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Are Local Institutions Blessing Or Curse for the Poor? The Case of Dairy Sheep Systems in a Dry Marginal Area of Syria

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Abstract

Local institutions of dairy products play an important role in providing services to the rural poor, such as marketing, input supply, credit and safety nets against unexpected shortfalls due to drought or crop and livestock losses. Hence they play a critical role in the livelihoods of the rural poor. However, the benefits of participating in local institutional arrangements may be uneven and the poor may be disadvantaged because of their weak negotiating position and vulnerability. This study covers 44 villages in Khanasser valley, a dry marginal area located in northwest Syria, where sheep production is a dominant source of livelihoods. The study describes local institutional arrangements in relation to the dairy sheep system and the embedded social capital. Using qualitative and quantitative methods, the study analyses the terms of arrangements between traders and dairy sheep producers in milk collection, processing and marketing. The distributional effects of these arrangements and the factors influencing the poor's access to these institutions are analyzed. The results show that important services are provided to the poor particularly in the absence of infrastructure and access to markets. It was found that different communities use different strategies to process and market dairy sheep products with associated benefits. The internal and external factors that determine farmers' choices of these different strategies are analyzed. Since sheep production activities are highly gender specific, the impact of these different strategies on women's well-being is examined. This provides insights into the feasibility of gender-specific technological improvements in the dairy sheep sector. The study provides recommendations for technological and development options to improve the dairy sheep production system in similar marginal dry areas.

2. Background and Aim of the Study

Population growth in Syria and particularly in the Khanasser Valley located in Northeast of Aleppo city is about 3% annually. The valley is characterized by low rainfall (200-250 mm annually) and has limited income generating options for its population. Population in rural areas of the valley is divided into two main categories: those who rely on sheep production, and those who rely on off-farm activities. Both categories have some cropping activities mainly to feed their livestock. Therefore livestock production provides research focus opportunities to improve the livelihoods of the rural communities. The valley was selected by ICARDA as 'integrated research site' where an interdisciplinary approach to sustainable natural resources management in dry areas is applied. Livelihoods and natural resource management are the main problems addressed.

In the Khanasser valley, livestock production is identified as an important livelihood source. Herd sheep, although decreasing in the valley, due to a decrease in the grazing areas resulting from land reclamation and rangeland protection, are still raised in important numbers by rural households. Dairy products particularly cheese are critical in the Syrian diet including the poor rural areas. Therefore, dairy production is an important strategy adopted by rural households in Khanasser valley. Milk production in Syria has increased considerably since 1980, however the increase is generated mainly by cow milk production, whereas sheep milk production has remained constant over the past 20 years.

Milk and dairy products are an integral component of the diet of the people living in dry areas of West Asia and North Africa. The high demand for these products represents an important livelihood source for the poor. Small-scale milk and dairy producers can effectively tap into this market to improve their income and quality of life.

In the Khanasser valley, poor farm households produce milk. Cheese and yogurt are produced from cattle and sheep milk. Although in Syria cow milk production has considerably increased in the whole country over the last 24 years (Figure 1), cow milk production is owned by large producers and investors from both rural and urban areas, whereas sheep milk production remains the main source of dairy production especially for small-scale sheep producers in the Khanasser valley.

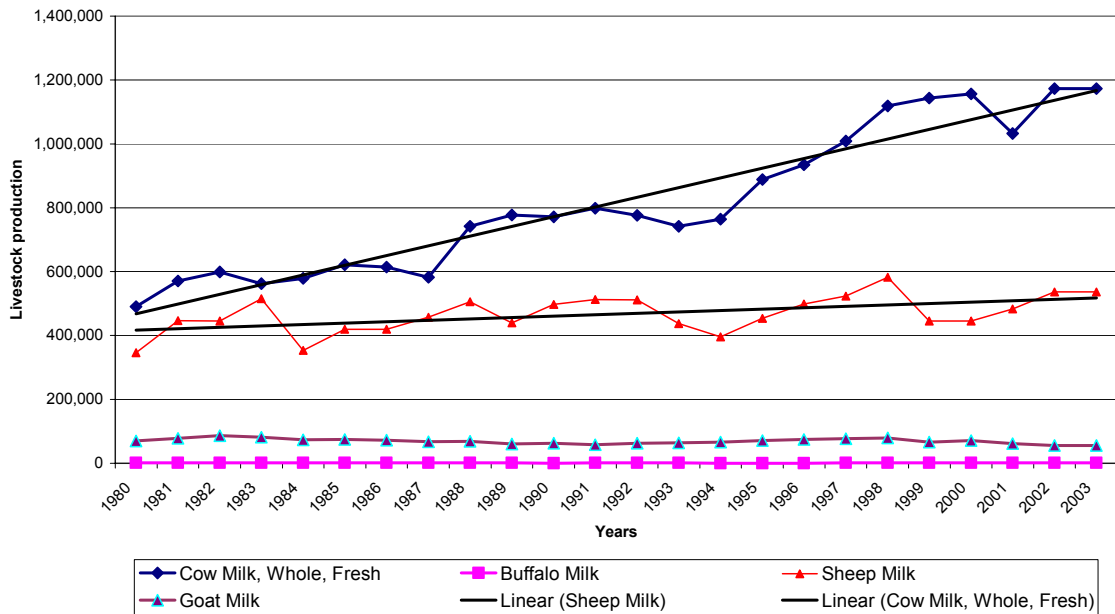
Understanding how the informal small-scale industry of dairy production in the Khanasser valley works, what services it provides to local communities, the constraints inherent in such systems, and the identification of entry points for technology transfer constituted the main concern. The objective is to encourage small entrepreneurs in a village-based agro-industry to produce value-added food products, with the end result of reducing poverty.

A study covering 44 villages in the Khanasser valley documented the local institutional arrangements and the functioning mechanisms in relation to sheep milk production and processing as well as the embedded social capital. Aspects that are determinants in the payment for milk delivered to traders/processors have revealed an interesting parallelism of known relations between farmers and milk processing plant.

One characteristic of the dry areas in general and in the Khanasser valley in particular, is that poor farm households and even landless households are sheep milk producers. Milk and dairy products are highly valued in the Syrian diet, and are consumed almost daily. Sheep milk production is seasonal, starting at the end of February and ending at the beginning of June. It largely depends on the rainfall conditions, which affect crop production, reflecting on milk production through feed resources.

The objectives of the study are to 1) Describes local institutional arrangements and mechanisms of dairy sheep system and the embedded social capital; 2) Analyze the distributional effects of these arrangements and the factors the poor's access to these arrangements; 3) Assess the opportunities and constraints related to dairy production through these channels and 4) Develop recommendations to improve dairy production using local institutions of cheese makers (*Jabbans*) as vehicle for change.

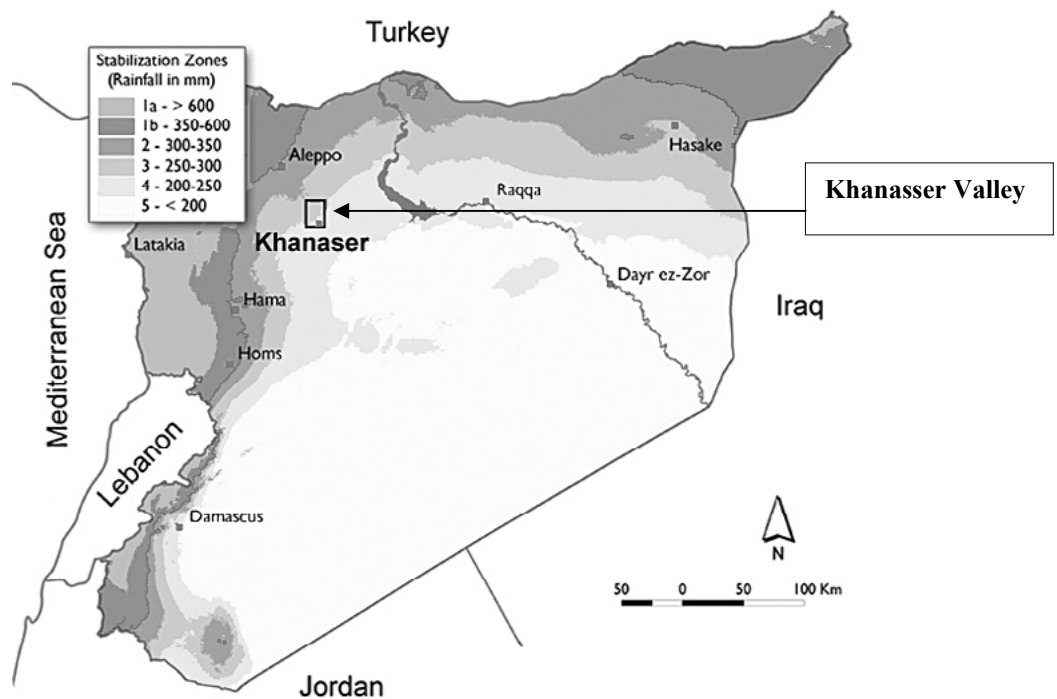
Figure 1: Milk Production in Syria 1980 - 2003



3. Description of the Research Area

The Khanasser Valley is located in northern Syria approximately 70 km southeast of Aleppo city (Map 1). The valley is located an area where rainfed agriculture and rangelands cross-cut. Its total area is approximately 200 km² falling between zone 4 where average annual precipitation ranges between 200 - 250 mm per year, and zone 5 where average annual rainfall is 200 mm and below. The area represents ICARDA’s benchmark site where an integrated approach to sustainable natural resource management is applied. Its objective is to address livelihoods and natural resource issues specific to marginal areas.

Map 1: Study Area



As part of this framework and approach, focus was made on the analysis of the institutional arrangements and social capital related to dairy production.

4. Methodology

Both qualitative and quantitative investigations were conducted in the study area. Participatory tools were used to collect information from 13 villages - out of a total of 44 in the Khanasser Valley - which represent 30% of the total villages. The tools used were mainly the historical calendar of the main characteristics in the area such as weather, population, land tenure, migration, irrigation, health, education, electricity, tribe organization, distribution and functioning. In addition, livelihoods analysis covering the constraints and opportunities, and stakeholder analysis were conducted with the same communities. From these investigations, some important local institutions regarding dairy sheep production, processing and marketing, and sheep fattening arrangements linked to the livelihoods of the Khanasser communities started to emerge. Sheep fattening in the valley is mainly funded by external investors, whereas dairy sheep production and marketing is mainly from the assets of the local people in the valley although some credits are allocated from the traders in the city. Therefore, the identification of dairy sheep production and marketing as one important livelihood strategy justifies the focus of the present paper. These institutions were then investigated in depth in order to understand the different arrangements and the mechanisms of their functioning.

During the same year, a number of Cheese makers (*Jabbans*) institutions in the valley were visited. Individual and group discussions were carried out with the cheese makers and families, and results were combined with observation in the field, with the aim to understand the arrangements between them and the communities where they operate. This was followed by a rapid survey of the 44 villages in the valley to assess the availability of cheese makers in the villages, the importance of the phenomenon in the valley and to evaluate the trends over time of livestock and dairy production, through collecting information on their retrospective availability during the past 30 years. A detailed survey was carried out among farming families in the rural communities of the valley, where a stratified sample was used. In addition a separate questionnaire was administered to a number of cheese makers to quantify some aspects of their characteristics. This was carried out in order to measure social capital, and analyze the linkages between these institutions and the livelihoods of the rural communities

The second phase of investigation was purely quantitative, and aimed at analyzing the community membership in local associations and networks (structural social capital), the indicators of trust and adherence to norms (cognitive SC), and the indicators of cooperation and collective action as an output measure. The three types of proxy indicators for social capital were used in many studies (Grootaert and Bastelaer, 2002).

5. Results and Discussion

The results that will be discussed in this paper are related only to the qualitative part of investigation that has revealed important features of this important livelihood source. Among the livelihood strategies of farmers, three main types were identified: a) off-farm work, b) sheep fattening, milk production and processing, and c) cropping, the first two being dominant. The driving forces for off-farm work resume in that the area is characterized by severe drought/low farm potential, a rapid population growth, a land fragmentation resulting from inheritance, an increase in living expenses in addition to buying drinking water, a shortage in alternative feeds, Government policies prohibiting

farmers to crop land in the marginal areas (considering it as rangelands), a lack of irrigation sources and a lack of cash money for investment in sheep fattening. The main crops grown in the study area are barley, wheat, and cumin. Wheat is mainly for home consumption, barley for livestock feeds and cumin for rotation and as a cash crop recently introduced to the area.

Although sheep fattening represents an important livelihood strategy, it remains mainly financed by external investors from the cities, whereas dairy sheep production and processing which represents the main focus of this paper is mainly managed and funded by local producers in the valley.

Thirty years ago, cheese makers (Jabbans) were settled in thirty one villages out of a total of 44 in the valley, which represents 77% of the total villages. Whereas during spring 2003, cheese makers were settled in only 23% of the 44 villages, which looks at the first instance alarming for herd sheep production in relation to rural livelihoods. The reasons for this decrease are mainly due to an important decrease in the number of sheep and milk production in the area, and a replacement of fallow land by cumin crop (Table 1), which resulted in less grazing lands. Despite this decrease milk production remains an important livelihood source which deserves great attention.

Table 1. Reasons for decrease in number of Cheese Makers (*Jabbans*) in Khanasser

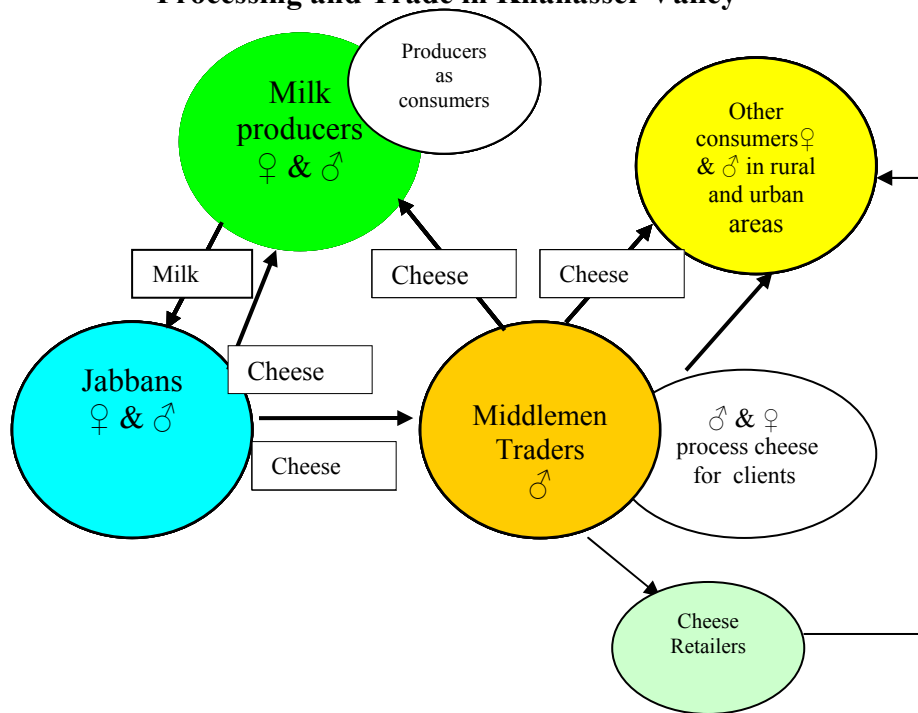
Decrease in number of sheep and milk production, and replacement of fallow by cumin as a result of land reclamation: less fallow and grazing lands	57.2%
More farmers are making yogurt instead of cheese because more profitable + better roads to transport yogurt to cities	23.8%
No agreement on milk prices, and the mixture of sheep and goats milk	9.5%
Shift to fattening business through investors/traders from Aleppo	9.5%

Dairy production institutions involve three main actors in addition to others that are less permanent. These actors are: 1) Farmers, (women, men); 2) Cheese makers (*Jabbans*), (women, men and children; and 3) Middlemen (men). Milk is produced and delivered to cheese makers by local producers, and then cheese is made by cheese makers and families involving both gender, before being transported by the middlemen/cheese makers to traders in neighboring cities for marketing (Figure 2). Cheese is then sold either directly to consumers or through retailers in the market. However a second processing is made at the traders' level for direct consumption in the cities.

Arrangements and mechanisms of functioning of dairy production institutions

The arrangements and mechanisms of functioning institutions between milk producers and cheese makers and traders are important information that could be used to set development project in a region. Using this social capital, there is more chances for the development project to be successful. Every year an oral agreement is made between cheese makers and local communities. It usually takes place during October-November of the previous year, or at the beginning of February of the same year of milk production. This agreement is made either in the village or in case of previous relation with the *Jabban* at the *Jabban's* place of residence, which is in Idlib province located 100 km east from Aleppo city. Most expertise about milk processing comes from this region. The agreement contains details of a number of responsibilities assigned to each party, and open discussions are made between the representative of each village and cheese makers. The following summarizes the terms of agreement between the two parties.

Figure 2: Structure of the Institutional Arrangements of Dairy Production, Processing and Trade in Khanasser Valley



Terms of agreement: Cheese makers’ (Jabbans) Responsibilities

Cheese makers are held responsible for providing no-interest loans to milk producers. These loans are usually provided in winter for purchasing feeds based on the number of sheep managed by each farmer. The loans are deducted from milk values after delivery. During bad seasons, loans are reversed to next year milking season. Loans have a continuous character, which means that all over the milking season, when payments are due, additional loans in form of advance are provided to milk producers. The advantage of this process of payment lies in supplementing the poor with regular source of cash. However the payment of milk is based on the cheese price at the market, and is made to producers every 10 days, a process called the *hittin* basis, due to the changes in cheese prices. Cheese price changes over the season because the quality of cheese differs from the beginning to the end of the season, and is best at the middle. Cheese makers process cheese at the village level twice a day right after milk delivery. However, the relationship with middlemen and traders and cheese market is solely made by the cheese maker, who pays 10% commission for trader, 10% commission for transport and an additional 10% commission if cheese is sold at the end of the day. In the latter case, when cheese is sold at the end of the day, its price decreases because this traditional cheese is boiled before consumption or storage, and it deteriorates quickly if not sold and processed. However, despite the high demand, it could not be sold the same day, it is then processed by the traders to another type of cheese called *‘mushallaleh’* that can be stored for longer time, and which price is higher than the *‘white cheese’* due to the involvement of additional labor in its processing.

Terms of agreement: Community’s Responsibilities

In order for the cheese maker and family to accept the offer of the community to process their milk into cheese, milk producers have to secure a minimum milk amount of 400-800

liters¹ daily from the community. Milk should be delivered twice daily to the Jabban's place, and milk producers should agree that loans will be deducted from milk price during payment every *hittin*. Also, when necessary milk producers can request additional small loans during the milking season, provided that cheese makers are able to reach agreement with middlemen and traders. Finally, milk production of the first/ or the last day in the season is given free to the *Jabban* and family for home consumption as a welcome address from the community.

Gender Dimension

The study found that milk and dairy production activities are highly gender specific. Dairy production and processing mainly involve women, whereas men handle marketing and loan provisions. This shows the necessity for gender-specific technological improvements in the dairy sheep sector to have an impact on women's well-being.

Gender disaggregated activities of main actors of dairy production, processing and trade

	Women	Men	Children
Milk producers			
• Milking	√		
• Bringing milk to <i>Jabban</i>	√		
• Collecting loans and payments from J	√		
Jabban and family			
• Provides loans/credits		√	
• Collecting milk (2-3 times daily) ²	√		√
• Recording amount of milk	√		√
• Add salt to mixture	√		√
• Mixture of milk with starter (<i>manfaha</i>)	√		
• Process cheese and <i>arisheh</i>	√		
• <i>Tafqish</i> (cutting)	√		√
• Fill <i>sheshiya</i> with mixture	√		√
• Fill barrels of 50-60 kg each (5-6 barrels daily)	√	√	
• Transports or send cheese to market		√	
• Payment of <i>hitins</i> ³ and loans/credits		√	
Traders/middlemen & family			
• Collecting white local cheese		√	
• Processing <i>Mushalleh</i> cheese			
• Selling cheese ⁴		√	√
• Processing cheese for conservation for clients ⁵ (<i>Mushalleh</i> cheese, white cheese)	√	√	
• Providing loans		√	

6. Conclusion and Recommendations

The results show that although imperfect, local institutions provide essential services to the poor (particularly in the absence of adequate infrastructure and markets). Sheep producers have multiple benefits from the cheese makers/traders such as access to market and loans. Cheese makers, although originated from different areas are well organized and trusted by the communities, due to long term work with the same cheese makers.

¹ Considering that each ewe provides daily from 1.3 liters in February-March, to 0.8 liters in April-May, to 0.4 liters in June, the average number of dairy sheep requested by the cheese maker for his settlement in the village during spring ranges between 500 and 950 heads in the village.

² Twice: at 11:00 and at 15:30. Three times: at 8:00 AM from sheep that are still feeding their lambs.

³ Payment of milk to producers is made every ten days on the basis of cheese price at the market.

⁴ Selling cheese at a commission equals to 10%.

⁵ Cheese is boiled with salt for conservation and added with *nigella sativa* grains.

Cooperation between dairy sheep producers and cheese makers was successful, as traditional aspects and norms in the society were highly taken into account and respected. Like other studies who have argued that great caution should be taken not to destroy local institutions and networks in the name of “development” (March, 2002) ex; India, Mozambique, Mexico, other African countries, the example of Khanasser valley represents a genuine case.

However, the equity and distributional effects of these institutions in the Syrian rural areas is most fully understood. These institutions could complement formal institutions and safety nets, but need to be strengthened to take additional roles and responsibilities that serve the poor. Working with these institutions could be at different levels: local, regional, and national.

However, this research opens many questions on the role of current arrangements when introducing improved dairy technology and what role will current arrangements play. There needs to know how will new technology change the total value of the dairy products and the distribution of the benefits. Furthermore, the research questions whether cheese makers – Jabbans – could be used as a means of reaching the poor in the delivery of credit. This established and trusted network may be used for this purpose bearing in mind the degree to which these arrangements could be considered as safety nets for the communities.

Although the number of cheese makers has considerably decreased from 70% of the villages in the valley over the last three decades to only 23% of them in 2003, the cheese processing remains an important area where the improvements through technology transfer could contribute greatly in poverty alleviation in the area. Poor livestock producers could benefit from a development project that uses these local networks in order to facilitate its activities and sustain the development efforts.

The research opens up many questions. The first that arose here is to know whether it would be more profitable to poor milk producers to have their milk processed through local institutions and whether in this case, the distributional effects are favoring the poor or not. The second is whether it would be better for them to process milk through development projects that have their pre-prepared objectives for poverty alleviation. The third considered the least but not last to use the local institutions and the knowledge acquired from this research to settle a sound development project that uses the local strengths of people in the valley.

Thinking about the development and technological interventions that could help stabilize or sustain the production system is a first step towards improving dairy production in rural areas. Working in collaboration with these institutions is critical for the success of these interventions, especially because local institutions have their strengths, which should be used for this purpose. Future work needs to target particularly partnership with these institutions, especially if technological improvements are to be introduced through these channels. The development of a model for strengthening/ capacity building in the dairy processing areas, which will include hygiene, and other technological options will greatly improve the work of local institutions through technology transfer.

7. References

- Christian Grootaert & Thierry van Bastelaer (eds.), (2002), *Understanding and Measuring Social Capital: A Multidisciplinary Tool for Practitioners*, the World Bank, Washington DC, USA.
- March, Robin, (2002), *Working with Local Institutions to Support Sustainable Livelihoods*. Sustainable Development Department (SD), Food and Agricultural Organization of the United Nations (FAO). Rome, Italy.