improved performance of the value chain and the resulting benefits to the actors. This study will also open the potential for developing tailor made financial products and services to cater the actors in the chain.

The overall objective of this pilot testing study was to provide the current status of the SRVCF and the role of the actors in the value chain. The followings specific objectives were considered in the current pilot testing study conducted by APRACA.

- To assess the small ruminant value chain finance (SRVCF) practice for increased production and profit of key players and stakeholders
- To determine influencing factors of SRVCF based on acceptability, utility, applicability and adaptability
- To document processes, lessons learned, and issues and concerns necessary in improving the implementation of the SRVCF practice
- To obtain knowledge and skills in relation to its implementation
- To determine effectiveness and efficiency of the SRVCF practice for financial management and knowledge management strategies

1.4 Activities undertaken in Phase I

- Capacity assessment of the financial institution including its resources to implement the SRVCF practice.
- Profiling of the implementers to determine its extent of acceptability, utility, applicability and adaptability of this innovative financing technique.
- Mapping the small ruminant value chains in Surkhet, Nepal to identify the major actors and their relationships.
- Implementation of SRVCF practice for the next 6 month (one production cycle) by the identified financial institution.
- Monitoring and evaluation of implementation process for effectiveness and efficiency.
- Identification of a team of implementers within the financial institution to work with local farmers/entrepreneurs.
- Identification of the existing credit products available to support the small ruminant value chain actors and analysis their potentials for scaling up and adaptation.

1.5 Methodology adopted

a) Focus Group Discussion:

- Meeting with the growers (Individual farm owner/SHGs composed of men, women) and community leaders in Surkhet district of Nepal.
- Group of bank officials and branch heads responsible for taking financing decisions and delivering financial products and services to the growers and other value chain actors
- Staff working with IFAD-High Value Agriculture Project in Hill and Mountain Areas (HVAP) Surkhet, Nepal

b) Individual interaction

- Input suppliers (mainly suppliers of kids, feed and medicines), small and big traders, village level collectors, livestock transporters, experts and extension agents.
- Butchers of the Local markets, Hotel managers, event managers etc. will also be also be contacted. Observations will be documented to understand the nature of goat marketing in major livestock markets.
- Government officials from Livestock and agriculture department, Government of Nepal.

c) Secondary data collection: Secondary data from government department during the last 2 year were collected and reviewed. In general, data related to number of goats in Surkhet district, meat production and its market in the district and nearby places, goat varieties generally preferred by the community, export and its potential, market fluctuations etc. were also collected.

2. Context of the Pilot Study Area

2.1 Livestock and Livelihood Nexus in Nepal

The Agriculture Perspective Plan (APP 1995–2015) has considered the livestock sector growth crucial to meet its AGDP growth and poverty alleviation objectives. APP targets to accelerate the growth rate of the livestock sector to 6.1% from 2.9% at the base year in order to increase the livestock contribution from 31% to 45% by the end of APP plan period. The contribution of the livestock sector to the national GDP is about 18%. Dairy is the most important livestock component contributing the most to the AGDP (62.7% of the total livestock sector contribution), followed by meat (32.4%) and eggs (5.0%) (CLDP, 2008[1]).

Livestock is an integral part of rural livelihoods of Nepal. Buffalo, sheep, goat, pig, chicken and duck are reared for various purposes including meat products in the country (Devkota, 2007; 2010[2]). It also plays a vital role in food security for the poor, valued for its contribution to family nutrition, family income, as a buffer against financial risk, as a capital reserve and for social obligation/prestige. Livestock is the only source of high value protein in the diet in the form of milk, milk products, meat and eggs and generates cash income in rural households. Livestock provides about 20% of the total household income in the hills from sale of products such as milk and meat. In aggregate, livestock contribution to the total agricultural income is in the range of 36-47% in the hills and mountains of Nepal[3].

2.2 Goat rearing: A low cost livelihood option

Among livestock, goats are the most popular small ruminants which are raised in hills for meat (Kolachhapati and Devkota, 2010[4]). Goat constitutes important livestock kept for multipurpose uses such as meat, manure and skin. They provide cash income for maintaining livelihoods in rural areas. In almost all parts of the country, goat rearing is preferred over other ruminant animals by the marginal farmers for income generation. Goats are primarily kept for meat as goat meat is socially acceptable to all meat eating ethnic groups in Nepal. All hilly districts of HVAP[5] i.e. Surkhet, Salyan, Dailekh, Jajarkot and Acham have good population of goat and hence meat products. Goat keeping is an integrated approach for majority of Nepalese farmers as they keep couple of goats as part of their farming system. It is also regarded as the handy source of money in need (Any Time Money) and is considered to be an attractive alternative for livelihood enhancement and poverty reduction programme by ensuring family food security in developing countries including Nepal.

The total population of goat in Nepal in the year 2012 was 9.79 million which registered a steady growth during last 3 years at an average rate of 3.25% (Figure 1). On the other hand the growth of large ruminants like cattle and buffalo during the same period remains same which again prove the importance of goat in the Nepalese farming system and livelihoods.

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[1] Community Livestock Development Project of Nepal.

[2] a) Devkota, N.R. (2007). System analysis perspective of livestock sub-system: A case of Kalika VDC, Kaski, Nepal. J. Inst. Agric. Anim. Sci. Vol. 28:83-90.

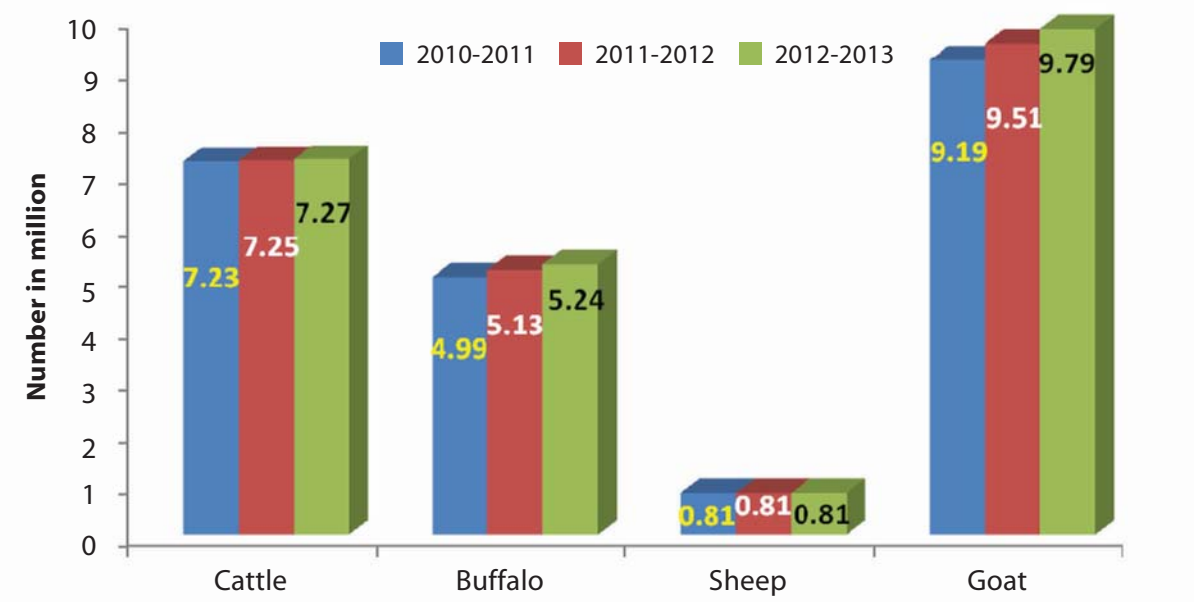
b) Devkota, N.R. (2010). Economic analysis of fattened male buffalo calves for meat production at Saudiyar, Dang, Nepal, Nepalese Journal of Agricultural Sciences Vol. 8:130-136.

[3] Livestock Master Plan 1993.

[4] Kolachhapati, M.R, and Devkota, N.R., 2010. Growth performance of Hill and Terai goat of Udayapur and Siraha districts of Nepal. Nepalese Journal of Agricultural Sciences Vol. 8:173-188.

[5] High Value Agriculture Project in Hills and Mountain Areas (HVAP) is a joint initiation of the Government of Nepal/Ministry of Agriculture and Cooperatives (MoAC) and the International Fund for Agriculture Development (IFAD) in partnership with SNV Netherlands Development Organization and Agro Enterprises Centre (AEC/FNCCI) for the reduction of poverty and vulnerability of women and men in Mid-Western Development Region (MWDR). The project covers ten districts: Achham, Dailekh, Jajarkot, Jumla, Kalikot, Salyan, Surkhet, Dolpa, Mugu and Humla.

Figure 1. Population of major livestock in Nepal



(**Source:** Statistical Year Book of Nepal 2009; Available in http://cbs.gov.np/wp-content/uploads/2014/Nepal%20in%20figure/Nepal%20In%20Figures%202013_English.pdf)

2.3 Demand and supply of goat meat in Nepal

The overall trend of meat production in Nepal from 2000 to 2009 period shows a steady annual growth rate which is slightly higher compared to the growth rate of the population. As a result the average per capita consumption has remained low and constant. The highest share in total meat production is from buffaloes (65%), followed by goats (20%), pigs (7.5%) and poultry (7%) (Table 1). Goat meat is widely consumed in the country although the cost per unit weight is expensive over other meat. It stands as the second largest consumed meat after the buffalo meat, and contributes about one fifths of the total meat produced in the country. Goat also stands as the major livestock in the HVAP project districts with significant amount of annual meat production.

Table 1. Domestic Production of Meat from Major Animal sources

Meat types	Year (Amount in million tons)									
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Buffalo meat	121	125	127	131	134	139	142	147	151	157
share %	65.1	65.4	64.8	64.9	65.0	65.3	65.4	65.6	65.4	65.7
Goat meat	37	38	39	40	41	42	43	45	47	48
share %	19.9	19.9	19.9	19.8	19.9	19.7	19.8	20.1	20.3	20.1
Pork	15	15	16	16	15	16	16	16	16	17
share %	8.1	7.9	8.2	7.9	7.3	7.5	7.4	7.1	6.9	7.1
Chicken	13	13	14	15	16	16	16	16	17	17
share %	7.0	6.8	7.1	7.4	7.8	7.5	7.4	7.1	7.4	7.1
Total	**186**	**191**	**196**	**202**	**206**	**213**	**217**	**224**	**231**	**239**

(**Source:** Statistical Information on Nepalese Agriculture (Time series Analysis), 2005 and 2008, MoAC, Government of Nepal)

All the Seven districts of HVAP – Surkhet, Dailekh, Jajarkot, Jumla, Kalikot, Salyan and Achham – have more than 1.11 million goats with an annual meat production of more than 9 thousand tons (HVAP Report, 2011[6]). With slightly improved[7] rearing practices by the goat growers/farmers to supplement income to support their livelihood, and the ever increasing demand of the goat meat within the Nepalese population, it is imperative that there is higher scope of the goat sub-sector to grow at a faster rate. The only challenges the sector is poised to face are the efficient economic and business activities to support the small and mid-scale producers and boost their capacity towards commercialization of this sector.

2.4 General Profile of Surkhet District

Surkhet District falls under Mid-Western Development zone of Nepal and located about 600 kilometers west of the national capital Kathmandu. The district's area is 2,451 km^2. It had 288,527 population in 2001 and 350,804 in 2011. Birendranagar is the district headquarters, nominated for capital of the proposed Bheri-Karnali state of the new federal republic. The subtropical (including temperate) and upper tropical climatic zone of the district covers 34 and 62% of the area respectively. The district is having 75,294 households with a population of 360,104 and are mainly dependent on agriculture and allied sector (54.57% people engaged in agriculture) having 52,200 hectare of arable land (20.96% of the total geographical area) and forest coverage of 71.63% area. There are 17 branches of 16 commercial banks[8] and 8 cooperative banks with more than 1,400 branches in the district[9] . The microfinance institutions are also active in the district but the details are not available during the time of our visit.

2.5 Livestock Profile of Surkhet

Livestock play an important role in the farming system of the district which includes cattle, buffalo, goat, sheep and poultry birds. As per the latest available data (District Livestock Services, Surkhet, 2013), the total population of cattle, buffalo, goat, sheep and poultry birds are 226,573, 56,140, 216,655, 10,569 and 340,651 respectively. The above data shows that goat is the most important small ruminant in the district and on an average each household in the rural areas possesses minimum of 4 goats. The goat meat produced in the district to the tune of 1,532 tons during 2013 which is second highest in the HVAP districts after Salyan district.

Surkhet District have one artificial insemination facility which is located in the district headquarters and 13 service centers across the district. There are 45 government approved medicine centers in the district which supply veterinary medicines. The district have 3 technical training institute which builds the capacity of the technical staff and the livestock growers by offering various training courses.

[6] Report on Value Chain Analysis of Goats, HVAP Report, December, 2011 (Unpublished).
[7] The scientific rearing practices are not adopted in most of the cases.
[8] Agricultural Development Bank Limited (ADBL) is having 2 branches one in Chhinchu and other in Birendranagar.
[9] Ministry of Agriculture, Veterinary Services Department, Government of Nepal, 2013.

3. Value Chain of Small Ruminants

3.1 Actors in Goat Value Chain

It has been identified that the entry point in goat value chain are availability of *kids* and the *feeds* which are classified under input supply. Apart from this, the production potentials and local level butchering at the farmer/village level; collection, domestic trading and supply to the distance market at the traders' level considered to be the major actors in the value chain. Preliminary processing, and or value addition by butchering and or refrigerating at regional or at the national level with limited practice are also taken in to consideration while analyzing the value chain of goat in Surkhet District of Nepal. The actors in relation to the goat meat value chain as observed during the field visit are described below:

3.1.1 Input suppliers

Common inputs include salt, minerals, concentrates, veterinary medicines, forage/fodder tree seeds and saplings that are mainly managed and supplied by the private venture such as from agro vets. Government agencies working at district level such as the DLSO. As far as the information available none of the local NGOs provide inputs but some of them provide technical knowledge to the farmers. It was also observed that the flow of inputs and knowledge/technology are limited and inaccessible to the farmers.

3.1.2 Farmers/Growers

It was observed that mainly two types of farmers are engaged in goat keeping: (a) Small farmers with low level of agricultural production who are keeping 2-5 goats for supplementing their income, and (b) semi-commercial farmers characterized by 6-10 goats keeping and targeting the market for selling. In general, the small farmers do not sell goats in the market as the local village level butchers buy it from them. Semi-commercial farmers sell most of their goats to the various market intermediaries through local collection centers.

3.1.3 Local butchers

Local butchers are either unorganized and perform the butchering business as and when it is available and we have not visited any of them but it was informed that they are in general local people and located in the market of the nearby small town. Local butchers directly buy goats from the farmers and often hold in their own collection/holding center in order to supply as per the local demand of the meat. In some cases they also deal with the live goat selling to the large buyers/traders and serves as an intermediaries.

3.1.4 District level traders

During the field visit, two types of district level traders have been identified: (a) those who buy, hold/collect in the collection center and send to the distance markets (Nepalganj, Pokhara, Kathmandu) as quickly as possible with their agents in the destination to deal with the further selling activities (we met this type of traders in the Chhinchu market during the visit), (b) those who collects goats from the villages and involves himself/herself in the further selling process by taking the goats to the big cities and market such as Kathmandu (We met this type of trader in Baddichaur market). In both the cases the traders often involve with credit purchase with the farmers and pay them back once the goats are sold in the market. It was observed that horizontal linkages exist between farmers and traders in line with collecting and selling process. Baddichaur and Chhinchu are the major market centers in the Chhinchu-Jajarkot corridor whereas Birendranagar is dominating market centers in the Surkhet-*Dailekh* road corridor.

3.1.5 Butchers and Retailers

Butchers and retailers are sometimes the same entity as we have observed in Birendranagar. The slaughter unit was constructed under a Public-Private Partnership (PPP mode) by the Birendranagar Municipality and transferred it to private owner for running the business[10]. Here the unit performs the functions of those who process the live goats and sells meat directly to the consumers, restaurants and hotels. This could be considered as the end market from the local market perspectives.

Some commercial houses in Nepalganj are involved in processing and packaging of the meat and selling in Kathmandu and Pokhara market. The meat is stored in deep freeze for longer time and is delivered to customer mainly to Kathmandu using the insulated refrigerated vans. They are considered as sub-national trader category in the goat value chain. It was also informed that there are some goat traders who are active in Kathmandu and Pokhara and they collect goats from the goat surplus districts and sells it to the goat deficit districts.

3.2 Value chain supporters and facilitators

Major functions of the value chain supporters include activities such as public research and related technology development, agreement on professional standards/rules/norms, provide promotional services through extension activities, advocacy, capacity building and other related service providers.

3.2.1 Production and village level butchering

- District Livestock Service Office (DLSO), Surkhet and the Directorate of Livestock services, Mid-west zone of Nepal are mainly working to develop and disseminate different production and management related goat-rearing technologies. Similarly some of the farmers' association and co-operatives are often involving to facilitate goat-rearing activities.
- In the production process, the commercial banks, microfinance institutions and cooperatives assist farmers by providing loans. The IFAD supported HVAP supporting the goat farmers and their cooperatives by providing technical and financial support, linking them with the financial institutions.
- It was observed that the women play an important role in goat rearing activities as it requires substantial attention to feed, house and breed management. Thus gender roles and involvement are very important and capacity building process need to target both men and women. Thus financial and technical access in terms of women, poor and marginalized is not visible at household level that is taking the shape of joint involvement for prominent activities.
- The feeds and the kids are the real challenges faced by the growers and due to this resource rich farmers adopted goat rearing rather than resource poor farmers. The local government line department is taking interest to supply good quality breed of kids and seeds/saplings of plants for feeding.

3.2.2 Trading and marketing

Marketing and trading of goats are still traditional and not very efficient. The traders usually do not have any common platform but some of the big traders are the members of the District Chamber of Commerce and Industries (DCCI) and cooperatives etc. The traders access to finance is little easy than the producers as they could avail the benefits of financing institutions such as Agricultural Development Bank Limited (ADBL) who is actively supporting the traders.

[10] The current owner informed that on an average 10-15 goats are being processed in the slaughter house on daily basis and during the festival seaon it increases to 20-25. No private collectors/aggregators approach for processing. He himself performs the function of collector/aggregator which he admits as the main source of income.

3.3 Economics goat value chain

The goat value chain of Surkhet is very much dynamic and skewed on the production system as the number of growers is very high as compared to the other actors in the value chain. While calculating the economics of the value chain we have taken utmost care to include all the factors in to consideration in monetary value.

3.3.1 Economics of production

Surkhet farmers rear goats in a traditional system of grazing[11] in the nearby forests for 4-5 hours a day. Feed supplement in terms of standard ration is uncommon practice whereas majority of the farmers offer limited amount of maize grit often wheat bran is customary. Both the supplement are provided in 2-3 installment in a day, however, minimum amount of salt is given in the liquid slurp, especially for lactating and new mother goats. The cost of rearing practice is not based on recording system but some of the professional growers[12] are keeping the records which helped us for calculating the cost of production. The detail estimated cost of production based on a group production scheme is presented in Table 2. (Source: Field visit Feb, 2014).

Table 2. Cost of production of *Kheri* breed of goat in Surkhet

Sl. No.	Descriptions	Quantity	Unit	Rate (NR)	Total (NRs)
A	**Shed cost**	1	lump sum		**5,000**
B	**Inputs**				**95,000**
1	Cost of young goat[a]	30	per head	2,000	60,000
2	Feed-Concentrate (maize grit, salt)[b]	1,500	per kg	20	30,000
3	Medicines and vaccines	30	lump sum		5,000
C	Labour[c]	lump sum			**40,000**
D	**Interest on Bank Loan (@15% p.a on 140,000 for 18 months)**				**31,500**
Total cost of shed, inputs and bank interest					**171,500**
E	Estimated income/benefit from manure	1,500	per kg	2	3,000
Total cost of production					168,500
Cost of production per goat					**5,617**
Cost of production per kg (estimated 30 kg live weight per goat)[d]					**187**

Note: Economic herd size considerd as 30 (excluding mortality @10%)

[a] Estimated cost of young goats calculated based on discussion with the growers and their selling price to other growers

[b] It has been estimated that the 50 kg concentrate will used as feed supplement for 16 months

[c] The labour rate calculated based on the existing rate for 18 months in Surkhet District which may vary depending on the area and number of labours employed

[d] It is estimated based on the information from the growers that the goats achieve average body weight of 30 kg in 16 months

The average selling price goat (18-20 month old) by the farmer is NRs 280 per kg of the live body weight[13] which allows them to receive net profit of NRs 112,000 (Table 3). This shows that financing goat growers with reasonable herd size is fairly bankable and opens high potentiality for the commercial banks, cooperative banks and the MFIs to invest in this sub-sector which is a win-win proposition.

[11] Stall feeding is very rare and during our visit we have not found any of the farmers practicing this scientific method.

[12] Dhakal Goat Farm, Timurkot, Satakhani.

[13] During the festival time for example September-October, the price realization is reported to be little higher and sometime it reaches NRs 300 per Kg of live body weight.

Table 3. Calculation of returns from sales of live goat

Sl. No.	Particulars	Unit	Quantity	Amount (NRs)
1	Cost of production	kg	1	187
2	Cost of sales	kg	1	2
3	Total Cost (1 + 2)	kg	1	189
4	Total Cost for 30 goats of average weight of 30 kg			170,100
5	Sales price by growers	kg	1	280
6	Total Receipt for 30 goats each of 30 kg wight			252,000
7	Payment made to the Bank (principle amount of loan)			140,000
8	**Net Profit of the growers in each batch of 30 goats**			**112,000**

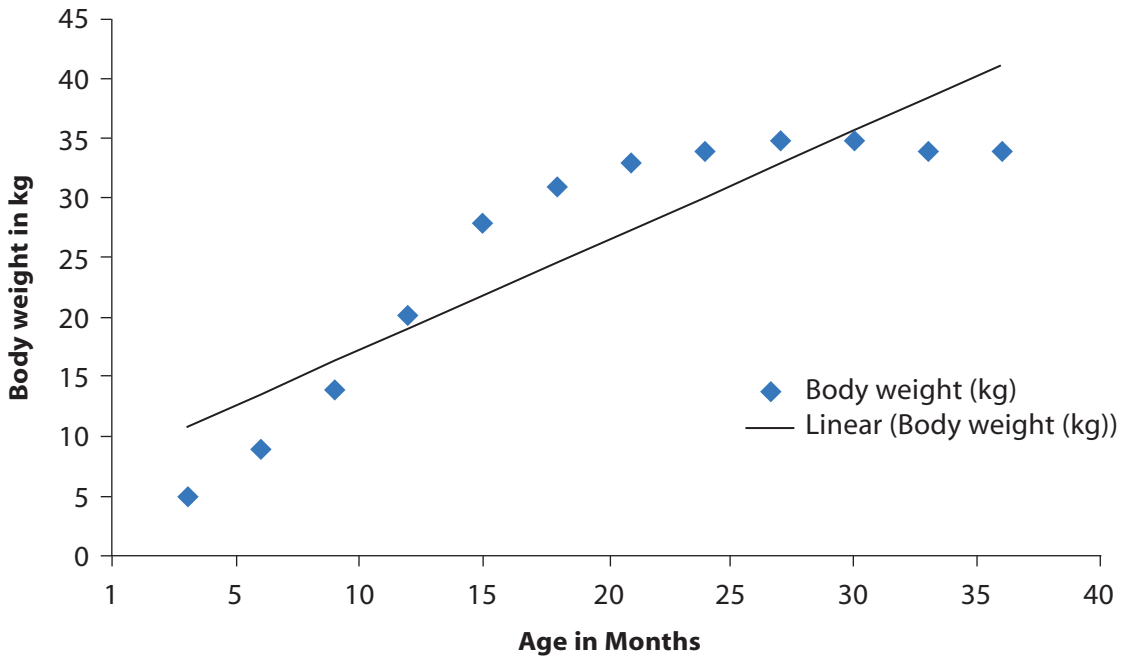
Note: 1. The figures were calculated based on the information received from the growers
2. It was assumed that the herd size is 30 and all goats were sold for meat purpose

(**Source:** Field visit during February 2014)

3.3.2 Resource optimization

During the field visit it was informed that in some hilly areas of the district, the growers sometimes keep the goats for 2-3 years to obtain 30 kg and the input cost increased many folds. This proves the point that the growers are not aware about the economic age of the goat for meat purpose and they are keeping their goats for a longer period to fetch higher money which actually do not happen in due course. The evidence generated in India (Das & Bedamatta, 2011) shows that the goats achieve a steady growth till 15 month and after that the growth rate reduced substantially (Figure 2). The feed requirement increases till the age of 20 months but the growth rate is inversely proportionate. Awareness amongst the growers regarding the scarcity of the resources and necessity of optimization needs to be enhanced so that they follow the scientific methods of production and reduce unnecessary expenses.

Figure 2. Age of goat vis-à-vis body weight



(**Source:** Das, P. K. & Bedamatta, R. (2011). Research report on "Livelihood Options in Bolangir District in India" submitted to Indian Council of Social Sciences Research (ICSSR), New Delhi, India)

3.3.3 Trading business

As already described, two types of traders are active in movement of goat from the producers to the market: those who purchase goats from the farmers directly, handle goats as collection centers, and sell the live goats either to the local butcher or to the distance market, and those who purchase goats from the collectors/traders and sell the meat by butchering in the local market. In general, the live goat traders handle the selling process by using trucks/bus or other means; however, they do not follow the required hygiene. As per the information gathered during field visits, the average expenses of the live goat traders on handling, holding (collection center fees), loading/unloading and transportation is NRs90 for goats weighing 30 kg and the minimum lot size is 50. Table 4 below indicates that the traders have the potential make a net profit of NRs255,000 in one year with 10 batches of trading. It was also informed that the lot size may soar as high as 100 goats during the festive season offering them higher net profit after repaying the interest on bank loan.

Table 4. Economics of Goat trading in Surkhet

Sl. No.	Particulars	Unit	Quantity	Amount (NRs)
1	Purchase price by the traders in Chhinchu market	kg	1	280
2	Expenses on collection, holding, transportation, loading/unloading etc.[a]	kg	1	3
3	Total Cost (1 + 2)	kg	1	283
4	Total Cost for 50 goats of average weight of 30 kg[b]			424,500
5	Interest cost on Cash Credit limit of NRs400,000 @15% p.a for 30 days			5,000
6	Total cost including bank interest charges			429,500
7	Selling price by the local traders	kg	1	300
8	Total Receipt for 50 goats each of 30 kg weight			450,000
9	Net profit for each batch of goat sold by the traders			25,500
10	**Net Profit of the traders in 10 batch of goats in a year**			**255,000**

[a] The expenses calculated based on the information received from the traders which is on an average NRs90 for each 30 kg size of goat

[b] It has been informed that the minimum lot size of the goats in each batch of dispatch by the traders are 50 live goats of average weight of 30 kg.

(**Source:** Field visit during Feb, 2014)

In the local market of Birendranagar, the profit margin of the slaughter house is higher as compared to the live goat traders due to higher meat price. It was observed that the batch size in case of the slaughter house is not more than 20 during the normal time which may reach up to 50 during festive season. It could be observed from the Table 5 below that the net profit margin is substantially higher in case of slaughter house (NRs18,200 for each batch of 20 goats) which leads to the fact that higher the level of value addition, higher is the profit margin. This also reflects the efficiency of the goat value chain.

Table 5. Economics of goat meat trading by slaughter house/butchers in Surkhet

Sl. No.	Particulars	Unit	Quantity	Amount (NRs)
1	Purchase price by the butcher in Birendranagar market	kg	1	280
2	Expenses on collection, holding, transportation, loading/unloading etc.[a]	kg	1	5
3	Total Cost (1 + 2)	kg	1	285
4	Total Cost for 20 goats of average weight of 30 kg[b]			171,000
5	Average wastage of 30% body weight of each goat weighing 30 kg after slaughtering[c]			51,300
6	Total Cost of 20 goats of average weight of 30 kg			222,300
7	Interest cost on Cash Credit limit of NRs200,000 @15% p.a for 10 days			1,000
8	Total cost including bank interest charges			223,300
9	Average selling price by the butcher	kg	1	575
10	Total Receipt for 20 goats each of 21 kg weight			241,500
11	Net profit for each batch of goat sold by the traders			18,200
12	**Net Profit of the traders in 20 batch of goats in a year**			**364,000**

[a] The expenses calculated based on the information received from Birendranagar slaughter house which is on an average NRs150 for each 30 kg size of goat

[b] It has been informed that the minimum lot size of the goats in each batch for slaughtering are 20 live goats of average weight of 30 kg.

[c] In general the wastage is to the tune of 30% of the body weight of live goats

3.4 Major goat markets

During the field study we could able to visit two major market where goat trading takes place and the local level aggregators were present. The details about these markets are as under:

3.4.1 Chhinchu market

Chhinchu is one of the largest dealing trade centers in Surkhet district that lies in the Chhinchu-Jajarkot road corridor. Traders in this center deal with about 10,000-12,000 goats per year depending on the flow of goats which is higher during the festive season. The purchase price of live goats from the farmers/ growers varies from NRs 275-280 per kg for castrated goat and NRs 260 for uncastrated buck. The traders operating in this market source goats from the growers of the nearby villages and sell them in the markets of Nepalganj (nearest regional level market), Pokhara and Kathmandu (furthest national level market). Among the collected goats, about 30% goes to Nepalganj market, 50% goes to Pokhara and about 20% in Kathmandu. Major flow to Pokhara is because of the relatively easy dealing in business, due to comparatively better price and high level of trust among the traders. The trader's accounts are being credited by the buyers on receipt of the goats which they intimate them over telephone.

3.4.2 Baddichaur market

Baddichaur is one of the most promising goat production and trading sites in Surkhet District in the Surkhet-Jumla road corridor. The market emerged as a large scale dealer both in terms of collecting goats from surrounding VDCs and also for distance marketing, especially to Pokhara and Kathmandu. Our discussion with the traders revealed that as many as 25,000 goats are sent to Pokhara and Kathmandu annually from Baddichaur with an annual turnover of NRs225 million. It further varies largely according to the production status and season of the trade. Limited number of goats is traded with Birendranagar and Chhinchhu market.

4. Access to Finance by the Value Chain Actors

Nepalese banks and financial institutions witnesses tremendous growth in volume and complexity over the last two decades. Despite making significant improvements in all the areas relating to financial viability, profitability and competitiveness, there are concerns that banks and financial institutions have not been able to include vast segment of the population, especially the underprivileged sections, into the fold of basic services they offer.

4.1 Access to finance in Nepal

There is significant financial exclusion. A study of Nepal Rastra Bank (NRB) assessed the access of finance situation relying on secondary data; revealed that only 38% of the Nepali populations are covered by formal financial institution's activities and rest of them are still relying on informal sector for financial transactions. Most of the commercial bank's activities found to be concentrated in and around accessible regions while other regions such as Mid-Western (Surkhet District falls under this region) and Far Western Development Regions have failed to get more branches and activities of Commercial Banks, Development Banks and Finance Companies[14]. Such vacuums of finance have been mitigated by microfinance development banks, cooperatives, NGOs and self-help groups (SHGs). Provisions of financial services particularly in rural/remote hills and mountains are still insufficient[15]. Though most of the commercials actors such as Commercial Banks, Development Banks and Finance companies are indirectly engaged on promoting financial inclusion, there are instances where some regional level Development Banks are aggressively engaged to enhance access to finance for the poor and disadvantaged groups. There is a case of missing middle and there is no specialized agency for lending to small and medium enterprises. There is unmet demand for credit services and there is significant demand for other financial savings such as savings, insurance and money transfer by the poor and disadvantaged groups. Remittance is yet to be mainstreamed into productive sector. Both the supply and demand side indicators show that, despite government efforts, formal financial institutions have not been able to ensure financial inclusion and cases of financial exclusion is quite significant.

4.2 Finance delivery structure in Nepal (Supply side)

Nepal is one of the least developed country in the world with per capita income US$725 in 2012/2013[16]. Contribution of agriculture sector in Nepalese GDP remains constant to 35% since last 4 years. At least 70% of Nepali population are still living in rural areas and dependent in agriculture and allied activities. The major challenges faced by agriculture sector in the country are: fragmentation of agricultural lands[17], low productivity rate, traditional farming practices and lack of commercialization and access to timely and adequate credit.

The finance delivery structure in Nepal is quiet robust and deepened. The banking sector is dominated by the commercial banks[18] and the development banks with presence of microfinance institutions (Table 6). The commercial banks cover more than 60% of the total banking business in the country.

[14] There are only 17 bank branches of 16 banks in Surkhet District.
[15] In these areas, people have to walk one, two or even three days to reach at bank, microfinance institutions or their branches to get financial services. The cost of operation in such areas for financial institutions is high.
[16] Presentation of G.P. Kaphle, Dy. Governor, Nepal Rashtra Bank in 62nd APRACA Executive Committee meeting, 2013.
[17] Average holding size of the farm is 0.8 hector which poses a big challenge to commercialize this sector in Nepal.
[18] The business is dominated in urban areas and among the wealthiest.

Table 6. Number of Banks and Financial Institutions in Nepal

Banks and Financial Institutions	2011 (mid-July)	2012 (mid-July)
Commercial Banks	31	32
Development Banks	87	88
Finance Companies	79	70
Microfinance Institutions	21	24
NRB Licensed Cooperatives (with Ltd. banking)	16	16
NRB Licensed NGOs (with Ltd. banking)	36	36
Insurance Companies	25	25
Employees Provident Fund	1	1
Citizen Investment Trust	1	1
Postal Saving Bank	1	1

Source: Nepal Rastra Bank, Annual Report (2011-12)

4.2.1 Agricultural Development Bank Limited (ADBL)

Agricultural Development Bank Limited (ADBL) is an autonomous organization largely owned by Government of Nepal. The bank has been working as a premier rural credit institution since the last four decades, contributing a more than 45% of institutional credit supply in the country. Hence, rural finance is the principal operational area of ADBL. Out of the total loan portfolio of NRs 54,959 million as at the mid July, 2013 agriculture loan consists of over 50% which was 58% during the same period previous year (Table 7).

Table 7. Agriculture Loan Portfolio of ADBL at the month end of Mid July 2013

Sl. No.	Industry/Sector	Mid July 2012		Mid July 2013		Growth rate (%)
		Amount (million NRs)	Share (%)	Amount (million NRs)	Share (%)	
1	Agricultural and Forest Related	10,161.82	38.7	13,239.05	47.4	30.3
2	Fishery Related	1,724.27	6.6	398.67	1.4	-76.9
3	Agriculture, Forestry & Beverage Production Related	2,437.53	9.3	3,216.31	11.5	31.9
4	Wholesaler & Retailer	11,944.03	45.5	11,067.69	39.6	-7.3
5	TOTAL Agriculture	26,267.66	100.0	27,921.72	100.0	6.3
6	TOTAL Loan Portfolio of the Bank	45,337.64		54,959.20		21.2
6.1	Of Which share of agriculture		**57.94**		**50.80**	

(**Source:** Personal communication from Mr. Ghuran Thakur, Division Chief, Office of the CEO, ADBL, Nepal)

The bank is active in financing animal husbandry under the broad head of agriculture and the current portfolio reported to be NRs 3,025 million. Financing to goat production, trading and slaughter house infrastructure falls under this category. Besides, ADBL had successfully executed Small Farmer Development Programme (SFDP), the major poverty alleviation programme launched in the country. The bank has been involved in commercial banking operations since 1984. The enactment of Bank and Financial Institution Ordinance (BAFIO) in February 2004, (now Bank and Financial Institution Act (BAFIA), 2006) abolished all Acts related to financial institutions including the ADBN Act, 1967. In line with the act, ADBL has been incorporated as a public limited company on July 14, 2005. Thus, ADBL operates as an "A" category financial Institution under the legal framework of BAFIA and the Company Act.

4.2.2 Other commercial banks

The commercial banks other than ADBL are mostly concentrating in the urban and city areas and they have nominal portfolio in agriculture. In Surkhet District 15 commercial banks have their branches but their customers are mostly the service people and or medium and big size business (sometimes these businesses are related to agriculture but post farm gate). Many commercial banks are now working with development projects to gain an understanding of the context before opening branches or expanding operations in agriculture. In most cases, these development projects give non-financial guarantees by way of assurances, technical assistance, and guarantees to the clients in order to provide banks with a psychological impetus to expand into non-familiar environments. In general the total portfolio in agriculture and allied sector in other commercial banks are not impressive. However, we do not have a figure available on their exposure on goat financing.

4.2.3 Cooperative banks/institutions

Savings and credit cooperatives (SCCs) in Nepal provide a variety of microfinance services to households across the country. Nearly all Nepali SCCs are self-funded using member savings and equity. Most Nepali SCCs are also profitable, including those located in poor, remote areas of the Hills region. The majority of the SCCs in Nepal is also multipurpose cooperatives, and specifically focuses on agriculture commodities. Most of their members are smallholder farmers, who use loans from the SCCs to invest in seeds, fertilizers and marketing. We have not received any data from the cooperatives on their financing to the goat value chain sub-sector.

4.2.4 Microfinance Institutions

Microfinance institutions play a key role in providing financial services to low income households in Nepal. Yet many microfinance clients prefer to save and borrow with the informal sector. While analyzing the reason, it was revealed that the informal providers offer products and services better suited to the needs of low-income households—that is, with quick availability and no requirement for immovable collateral. Low-income households are much more likely than wealthier ones to have irregular incomes. In addition, many of their non-routine expenditures are for health care. Thus they often require quick access to financial resources. The small holder goat farmer also faces the similar problem and they often dependent on the informal sector for getting loans even at a higher rate.

4.3 Demand for financial services

In order to assess the need for financial services in Nepal, the prevailing environment was examined through desk studies and field visits during February 2014. By interviewing goat growers, cooperatives, traders and butchers, government officials a good overview of the whole value chain was gained. In the interviews issues such as opportunities and threats were discussed. Also key hurdles for growth and access to finance were mentioned.

4.3.1 Farmers

As already mentioned, most of the goat farmers do not use formal financing. Asked if they could use external financing the answer was that indeed external financing would enable them to buy more goats and housing facilities. This type of investment is long term and does not create additional farm income and therefore repayment becomes a challenge to the banks. The interviews with goat farmers further indicated that access to finance in itself (banks, cooperative, MFIs) was not the main problem. However, they are reluctant to pledge their land title to the banks as security. When checked with the ADBL, it was found that the bank do not have exclusive commercial scheme for goat rearing it generally finance through agricultural lending schemes. The large farmer (for example Dhakal family goat farm) has their own land for razing of goats. They also indicated that they availed the loan for the goat shed but using

the land title as collateral was viewed as a key bottleneck to bank financing due to the inherently high value that is attached to land and risk of loss associated with defaulting on the loans.

4.3.2 Cooperatives

Only a few goat producers' cooperatives have established themselves into proper business entities in Surkhet District (we visited one of them during field visit in February 2014). They need various type of support including capacity building. HVAP is working with the cooperatives providing knowledge and other services and it was felt that they hand holding for a longer period. In general access to finance is not a problem for goat producers' cooperatives because several projects/organizations support them.

4.3.3 Traders and butchers

The medium size traders are availing credit from multiple sources and they also approach the banks. It was told that the banks need so many papers regarding business which they are not in a position to provide as the goat trading business is not done systematically. It was also revealed that most of the traders do have other business and goat trading is a side business for them and they manage funds from other business to continue goat trading business. In case of large traders it is not difficult to get a commercial loan from the bank at competitive terms. The local butchers do not require loan as they pay to the producers after selling the goat meat. However, the large size butchers (the one we visited in Birendranagar) need credit for collecting and holding the goats for a longer period to avail the benefit of economies of scale. The banks are generally financing them as they have some collateral to offer to the banks. In summary, the traders and the butchers are the strongest link in the whole value chain. The matrix below (Table 8) gives a schematic view of the main sources of access to finance for different actors in the goat value chain.

Table 8. Sources of finance by value chain level

Sources of finance	Small growers	Large growers	Small traders/ butchers	Large traders/ butchers
Friends & Relatives	✓✓	✓	✓✓	✓
Cooperative Banks	✓	✕	✕	✕
Microfinance institutions	✓	✕	✓	✕
Development Banks	✕	✓	✕	✓
Commercial Banks	✕	✓✓	✕	✓✓
Finance companies	✕	✓	✕	✓

Note: a) ✓✓ – Most of the time; b) ✓ – Sometime; c) ✕ – Not at all
(**Source:** Field visit, February 2014)

4.4 Value Chain Finance to Small Ruminants

Finance is one the most critical inputs to improve the efficiency of the agriculture value chains. Value chain finance offers an opportunity to expand financing for agriculture and allied sector, improve efficiency and repayments in financing, and strengthen or consolidate linkages among participants in value chains. It can improve quality and efficiency in financing agricultural chains by:

- Identifying the financing needed to strengthen the chain;
- Tailoring financial products to suit the needs of the participants in the chain;
- Reducing financial transaction costs through the direct discounting of loan payments at the time of product sale; and
- Using value chain linkages and knowledge of the chain to mitigate risks to the chain and its partners.

The concept of value chain financing is not a new in Nepal. However, it was more popular in the agribusiness circle and specifically related with the high value crops where the growers/farmers, collectors, traders, and input suppliers of rural Nepal are entering into informal contracts[19] for many years, ranging from sales commitments to long-term financial commitments. Most value chain finance evident in Nepal is more direct in nature, including financial relationship between farmers, local money lenders and merchants but Nepal has not developed any policies, institutions and services yet for the development of value chain. The majority of agricultural sector has been using the traditional system of financing i.e. financing on their own risk and has also been using their own channel of supply.

It was observed that the value chain of small ruminants in Surkhet is subtle and the strong actors in the chain (mainly traders) are helping the other entity (the producers) through finance and technical support. This is a win-win situation for all the actors in the value chain as the product movement become smooth. This direct financing[20] in the value chain is highly efficient but it is not scalable due to the limitations of resources at the traders end. The success of value chain will depend on the involvement of the financial institutions and its products and services which are targeted towards specific actors in the value chain.

4.5 Business model in value chain finance

It is well known fact that the strategy for developing or strengthening agricultural value chains depends on the business model being followed. As per the field observation we may infer that the current business model being followed in goat value chain is 'Buyer's driven' and it is the buyer who is actually deciding the terms and we have also observed that the strong actors in the value chain are price makers (Tables 3, 4 & 5). In one of the case (*Kalika* goat farmers' Cooperative) the 'producers driven' business model is being followed. As the business model concept is linked to business strategy (the process of business model design) and business operations, the successful value chain must be viewed as a single structure. The goat value chain involves a specific group of interrelated producers and other actors who supply a particular end market.

[19] These contracts do not carry any legal consequences and or recourse.

[20] When one actor finance the other actor in the same value chain in cash or kind, it is termed as direct financing and when an external entity finance any or all of the value chain actors is termed as indirect financing in the value chain.

5. Addressing the Challenges

There are many challenges being faced by the small holder goat producers and the other value chain actors in terms accessing the benefits of financial products and services available for them. On top of it, the investment in this sector is extremely poor which needs further assessment so that movements of products and services along the value chain become smooth.

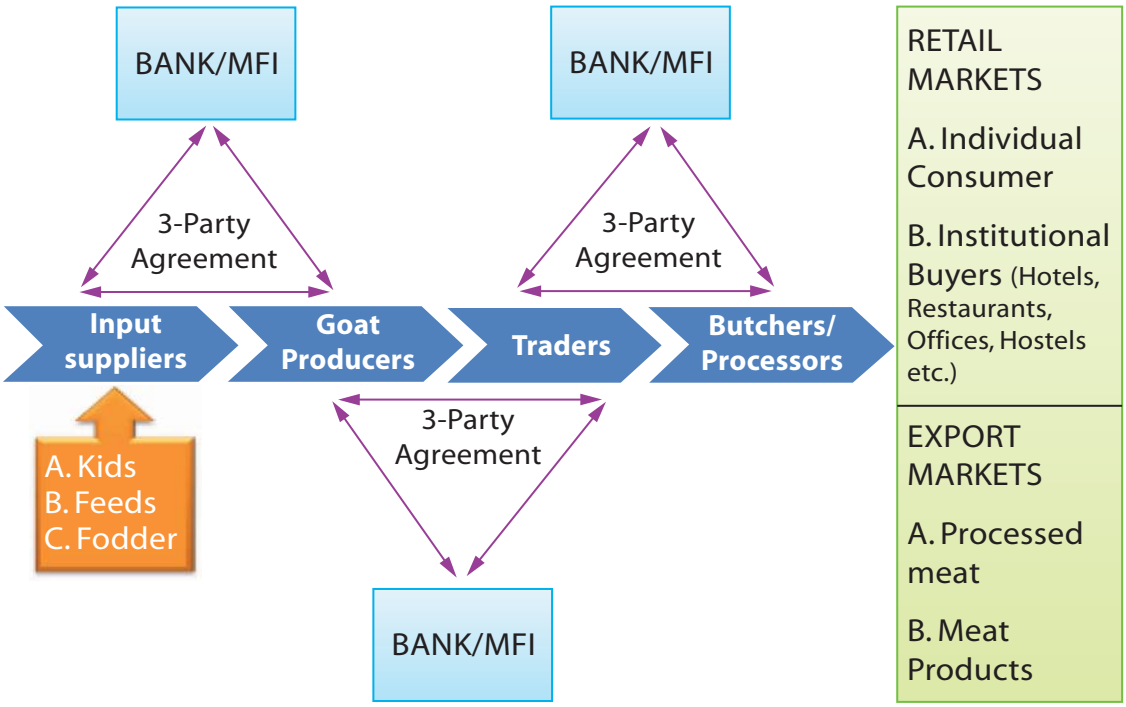
5.1 Augmenting value chain financing to goat sub-sector

The formal sources of finance are considered as being more reliable. Access to them has been difficult and scarce to most of the value chain actors. Across the board, the level of access to finance in the goat sub-sector seems to be subtle and in some cases it is unacceptable when it comes to short-term loans. The goat farmers need finance for 2 years term for which the banks need to develop customized loan products. The commercial banks, such as ADBL, offer loan products to finance short-term working capital also to smaller farmers and cooperatives. However, when it comes to investment financing the banks and cooperatives are not able to finance due to the current restrictions of financing without sufficient collaterals. In the first place this is due to the risks associated with the livestock sector. The value chain in the livestock sector is not yet well developed yet which makes it harder for banks like ADBL to predict cash flows necessary to repay long-term loans for the other value chain actors like traders and processors. Besides, the collateral situation in most cases will not meet the bank's requirements. A guarantee fund[21] could stimulate long-term lending to the livestock sector by sharing part of the risk with the bank. However, it was found that in other countries like India, Kenya etc., the Guarantee Funds are more successful in stimulating investment financing to traders and processors than small holder growers.

The best option to improve access to finance to the goat sub-sector is to improve the integration in the value chain. Modern value chains require traceability creating shorter chains with input suppliers and farmers, farmers and traders, traders and processors working closer together. An integrated value chain enables banks to develop value chain financing (VCF). VCF means financing farmers based on backward and forward linkages with reputable off-takers (rather than focusing on the credit risk of the individual farmer alone). In this regard, the tri-partite agreements[22] between the bank-input suppliers-farmers, bank-farmers-traders, bank-traders-processor proven very effective and has been adopted in many developing countries across the world (Figure 3).

[21] Guarantee fund is defined as the fund created by the government/other agencies to leverage the lending portfolio and enhance the confidence of the financial institutions to increase lending in a particular sector.
[22] The agreement will define the duties and responsibilities of each parties under contract.

Figure 3. Schematic diagram of 3-Party agreement to augment access to finance



(**Source:** Author's illustration, 2014)

5.2 Integrating small producer and unemployed youths in goat value chain

The involvement of the young generation in intensive goat farming for self-employment has been increased during last few years (Box 1). This might be due to the support of various programmes and projects (especially CLDP), enabling environments are created for commercialization of the goat sub-sector for national economic growth. However, there are challenges emerging in the development processes. These challenges are: (i) increasing gap in supply and demand of good breed of animals, (ii) increasing gap in demand of farmers for specialized technical services and those offered by DLSO, (iii) increasing cost of production due to increased cost of inputs including labour, (iv) increasing closure of community forests from animal grazing (v) growing farmer demand for improved forage production, (vi) growing public concern in quality products and growing interest to establish modern slaughter slabs and meat shops.

The poverty alleviation programmes targeting smallholder producers (poor and disadvantaged groups, socially excluded groups, freed bonded labours etc.) under DLSO and other agencies have demonstrated that livestock programme especially goat production can have significant impacts in improving their livelihood. Now it is high time that these target groups should be encouraged and strengthened for processing and marketing activities of the goat meat value chain.

Agricultural enterprise advisory services for identifying investment opportunities with enterprise schemes together with enterprise management and skills trainings could be instrumental for promoting the involvement of rural youths (including the back-home migrants) in goat meat value chain. The unemployed youths have shown great interest in livestock programmes in Nepal. By improving access to capacity strengthening, business development or entrepreneurship development skills, credit and technical services, the youths could be engaged in this business.

Box 1. Dhakal Family Goat Farm

Tanka Dhakal came from an ordinary family in the hilly areas of Timurkot in Surkhet District of Nepal. He completed his Post Graduation from University and started his teaching career in Birendranagar. He wanted to do some agricultural activity in his village in the hilly areas so that the other farmers may follow his way and started goat farming in scientific methods. His family shifted to a new place in the same village and they purchased some land in the village as he understood the importance of the forest in goat farming. The starting was humble but they were determined to make mark in this business.

The initial 60 goats in 2 years' time have grown to 200 and it is expected that in another 2 year it will grow to 500. As per the Senior Dhakal, maintaining big farm requires higher resources in terms of manpower which is not available at the moment and they are developing the skill of the local people to take up this profession so that they could dictate the terms to the buyer. The Dhakal goat farm availed the loan facilities from ADBL and constructed the shed for the goats and they are planning to transform the grazing goats to stall fed goat in next 5 years.

5.3 Some more suggestions

- The existing Cooperative Societies and MFIs as an alternative source of funding need to be strengthened and encourage goat farmers, trades and processors to form credit societies.
- Promote and facilitate business transaction in livestock to go through financial instructions such as bank to bank transaction as a means of building trust among the players. This system will build high level of know your customer (KYC) banking spirit thus allow easy access of loan facilities.
- Conduct a study on the volume of funds, risks involved and profitability of the different value chain segments and create awareness among financial institutions about goat value chain financial requirements. Also the findings can be used to develop special packages that suit each value chain actor.

6. Planning for the Future and Pilot Testing

The investment opportunities and pilot testing identified within the goat value chain have been described in this chapter. The pilot testing may be taken up the Agricultural Development Bank limited (ADBL), Nepal and the IFAD supported High Value Agriculture Project in Hill and Mountain Areas (HVAP) jointly so that the cross learning could be shared for future improvements.

6.1 Input supply

As already identified, kids and feeds are the two major issues need to be addressed in the goat value chain the following tables (9, 10 and 11) which are self-explanatory deals with the proposed pilot testing.

Table 9. Goat Breeding/Artificial Insemination (AI) Services

Profile Reference	Animal Breeding/AI services
Opportunity descriptor (investment?/trade?/support?)	Investment/Trade Opportunity
Investment Description/Business Rationale	
• High demand of good breed with subsequent high prices for breeding stock in goat sub-sector • Investment in a modern well managed goat farm, with main objective to produce breeding animals with records of the parentage	
Expected Outcomes	
Business Outcomes • Establishment of a high class breeding farm, supplying all the pure breeds in demand on the Surkhet market and other parts of the country • Making use of modern techniques like embryo transfer and artificial insemination	
Potential Local Investors/Partners	
• Commercial breeding farms • District Livestock Services Department and IFAD-HVAP	
Alternative (local) financing Options	
• Local (Surkhet) investor contribution • Commercial Banks (ADBL)	

Table 10. Establishment of Feedlot production center

Profile Reference	Feedlot establishment
Opportunity descriptor (investment?/trade?/support?)	Investment
Investment Description/Business Rationale	
Why: • There are opportunities in the value chain, to procure young female goats in the dry season at lower prices, and to sell them for a substantial profit after fattening and kidding (depending on the purpose of the farm) • The forest products are abundant which could be stored through this process • Availability of crop residues and molasses for preparing feedlot **Where:** • Several potential locations particularly within the Surkhet-Jumla goat corridor	
Expected Outcomes	
Business Outcomes • A modern and well managed feedlot business. • Profit maximization by planned fattening and sales at times when demand is high (*Durgapuja, Deepavali* etc.) • Increased efficiency by buying goats when they are cheap, and sell them after fattening at premium prices	
Potential Local Investors/Partners	
• Agriculture Department, DLSO and Local goat producers , IFAD-HVAP	
Alternative (local) financing Options	
• Local investor contribution • Commercial Banks 9 ADBL)	

Table 11. Animal Feeds Production Plant

Profile Reference	Integrated Animal Feeds Production
Opportunity descriptor (investment?/trade?/support?)	Investment opportunity
Investment Description/Business Rationale	
Why: • There is a market for quality animal feeds that is not being adequately catered for by the present producers in Surkhet. • There are no producers with adequate storage facilities for raw materials (cereals and grains) to ensure year round production. **Where:** • Birendranagar and Nepalganj may be the best place as this area have considerable area under cereal cultivation and also livestock growers. • The raw materials (maize, gram etc.) can be grown in the plains of Surkhet an Nepalganj	
Expected Outcomes	
Business Outcomes • Regular feeds supply will stimulate the growth of all other areas of the livestock industry especially the goat sub-sector. **Development Impact** • Source of income and livelihoods for out growers and their families • Reduced strain on the limited supply of maize and other cereals that is competing with food for humans and feed producers. • Grain stored in silos can be utilized during food shortages.	
Potential Local Investors/Partners	
• Agriculture Department, Large and Medium-scale cereal/grain farmers as out-growers • IFAD-HVAP	
Alternative (local) financing Options	
• Local investor contribution • Commercial Banks (ADBL)	

6.2 Production and Management

During the field visit the production and management of goat by the small holder farmer were discussed in details. The following tables (12 and 13) discussed about the pilot testing of production and management of goats.

Table 12. Commercial Goat Fattening Farm

Profile Reference	Commercial Goat Fattening Farm
Opportunity descriptor (investment?/trade?/support?)	Investment opportunity
Investment Description/Business Rationale	
Why: • The demand for goat meat and its products in Nepal in increasing and not adequately meeting the supply • There is great export potential to regional countries like India, Bangladesh and Bhutan **Where:** • At the moment Birendranagar (District head quarter of Surkhet) offers the best opportunities for this purpose because it is the central place for the two big markets	
Expected Outcomes	
Business Outcomes • Profit maximisation for investors **Development Impact** • Increased availability of goat meat in the local market	
Potential Local Investors/Partners	
• Commercial Goat Producers • IFAD-HVAP	
Alternative (local) financing Options	
• Local investor contribution • Commercial Banks (ADBL)	

Table 13. Commercial grazing field

Profile Reference	Commercial Grazing Field
Opportunity descriptor (investment?/trade?/support?)	Investment
Investment Description/Business Rationale	
Why: • There is an unmet and growing opportunity in the market for high quality premium goat meat. **Where:** • Several potential locations particularly within the Surkhet-Jumla goat corridor	
Expected Outcomes	
Business Outcomes • Profit maximization and increased efficiency	
Potential Local Investors/Partners	
• Agriculture Department & DLSO • IFAD-HVAP	
Alternative (local) financing Options	
• Local investor contribution • Commercial Banks (ADBL)	

6.3 Slaughter house and Processing

The slaughter plays an important role in the goat value chain. However, the current situation of the slaughter house we visited was neither hygienic nor efficient. In the following tables (14 and 15), we discussed on the possible pilot testing proposals for improving processing of goat meat.

Table 14. Cooling Chambers and equipment in Slaughter House

Profile Reference	Slaughter house Equipment
Opportunity descriptor (investment?/trade?/support?)	Trade Opportunity
Investment Description/Business Rationale	
Why: • The village and roadside and market slaughter house account for 75-80% of all goat meat sales in Surkhet District and are the backbone of the goat value chain. • Facilitation of these Slaughter house with cool chambers/refrigerators and improved weighing scales will improve their ability to provide improved quality products.	
Expected Outcomes	
Business Outcomes • Improved business performance with hygiene	
Potential Local Investors/Partners	
• Existing slaught aner house and producers of pre-packet goat meat producers in Birendranagar and Nepalganj	
Alternative (local) financing Options	
• Local investor contribution • Commercial Banks (ADBL)	

Table 15. Combined Processing facility

Profile Reference	Improved Processing facility
Opportunity descriptor (investment?/trade?/support?)	Investment
Investment Description/Business Rationale	
Why: • Very less number of processing centres as compared to demand and supply of goat in the district • These processing centres are characterized by extremely poor hygiene standards and are currently located within the district head quarter, with insufficient holding/resting area's for the goats. • There is a growing and unmet demand for high quality premium goat meat at both the local and regional level market. • An integrated business model of slaughter house in combination with meat processing can deliver attractive margins, and can safeguard the quality of the final products. **Where:** • Proposed location may be Birendranagar which is a central location to tap into supply from all parts of the Surkhet District	
Expected Outcomes	
Business Outcomes • Realization of a modern slaughter house and goat meat processing facility at a strategic spacious location in Birendranagar • Profit maximization from local and regional demand for high quality premium goat meat	
Potential Local Investors/Partners	
• Birendranagar Municipality with PPP mode • IFAD-HVAP	
Alternative (local) financing Options	
• Local investor contribution • Commercial Banks (ADBL)	

6.4 Concluding Remarks

After careful analysis of the goat value chain, we could manage to shed some light on the existing opportunities and constraints along the chain, which paved the way to recommend various measures which are expected to augment the flow of finance to this sub-sector in Nepal in general and Surkhet District in particular. It is also desirable that the IFAD-HVAP and the ADBL work together to test one or few of the products described in this section.

Phase II

Knowledge Sharing and Application of Best Practices on Small Ruminant Production and Marketing in India







1. Introduction

1.1 Background

The second phase of the "Replication and Pilot Testing of Small Ruminant Value Chain Finance in Nepal" was conducted in the Rajasthan State of India. To accomplish this, APRACA contacted 2 IFAD supported project "imGoats[23]" and "MPoWeR[24]" for exposure study visit of for the participants from Nepal. The exposure visit was conducted in Udaipur and Jodhpur Districts of Rajasthan State of India during 18-22 August 2014. Both the projects are being implemented in Rajasthan State where the small ruminants (with special reference to goats) are one of the prime movers of the rural economy. The goats emerged as one of the major sources of livelihoods as they have been able to provide the much needed household level milk requirement (due to reduced cow population in the area) and also being sold in the market as and when they require bulk amount of money for their emergency requirement[25]. The main purposes of the visit by the participants from Nepal were to understand goat value chains, the main actors and supporters of the value chain and how it works. Goat rearing is an age old practice in both the places in India (Udaipur and Jodhpur Districts) and Nepal (Surkhet District) which provides an avenue for collaborative effort to bring in the best practices is being followed in both the countries and the cross learning among the participants.

1.2 Rationale

According to the available information from FAO in 2008, India ranked 2nd in goat population (125.7 million) after the PR China (149.4 million), produced highest amount of goat milk (4 million tonnes) and ranked 2nd in goat meat production (0.48 million tonnes)[26]. The above figures shows that the production of small ruminants particularly goats are important in developing the alternate sources of livelihoods especially in the low income areas of India and some other countries of South Asia including Nepal. The management of small ruminants and its value chain development through various interventions has been one of the important development agenda in both the countries. Noting the relevance of this, APRACA arranged the exposure visit of the participants from Nepal (represented by the government officials, agriculture development bank and the lead farmer) as a follow up programme under FinServAccess project funded by the IFAD. Stock taking exercise was conducted in Surkhet District of Nepal during the month of February 2014 in the Phase I of the study and the report was submitted to the government of Nepal and ADBL with the recommendations and it was also decided that APRACA will conduct an exposure study visit in India so that the cross learning could be helpful to adopt some best practices to improve the productivity and efficiency in the goat value chain. The self-help group movement has been a big success in India and the both the projects visited by the participants follow the basic principles of self-help movement. The financing requirement of the goat rearers are being mostly taken care by the SHGs and the banks where they maintain their accounts.

The best practices in goat management and finance observed/learned during the exposure visit in India and the one they follow will be combined to develop new strategy for improving the efficiency of the goat value chain so that the growers receive a higher share of the consumer price. The replicated best practice will encourage massive participation and empowerment of key players and stakeholders of Nepal's livestock production, processing and marketing activities.

[23] The project "Small ruminant value chains as platforms for reducing poverty and increasing food security in dry land areas of India and Mozambique" (imGoats in short) is an IFAD and European Union funded project implemented by BAIF in India and CARE International in Mozambique.
[24] The project "Mitigating Poverty in Western Rajasthan" (MPoWeR in short) is jointly funded by IFAD and Government of Rajasthan and being implemented by the Department of Rural development, Government of Rajasthan.
[25] The goats are being referred as the Any Time Money (ATM) for the poor rural families.
[26] FAOSTAT, 2008 (http://faostat.fao.org/site/291/default.aspx).

1.3 Objectives

The exposure visit of SRVCF in India (Phase II) will help the participants from Nepal (list of the participants from Nepal has been given in *Annex 1*) to develop an inclusive strategy and technical models for management and financing to the goat value chain using multi-stakeholder mechanisms and processes which will lead to improved performance of the value chain and the resulting benefits to the primary actors. This study will also open the potential for developing tailor made financial products and services to cater the actors in the chain. The overall objective of this pilot testing study was to provide the current status of the SRVCF and the role of the actors in the value chain. The followings specific objectives were considered in the exposure study visit conducted by APRACA

- To learn more about the technical issues related to goat management under the stressed environmental condition.
- To understand the role of the actors in the goat value chain and their contribution to improve efficiency of the value chain.
- To know the process of financing the goat value chain actors and the service providers of the value chain.
- To exchange the ideas and knowledge of the participants both from Nepal and India.
- To document processes, lessons learned, and issues and concerns necessary in improving the implementation of the SRVCF practice.
- To obtain knowledge and skills in relation to its implementation.

1.4 Activities undertaken in Phase II

- Exposure study visit to 2 IFAD funded projects focussed on goat value chain development in Rajasthan State of India.
- Detailed discussions with the project implementation teams to understand the resources and the challenges.
- Organize field visits to discuss with the community, their leaders and local key informants regarding the value chain development and the systems of financing.
- Discussed with the bank personnel to identify the existing credit products available to support the goat value chain actors and analyse their potentials for scaling up and adaptation.

1.5 Methodology adopted

a) Focus Group Discussion:

- Meeting and discussing with the implementing agencies and government line department officials to understand their views on the best practices to improve efficiency of the goat value chain and access to finance.
- Meeting with the growers (Individual farm owner/SHGs composed of women) and community leaders in both the project areas.

b) Secondary data collection:

- Secondary data from the State government departments, NGOs and other sources were collected and reviewed. In general, data related to best practices of goat production, finance and marketing etc. were also collected. (List of the stakeholders met during the visit is given Annex 2 of the report)

2. Context of the Area of Exposure Study Visit

2.1 Agriculture and livestock situation in Rajasthan

Rajasthan state represents a diverse geography and social structure. With total population of 56 million[27] which is overwhelmingly rural and engaged in agriculture and related activities. However there has been a rapid decline in the proportion of population engaged in agriculture, especially in the Tribal South and Semi-Arid North Central regions, while this proportion has remained stable in the Canal Irrigated East and the Desert West[28]. The state accounts for 10% of India's total land area, but has only one of country's water resources and agriculture here continues to be largely dependent on rainfall, leaving the state highly vulnerable to drought-induced volatility. The agricultural sector is the predominant source of employment; about two third (14.8 million) of state's work force engaged in agriculture and allied sector and contribute 31% to SDP. One third of state's work force engaged in non-farm sector has 69% share in SDP.

Livestock sector contributes about 8% of the SDP. This sector has great potential for rural self-employment at the lowest possible investment per unit. Therefore, livestock development is a critical pathway to rural prosperity. As per the livestock census (2007), there are 56.66 million livestock (which include Cattle, buffalo, Sheep, Goat, Pig, Camel, Horse and donkey) and 4.99 million poultry birds in the State[29]. Rajasthan has about 6.09% of country's cattle population and contributes over 10% of total milk production, 30% of mutton[30] and 35% wool produced in the country. The livestock growers (especially the western part of in the state) are heavily dependent on the common pastures for grazing their animals. With a steady reduction in precipitation and changing pattern in rainfall distribution, the poor and small farmers in the state gradually shift their focus from agriculture to livestock production for their livelihood.

2.2 Small ruminants in Rajasthan

Given the harsh conditions obtaining in this region, goat rearing is on the rise in smallholder producers' context as these are productively profitable in these circumstances. Production and marketing of small ruminant (both goat and sheep) are significant contributors to the rural livelihood options to the people living in dry land regions of Rajasthan. According to the joint study on "Livelihood strategies in Rajasthan" conducted by UNDP (India) and ARAVALI[31], it was observed that the contribution of animal husbandry to household income is around 15% all over the state varying from 13.5% in the Tribal areas to 17.8% in the Semi-Arid zones of Western parts of the state. The sheep are being kept in the mostly under pastoral system with male shepherding and the goats are getting confined to backyard farming largely dominated by women and family based occupation. However, the goat husbandry in the state

[27] According to the GoI census, 2011

[28] UNDP (India)-ARAVALI Study: *Aajeevika* Household Survey, 2002 and DCHs of 1991 Census for respective districts of Rajasthan (http://www.undp.org/content/dam/india/docs/aajeevika_livelihoods_rajasthan_status_constraints_strategies_sustainable_change.pdf).

[29] Government Rajasthan (http://animalhusbandry.rajasthan.gov.in/activities.aspx)

[30] In the English-speaking islands of the Caribbean, and in some parts of Asia, particularly Bangladesh, Nepal, Sri Lanka, Pakistan and India, the word "mutton" is often used to describe both goat and sheep meat, despite its more specific meaning (limited to the meat of adult sheep) in the UK, US, Australia and several other English speaking countries.

[31] ARAVALI was initiated as a result of the joint effort of the Government of Rajasthan and a few leading voluntary agencies in 1994 to promote innovations in development and act as an interface between the Government and the voluntary organizations (http://www.aravali.org.in/).

is characterized by low level of awareness, unorganized activities, and scarce resources with fewer infrastructures to support its growth and development. Overall, the small ruminant rearing is more a way of life than commercial activities.

2.3 Role and importance of goats in household economy and livelihoods

The goat population of Rajasthan is more than 169 million, which is almost 18% of India's total goat population. The goat rearing in the state has been critical as it provides the much needed household level milk requirement in the western part of Rajasthan[32] although the average milk production potential is estimated to be less than a liter for the goat breeds. Due to the significantly low access to the formal financial institutions in the rural areas, goats are being sold during the emergency requirements of the households. The goats are also considered as the assets of the women in the households and sometimes goats are being given as a gift during the marriages and social functions. The goat's manures are being extensively by the farmers as an important source of nutrients requirement for the soil.

2.4 Support services available for the goat rearing

Goat rearing requires certain inputs and services to be converted into milk, meat and manure as final products. The 'kids', 'feeds' and the 'medicines' for the goats are the three most important inputs that require proper support and infrastructures so that the goat rearers could avail the facilities. The breed development and improvement programme in the state mainly aimed to help in improving the weaker sections of society and most of the research were on the selection of the breeds among the most popular local breeds (*Sirohi*, *Marwadi* and *Jakharana*) as it has been observed that the performances of the other breeds/cross breeds are not good may be due to the harsh climatic condition. Goat rearing in the state is heavily dependent on the grazing of the herd but due to non/limited availability of proper grazing fields, the farmers keep very few goats in the households. There are extensive infrastructures available for the veterinary and animal health care alongside the diseases control programme which helped the farming community to avail this at low cost/no cost[33] . However, the facilities are being used by limited number of farm families due to the distance from their villages.

[32] Livestock holding pattern in the state has changed (reduced number of cows) over the year due to shortage of fodder which is related with the low rainfall (UNDP-ARAVALI study on Livelihood strategies in Rajasthan, 2005)

[33] There are 3698 veterinary institutions comprising of 14 Polyclinics (VPC), 249 1st grade Veterinary Hospitals (VHF), 1570 Veterinary Hospitals (VH), 7 Private Veterinary Hospitals, 285 Veterinary Dispensaries, 1580 Sub-Centres (SC) (http://animalhusbandry.rajasthan.gov.in/activities.aspx).

3. Details of the Projects Visited

3.1 Visit programme to project sites

As per the detailed programme designed in consultation with the stakeholders, the team visited 2 projects being implemented in the state of Rajasthan which are specifically targeting the enhanced the livelihood options of the rural people by growth and development of goat value chains. Both the projects were supported by the IFAD as a part of their long term commitment increase income and reduce vulnerability of the rural population in India. The two projects visited are as follows:

- imGoats Project: Being implemented in 2 states: Rajasthan and Jharkhand.
- MPoWeR Project: Being implemented in western districts of Rajasthan.

3.2 imGoats project

The International Livestock Research Institute (ILRI) is the main implementing institution and is responsible for technical, administrative and financial management of the project "Small ruminant value chains to reduce poverty and increase food security in India and Mozambique (imGoats, in short)". Rural community development activities are managed and conducted by the BAIF Development Research Foundation in India and CARE International in Mozambique. The project also collaborates with national researchers and other local development partners. The project was funded by the European Commission through International Fund for Agricultural Development (IFAD). The project aims to transform subsistence-level goat production from an ad hoc, risky informal activity to a viable, profitable model, increasing incomes and thereby reducing poverty and enhancing food security, while preserving community and national resource systems. In addition to goat keepers, beneficiaries include other goat value chain actors, including small-scale traders, input and service providers. The main target groups are poor small ruminant (mainly goat) keepers, especially women, in arid and semi-arid areas. This includes small-scale agro-pastoralists who cultivate small plots of land, as well as the landless. In both cases, a high degree of dependence on common property resources is a key feature[34].

The imGoats project in India was implemented in Udaipur District (Jadhol and Sarada block) of Rajasthan and Dumka district of Jharkhand states in India. The team visited the *Jadhol* block of Udaipur District in Rajasthan during 18-19 August 2014. During the visit it was observed that the main target groups are poor goat keepers, especially women, other marginalized groups like scheduled castes and tribes[35].These include small-scale agro-pastoralists who cultivate small plots of land, as well as the landless. In both cases, a high degree of dependence on common property resources is a key feature. In addition to goat keepers, beneficiaries include other goat value chain actors such as small-scale traders, input and service providers. The goal of the imGoats project is to increase incomes and food security in a sustainable manner by enhancing pro-poor small ruminant value chains. The duration of the project was from February 2011 to June 2013 with a target to reach 5000 households. The two main objectives of the project were (Source: presentations of BAIF):

- to pilot sustainable and replicable organizational and technical models to strengthen goat value chains in India that increase incomes, reduce vulnerability and enhance welfare amongst marginalized groups including women; and
- to document, communicate and promote appropriate evidence-based model(s) for sustainable, pro-poor goat value chains.

[34] imGoats project brochure of International Livestock Research Institute (ILRI) (https://cgspace.cgiar.org/bitstream/handle/10568/3171/imgoatsweb.pdf?sequence=4).
[35] The population is of scheduled tribes in *Jadhol* and *Sarada* block was 72% and 57% respectively as per the primary survey conducted by BAIF in 2010.

The visit started with the presentations from the research personnel of BAIF Development Research Foundation which covered the learning of the small ruminant value chains for reducing poverty and increasing food security in dry land areas of India. The detailed presentations covered the overview of goat in India and Indian economy, challenges and opportunities, objectives of the project, target beneficiaries, major programme implemented, major findings and outcomes of the project. The field visits organized by BAIF in Richhawar village, which is one of the tribal dominated villages under the project block Jadhol. The *Sirohi* breeds of goats are popular breed in this village and are being reared traditionally since long but the difference made by the project by introducing the best practices through provision of technical services which changed the health and hygiene condition. The tribal women were empowered through strong social mobilization of BAIF and the women groups working in goat development programme are organized into federation at the block level. The support provided for marketing to the groups helped them to fetch better prices by selling the goats. The innovation platform has been introduced with multi-stakeholder approach; however the participation of the financial institutions were conspicuously missing.

3.3 MPoWeR project

The project on "Mitigating Poverty in Western Rajasthan" (MPoWeR in short) is a poverty reduction initiative of Govt. of Rajasthan and supported by IFAD[36]. The scope of the project is to cover relatively poor and backward blocks in the drought prone and food insecure six (6) districts of western Rajasthan: Jodhpur, Jaiselmer, Barmer, Pali, Sirohi and Jalore[37]. The project components were built on experiences and lessons learnt under ongoing rural development programme in the state, and introduce some innovative features and are designed to provide a model for scaling up of what has performed well in the past and introduces elements to enhance sustainability. The project targets poor households headed by landless agricultural labourers and small and marginal farmers, owners of marginal land or wastelands, traditional artisans, women, and young people who are without the skills they need to become employed. The project was designed to ensure empowerment of the poorest people. Although most of those who will benefit from it are living under the poverty line, activities will also include some other people who are not quite so poor but are eligible for support. The approach is participatory. The objectives of the project are to:

- organize and empower poor people through community-based organizations such as self-help groups, marketing groups, producers' organizations and village development committees
- promote income and employment opportunities while reinforcing strategies that mitigate risks
- provide access to financial services and markets

The field visits to MPoWeR project started with a brief presentation by the project personnel introducing the project, the strategies, implementation plan and the achievements. It was learned that technical support is being provided by the Centre for Microfinance and the community mobilization is being supported by 4 grass root NGOs and Ambuja Cement Foundation[38]. It was observed that the project identified some specific problems related to goat rearing and marketing and they are focusing on addressing those problems. The study visit team also observed that the major focus on the health and

[36] Total project cost: US$ 62.3 million of which IFAD Loan: US$ 30.4 million and IFAD Grant: US$ 608,000. Project duration 2008-2016 (http://operations.ifad.org/web/ifad/operations/country/project/tags/india/1418/project_overview)

[37] The project area is characterized by low and dispersed population and most them depends on agriculture and livestock. The rainfall is scanty with limited potential for irrigation which resulted in frequent occurrence of drought. The project is poised to include all the 1,045 villages in the 6 districts (Source: Project document, MPoWeR)

[38] The 4 NGOs: BCT, SURE, SRS and GVNML are supporting the programme in Pareu, Gida, Baitu and Batadu block of Barmer District respectively. The Ambuja Cement Foundation is engaged with the project in Bali Block of Jodhpur District.

hygiene have reduced the mortality of the goats which in turn increased the income of the farmers. The para-vet cadres like Cluster Level Facilitators (CLF)[39] and the *Pashu Sakhi*[40] were developed to support the health and hygiene of the small ruminants at the door steps of the famers which reduced the cost of taking the animals to the vet hospitals. In the marketing front, the introduction of weighing machines enhanced the capacity of the growers to sell at a reasonable price.

[39] The CLF are the para-vet personnel trained by the government department/NGOs (e.g. BAIF) to provide veterinary services at the village level.

[40] The *Pashu Sakhi* are the women goat producers specially trained in advising the health and hygiene of the small ruminants.

4. Small Ruminant Value Chain in Rajasthan

4.1 Need for development of value chain

Majority of poor people sell the agriculture, livestock and non-farm commodities from the farm gate itself and they don't get linked with the higher order markets beyond villages. Therefore, they realize the lowest value from the sale of commodities/services. To improve the price realization by the farm households they need to develop the linkages and this is possible only when there is a clear cut pathway to develop the value chain. The value chain development process analyses every stage of the product or services i.e. from production to the end consumer and endeavour to build the competitiveness across the chain. In case of goat rearing, there is very little value-addition taking place at the farmer/primary producer level leading to a large chunk of produce moving out of the village in the raw form. These activities are generally taken up by players with high capital base located at higher order markets. However, simple aggregation at village/cluster level with rudimentary value addition activities like cleaning, sorting, grading etc. can fetch higher price to the target communities.

4.2 Value Chain: potential, constraints and opportunities

While crop production was not found to be a major source of livelihood in Western project districts of Rajasthan, most of the families are primarily involved in livestock rearing, particularly goat and sheep rearing. Some of them are also practicing dairy. The food grains are produced mainly for food security, however, production of Guar, Moth, Mustard, Cumin and Groundnut etc. are also taken up for commercial purpose. The villagers of Bali block and other places in the Abu road[41] were found to practice goat and sheep rearing as the most important economic activities over field crops which have high potential in those areas.

The constraints to developing market-led value chains are lack of awareness among the target groups, poor management practices and low levels of skill for enterprises. Arid conditions prevailing in the districts we visited adversely impacts on the local economy as crop and cattle productivities are low. The penetration of technological interventions in the area is low. Due to the lack of access to both financial and business development services, most of the farmers borrow money from local traders and shopkeepers and get tied up for selling their produce at very low price to them. The villagers and farmers have inadequate access to market and market information. Because of remote area locations, farmers generally depend on the local traders for such information. They have inadequate support and extension services. There are only few local initiatives on processing and value-addition based enterprises in the area. Existing facilitation skills, organizations, and services catering to value chain development in the area are far from adequate.

There are many opportunities to develop the value chain in the areas the study team visited which are: a) there is a good road network with transport facilities till the village point, b) people are traditionally involved in livestock rearing and have a strong but rudimentary skill base, c) there is a scope of promoting livelihoods and people reflected a need for improved livelihood opportunities, and d) A strong desire among Government agencies, banks, NGOs, and community-based organizations to support the project can be leveraged effectively.

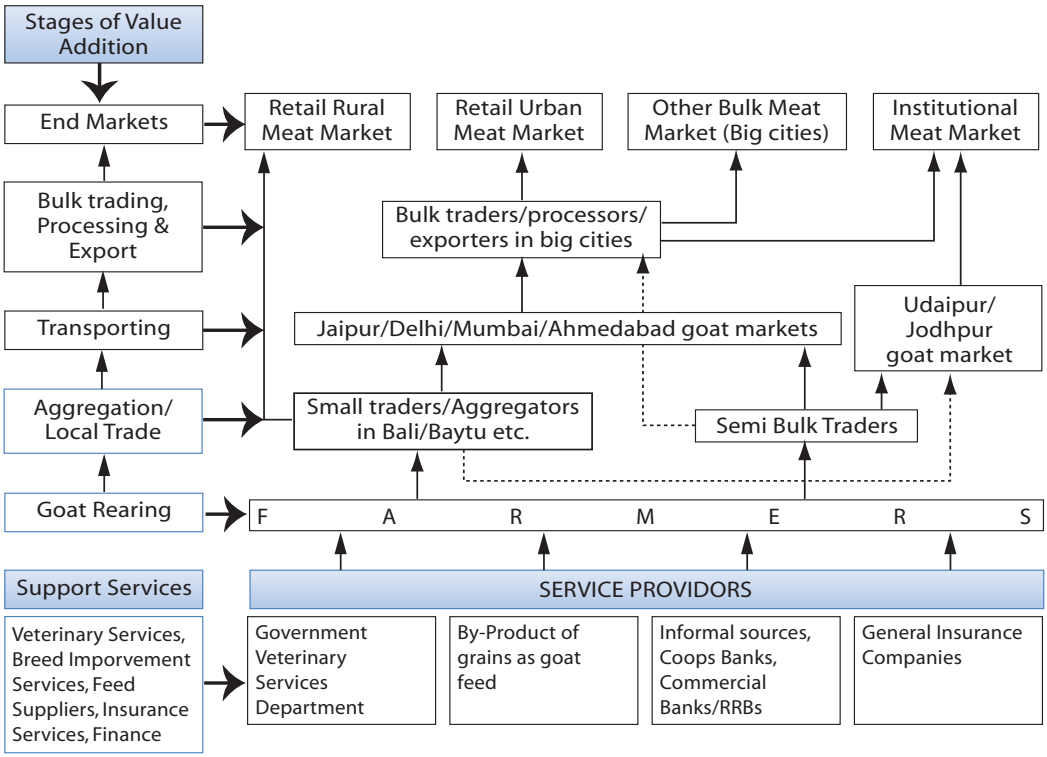
[41] The SRVCF team visited the villages which are on both side of the road leading to Mount Abu.

4.3 Goat value chain analysis

Goat is a multi-utility animal as almost every part of the goat has a commercial value such as meat, head, legs, skin, lungs, bone, kidney, intestine etc. Female goat is kept for production and milk purpose. Goat milk is used mainly in the household for self-consumption purpose or sold locally. Goat milk plays a very important role in the areas the study team visited[42]. Male goats are sold for meat purpose. The goat manure is used in agriculture fields. The goat wool is used in floor carpet industry. Goat by products are used in pharmaceutical and FMCG industry. Very little of the meat consumed in India is pre-processed. An estimate of the Ministry of Food Processing Industries (MoFPI) suggests that the level of processing of meat in India is just about 6%, which includes pork and beef. The meat market is predominantly a wet market, with consumers preferring fresh meat as against frozen. There is little processing or value-addition that takes place in the chain from goat/sheep rearers to the end user. A 2008 study reports that 33% of the sheep and 38% of the goat population is culled for meat in the country. An FAO estimate suggests that 718,560 MT of goat and sheep meat was produced in the country in 2009, of which two-third was goat meat; this constituted 6% of the world's *chevon* and mutton[43] production.

During the field visit, the study team gathered some information which are being analyzed and the accordingly the schematic diagram of the goat meat value chain as gathered during the field visit is given in Figure 1 below. The major players involved in goat sub-sector are primary producers, small and big traders, meat retail shop, slaughter house, processors and exporters, banks[44], carpet industry, private companies, insurance companies[45] and government department.

Figure 1. Schematic diagram of the goat meat value chain in the project areas



Source: Authors, 2014

[42] The goat milk is consumed in the household and there is no value chain as such for the milk produced.
[43] The goat meat is often called *chevon* or mutton when the meat comes from adults, and *cabrito*, *capretto*, or *kid* when from young animals.
[44] During the visit of the study team it was observed that the commercial banks are not playing any major role in financing the goat rearers, except in one case where ICICI Bank Ltd. came forward for lending to the SHGs.
[45] Insuring the goats are not economic proposition to the Insurance companies in the project areas. However, both private and government insurance companies provide insurance cover to goat on per annum basis.

Villagers are involved in goat production. While women take care (grazing and feeding) of the goats male members do marketing of goats. When male members are away female does the marketing as well. During drought periods villagers move out with goats to green pasture within and some they travel to outside the state for up to 5-6 months. Local traders visit villages (up to 200 km radius) to procure goats and sell them in goat *mandi*[46] at district level. By products from goats are used in carpet, toothpaste, leather and other industries. Exporters are located mainly in big cities (for example Jaipur, Ahmedabad, Mumbai and Delhi) from where goat and goat meat is exported to Gulf countries. Animal husbandry department of the state provides health support services for breed improvement and higher production of goats. Although multiple products are obtained from sheep and goat, the value of this is not reflected in the price of live animals obtained by shepherds and rearers. There is wide variation in the prices obtained by the rearers at different locations and in different seasons. The returns to the rearers are further diminished in cases where they borrow money from the traders or their agents. The table 1 below enumerates the details of the value created along the value chain of goat meat in the two project sites.

Table 1. Goat meat value chain

Value Chain Actors	Product Sold	Place of Sale/ Service	Initial Investment (INR)	Recurring Costs (INR Per Annum)	Other Costs Incurred (INR)	Time Period	Sale Price (INR)	Profit Margin Per Unit (INR)
Goat breeder	Goat kid (male)	Village or local market	Not disclosed	Family labour only	(variable, not known)	3-4 months	700	variable, not disclosed
Goat rearers	Goat	Village or local market	10,000 (5 goats +1 buck)	Family labour only	100/goat/ year	6 years	3,000/goat	Generally they do not sell the female goats even after it become non productive
	Buck		5,000 (5 bucks)	Family labour only (6,000 estimated)	1,500 (for 5 bucks)	1 year	20,000 (5 bucks with average weight of 20 kg @200/kg)	2,500 per buck
Local butcher	Meat and other parts	Meat shop in Bali/ Baytu town	capital cost: Unknown	Not Known	Not Known	–	–	
			4,000 (per buck)		100 (cost of transport and housing per buck)	Daily	16 kg meat @300/kg + 300 for skin	700 per buck
Agent at local market	–	Local market		Not Known			10% of sale price	

[46] Mandi here means organized market.

Table 1. *(continued)*

Value Chain Actors	Product Sold	Place of Sale/ Service	Initial Investment (INR)	Recurring Costs (INR Per Annum)	Other Costs Incurred (INR)	Time Period	Sale Price (INR)	Profit Margin Per Unit (INR)
Traders in local market*	Goats and bucks	Udaipur & Jodhpur goat market	560,000 (on an average 80 goats @3,000/ goat and 80 bucks @4,000/ buck)	Not Known	40,000 per trip (average cost of transport and other incidental charges was 250 per goat/ buck)	5 days	Estimated sales price is 650,000 (calculated based on some informa-tion)	312.5/ animal

* As per the information were collected from the key informants

Note: The information is based on the discussion held with the Officials from BAIF, MPoWeR, grower groups, retailers in Udaipur, Jodhpur and the Restaurants

4.4 Value chain development strategies

Both the projects the team visited aimed to enhance the incomes of the target groups by promoting enterprises and up-grading, strong coordination among market actors, and development of business development services. During the initial years, the project developed the capacity of the project team and key stakeholders, created producers groups, and undertook studies. During the coming years, the project needs to demonstrate opportunities and support groups in business planning and development. Towards the end of the project years the value chain development activities will take off. One of the main components is to organize Small Ruminant Marketing Groups (SRMG) at block level. The projects need to assist existing and potential service providers to develop and deliver business development services (sector specific, cross cutting and financial) as per the need of the enterprises. Business development services need to be provided to the enterprises as far as possible through service providers, preferably private sector, and the concerned projects will play the role of the facilitator to develop linkages between service providers and the enterprises.

5. Community Participation and Value Chain Development

5.1 Goat husbandry practices

According to a study conducted by ILRI in Rajasthan, it was observed that the income from agriculture is 20% of the total household income whereas goat husbandry is mainly a complimentary source of income to support household needs or during emergencies and account for 12% of the total annual income[47]. The goat keepers practice a combination of open browsing and stall feeding which varies according the season and availability of common grazing land/forest land. Women are more involved in day-to-day activities of goat rearing whereas the men are involved in activities like medication and selling. The traditional goat rearing practices resulted in to many problems;

- Availability of quality bucks for breeding purpose is a constraint for developing a better herd.
- The medications of the goats are difficult due to the dispersed population in the villages and they could not collect the medicine jointly.
- During the winter and summer seasons, the food availability is very low and the goat rearers have to depend on the stall feeding for which they buy foods at a higher cost.
- In the marketing front the growers are not getting proper price due to various reasons and one of them is definitely due to selling small number of goats to the traders.

The above mentioned problems could be addressed by developing the practice of collective action and community participation to develop an efficient value chain.

5.2 Community participation and collective action

During the field visit, it was observed that the majority of the goat rearers in the both the project areas have gone through a community mobilization process[48] and became the members of the goat based livelihood group (GBLG). They are now involved in range of collective actions starting from sharing the good goat breeds, health care, management practices and marketing. The community mobilization process taken up in both the projects enhanced the level of awareness to adopt good management practices. The trained local goat rearers are now serving as the field guides and sharing the knowledge by adopting proper communication strategies to demystifying the technical know-how.

The value chain development process is little slow but the potential is very high as there is significant improvement in collective action and community participation. There is many fold increment in investment for breed improvement which will have a long term impact on the growth and development of the goat husbandry for the rural population. It was also observed that access to the veterinary services have reduced the mortality rate to a great extent. A simple intervention of supplying weighing machines to the GBLGs has increased their income as the traders have to pay according the weights[49]. Due to short duration of the project period in case of imGoats project, the value chain development at the output level could not be established but they very well developed it at the input level. On the other hand, the MPoWeR project is a relatively longer term project which has the more potential to enhance the business development services required to improve the efficiency of the output value chain.

[47] ILRI Research Brief, June 2013.
[48] Orientation of the goat rearers and other stakeholders about the benefits of collective thinking and action.
[49] The general practice of the traders in the project area was to pay by eye estimation which were in general less than the actual weight.

6. Access to Finance and the Challenges

6.1 Need of finance along the value chain

As already mentioned, milk is one of the major purposes of the goat production in both the project area visited by the study team. Goats are being sold mostly for getting some additional income for the household and as such the goat meat value chain is not so discrete in the project area. However, it was observed that all the actors in the goat meat value chain are very much present and playing their role. During the discussion, it emerged that the small holder farmers need external finance to buy better breed of goats and purchase of feedstuff supplement for the goats to get higher weights. Financial needs for the other actors in the businesses of red meat value chain ranges from stock management of livestock by traders, investments in meat processing, and the establishment of marketing infrastructures.

In *primary production*, the setting up of livestock farms involves acquisition of grazing fields, construction of livestock production infrastructure, purchasing of foundation stock, pasture establishment and management. The traditional livestock farmers start their livestock projects from inherited herd of goats or from own source. These farmers would need access to finances to allow them to purchase and use the inputs they need to modernize and increase the productivity of their herd. However, in most cases traditional livestock producers do not even think for financial support from the banks as they are sceptical about the formalities required by the banks. In *trading* of livestock from farms and primary markets (Bali, Baytu etc.) to secondary (Udaipur, Jodhpur etc.) and border livestock markets (Jaipur, Delhi, Mumbai, Ahmedabad etc.), the flow of financial capital is more evident in livestock trade and exchange of ownership for cash in markets, transportation to slaughter facilities and the retail sale of carcasses. In order to operate on a profitable economy of scale from trading livestock which are mainly from rural farmers and primary markets, sufficient amounts of money is required where credit facilities from the formal financial sources plays an important role. At the subsequent value chain stages of trade of animals, processing and marketing of value added products, the requirements for financing are more pronounce as these operations are relatively more capital intensive compared to primary production.

6.2 Availability of formal finance

It was observed and also reported that the access to formal finance is a difficult proposition for all segments of red meat value chain in the project area (for that matter in the whole state of Rajasthan). To start with, financial institutions do not consider the livestock production, trading or processing as a business sector and view it as a highly risky venture. Furthermore, the accessibility to loans is limited due to loan conditions, its cost and the lending prerequisites such as collateral and stringent conditions for red meat value chain financing and lending. The repayment conditions generally do not suit to the goat production cycle, thus making it almost impossible for farmers to repay loans at the commercial rates.

There are certain initiatives undertaken from the government to improve flow of finance to this sub-sector for example, government is encouraging savings by mobilizing local organizations through the Savings and Credit Groups to enable members to provide onward lending for production. Micro lending service provision by the commercial banks[50] is also improving gradually. The participation of

[50] In India, any loan amounting up to INR50,000 by the commercial banks are designated as micro lending.

livestock producers in mainstream micro savings and lending societies is however still limited. The commercial banks need to provide more emphasis on microfinance lending for improved accessibility to producers and other businesses in the red meat value chain.

The local NGOs engaged in microfinance are also active in supporting the small holder goat producers. The services of such providers include technical support services on business feasibility analysis, planning and also provides support for access to financing from financial institutions, as well as grants that are tailored to specific business structure. According to the current arrangement in both the projects, the NGOs are helping to build the capacity of the goat farmers as the projects supported them to buy good quality bucks. Financial facilities are limited and very few value chain actors can access substantial financing from the NGO sector.

6.3 Informal finance practice

The goat farmers in most of the cases establish their farm from inherited herd of goats[51]. If there is no heritage herders would herd somebody's goat for some time and in return receive in-kind payment of goats. In addition, pastoralists mostly of the tribal groups in the two project sites have earned money through MGNREGA which they reinvest in buying goats. Traders and butchers often go into private arrangements that allow delayed payment from the sellers. It is a common practice to pay the price of the goats after it is slaughtered or the next market day. These arrangements only work where people know and trust each other; if there are irregularities the chances to recover the money becomes minimal.

6.4 The challenges

The goat meat value chain analysis manages to shed light on the existing constraints for access to finance by the actors along the chain which are as follows:

- The commercial banks and other financial institution's appetite to invest in businesses in the red meat value chain seem to be still very limited if not inexistent[52]. In case the traders, butchers and meat processors receive loans they do this on the basis of providing sufficient collateral and not because the banks have checked the profitability of the business. As such the banks and financial institutions do not understand well the financial requirements of goat farmers, traders and processors and they do not evaluate creditworthiness on the basis of revenue or returns on investment but on the basis of availability of collateral.
- Livestock farmers have few opportunities to acquire loans needed for modernization farm infrastructure and for the improvement of animal husbandry measures. These however, contribute to the reasons why traditional livestock farming is lacking behind in the state of Rajasthan.
- Lack of tailor made financing schemes for goat keepers to enable them re-stock and trade with other value chain actors.
- Inadequate access to credit to enable goalkeepers access inputs such as breeding bucks, Vaccines, de-wormers etc.
- Large traders who are able to use informal sources of finance dominate the live animal markets crowding out smaller operators who cannot pay for animals immediately and in-cash
- There are no financial support packages, preferential interest rate programme, or guarantee schemes that would ease access to finance. The banks also do not have any red meat value chain financing scheme.

[51] In some case the bride receive goats from their parent's house as gift during their marriage.

[52] During the visit it was observed that only ICICI Bank Ltd., a private sector commercial bank extended financing facilities to the goat rearing groups.

- There is limited capital for investment in slaughter facilities. While the state government have been able to leverage some money from central Government programme but most districts remain without any opportunities to renovate or set up new market and slaughter facilities for goat meat.
- Traditional livestock farmers, traders and meat processors have limited knowledge and skill on business planning and management.

7. Lessons Learned and Future Directions

7.1 Lesson learned

The study visit was a successful exercise undertaken by the FinServAccess project of APRACA for their partners in Nepal. The following major lessons were learned during the 5 day exposure visit to imGoats and MPoWeR project in Rajasthan state of India:

- Both the project have strong component of developing pro-poor goat value chain and the whole approach was inclusive.
- Both the project targeted to empower the women folks who are the main stakeholders in goad production system.
- Introduction of weighing machine changed the power of negotiation in the community to fetch good prices and empower the women in business aspect.
- An Innovative Platform (IP) was introduced and organized where financial institutions were also invited but financial link up could not be built.
- The implementing agency organized the goat fairs before the time of main festivals (when there is high demand of goat) which were effective to sell the goats from the project areas and the farmers could get good price because of good interactions with buyers.
- Local breed (Sirohi) in Udaipur area is suitable to that area and the government policy to improve this breed of goat is a right move to maintain the biodiversity. However, some new and high yielding goats are also being tried to see their adaptability.
- Social mobilization is one of the major components of both the project. The project also emphasizes on providing technical knowledge services which are equally important to increase the productivity of the smallholder farmer.
- The structure of technical service provision in MPoWeR project was effective, i.e. project staff to CLF, CLF to *Pashu Sakhi*[53] and *Pashu Sakhi* to individual farmers.
- The scale of operation appears to be below par and that is reason why the urge for more investment in this activity is not envisaged.
- Innovative marketing ideas need to be introduced to expose the small holder goat producers to various options so as to enhance price realization at the producers level.
- Tie-up arrangements with the more number of financial institutions will open the door for financial services for the growers. This will also help them to graduate from a simple goat producer to a commercial farm through scale up operation.

7.2 Future directions

The formal sources of finance are considered as being the most reliable. Access to them has been difficult and scarce to most of the value chain actors. To reduce the credit access difficulties in goat meat value chain the following suggestions can be made:

- Traditional farmers mostly start small ruminant production from own source of funds. It is recommended to promote financial institution (especially the commercial banks) to put up special facilities to support small ruminant farming.

[53] *Pashu Sakhi* is the lead women goat rearers who was trained in maintaining health and hygiene of the goat production system.

- Conduct field study in the state of Rajasthan on the volume of funds required, risks involved and profitability of the different segments of the goat meat value chain and create awareness among financial institutions about the financial requirements of each of the actors.
- A guarantee system to compensate banks from the credit portfolio to become non performing assets (NPA). The guarantee scheme should follow the principles of no-collateral to secure the loans.
- Promoting low cost loan products to encourage the small holder goat producers with a maximum herd size of 20.
- Train people who are involved in goat meat value chain on business plan and proper financial management as tool to access loan from financial institutions. Livestock farmers, traders and processors have often little knowledge on how to request and manage loans.
- The existing saving and credit groups need to be strengthened as an alternative source of funding and encourage livestock farmers, trades and processors to form credit societies.

The APRACA partners like HVAP and ADBL of Nepal may also take the lessons from the above mentioned future directions which will support them to take some strong policy decisions to improve the access to formal finance for the goat value chain actors.

Annex 1: List of the participants from Nepal and APRACA

Sl. No.	Name	Designation	Organization
1	Mr. Hira Lal Dhakal	Commercial Goat Breeder	Dhakal Family Goat Farm, Surkhet, Nepal
2	Mr. Rajendra Prasad Bhari	Project Manager	HVAP, Surkhet, Nepal
3	Mr. Kishore Prasad Kayatha	Regional Director	Regional Livestock Services Directorate, Surkhet, Nepal
4	Mr. Khadga Bahadur Sinjali	Livestock Development Officer	HVAP, Surkhet, Nepal
5	Mr. Drona Prasad Acharya	Section Cheif	ADBL, Central office, Nepal
6	Mr. Tej Prasad Sharma	Branch Head	ADBL, Surkhet, Nepal
7	Mr. Rajen Kumar Khatry	Management Expert	ADBL, Nepalganj, Nepal
8	Dr. Marlowe Aquino	Project Manager	APRACA, Bangkok
9	Mr. Chamnong Siriwongyotha	Secretary General	APRACA, Bangkok
10	Dr. Prasun Kumar Das	Technical Expert	APRACA, Bangkok

Annex 2: List of stakeholders interacted with the study team

Sl. No.	Name	Designation	Organization
1	Mr. Jaipal Singh Mertia	Project Director	MPoWeR, Government of Rajasthan, Jodhpur
2	Mr. Mrinal Roy Choudhury	General Manager	MPoWeR, Government of Rajasthan, Jodhpur
3	Mr. Sanjeev Soni	Project Manager	MPoWeR, Government of Rajasthan, Bali Block
4	Mr. Avinash Deo	Programme Organizer	BAIF Development Research Foundation, Pune
5	Mr. R.S. Sharma	Chief Programme Coordinator	BAIF Development Research Foundation, Udaipur
6	Mr. B.G. Rathod	Programme Coordinator	BAIF Development Research Foundation, Udaipur
7	Mr. Kumar Ranjan Parhi	General Manager	Center for Microfinance, Jaipur
8	Mr. Kirit Kumar Patel	Programme Officer	Center for Microfinance, Jodhpur
9	Mr. T. Shydh Divakaran	Regional Business Head-West	HDFC Bank, Ahmedabad
10	Mr. Krishna Murthy Apuri	Cluster Head	HDFC Bank, Jodhpur, Rajasthan
11	Mr. Kanaram Prajapat	Programme Manager	SURE (NGO), Barmer, Rajasthan
12	Mr. Sanjay Joshi	Programme coordinator	Ambuja Cement Foundation, Bali Block

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