

# Impact of Training Packages on Cheese Making and the Socio Economic Lives for Effort to Reduce Poverty

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**Abstract:** *Purpose of this study is to assess the impacts of training packages on Cheese making on the Socio-economic lives of the poor communities in Korom Village, south Kordofan, Sudan. Methods of the study was to target all households trained on Cheese making in Korom Village, 60 heads of Households on Cheese making. A questionnaire was designed and field trip was undertaken to Korom Village area where a sample of 60 respondents was interviewed in the communities, and results were analysis using stratified random sampling techniques. Result was to ascertain whether engaging in Cheese-making has practically led to reduction in poverty among the communities in Korom Village. Importance of the research to draw the attention of authorities to the plight of the poor communities in Korom Village so as to solicit support and assistance to activities that would give them (communities) increased incomes to enable them ward off their deep-seated poverty.*

**Keyword:** Poverty, Community development, Income generation, Sudan.

## 1. Introduction

Three billion people- half the world's population- live on less than \$2 per day, unable to meet their basic human needs. A subset, approximately 1.2 billion people, or 240 million families, live in "absolute poverty", on less than the equivalent of US \$1 per day (1). Several studies undertake the reduction of poverty in Sudan. Recently however, the emergence of national and international commitments on poverty and related targets (as for instance in the Millennium Development Goals, (MDG) and the Poverty Reduction Strategies (PRS) at country level) coupled with the failure of past paradigms to make mass reductions in rural poverty, have given a new impetus to the role of agriculture in development and poverty reduction. While at the same time, new rural development models have emerged emphasizing a more broad approach in which rural and urban space are viewed as a continuum and their interactions are emphasized (2).

Across very different social, cultural, economic, and political contexts the common elements that underlie poor people's exclusions are the lack of voice and power. Confronted with unequal power relations, poor people are unable to influence or negotiate better terms for themselves with traders, financiers, government, and civil society. This severely put constraints on their capability to accumulate assets and rise from poverty. Dependent on others for survival, poor women and men also frequently found it impossible to prevent violations of dignity respect, and cultural identity.

In order to rise out of poverty, the poor needed to expand their freedom of choice and actions, meaning they increase their authority and control over the resources and decisions that affect their lives. As people exercise real choice, they gain increased control over their lives.

of the world's 1.2 billion extremely poor people, 75 percent lived in rural areas and for the most part they depended on agriculture, forestry, fisheries and related activities for survival. The promotion of the rural economy in a sustainable way had the potential of increasing employment opportunities in rural areas, reducing regional income disparities, stemming out premature rural-urban migration, and ultimately reducing poverty at its very source. In addition, development of rural areas may contribute to the preservation of the rural landscape, the protection of indigenous cultures and traditions while rural societies could serve as a social buffer for the urban poor in periods of economic crisis or social urban unrest (3).

An important question in the development debate regarding rural development had been the relationship between agriculture and the rural economy. In certain respects, past policy perceptions and practice have often equated rural development with agriculture, and rural development policies have been subsumed under an agricultural policy package. The issue of how and under what conditions agriculture was a driving force of rural growth had received scant attention or had given mixed messages including the position of major multilateral financing institutions (4).

Poverty is a complicated subject; it needed to be discussed over a long period of time to arrive at solutions, and surely, education and training were necessary in eliminating poverty. Giving education to the people so that they can get the education about the resources they needed so as to avoid the issue of poverty. Denying people the opportunity to learn was in itself the enemy; and that any cultural traits that keep people from seeking

knowledge were considered the worst enemy of people. And in order to have a long-lasting impact of poverty, a way must be sought of working that avoided creating conditions of dependency and that promote Communities' self-reliance(1).

A pro-poor position could not be enforced from the outside, but rather, genuine commitment based on the desire for community-wide improvements in well-being must be fostered (5). Focusing on income-producing solutions for the poor was a powerful way to alleviate the pain of poverty for a family (6).

Agriculture was an important component of most rural economies especially in the developing countries. It was evident that the size of agriculture within the local economy was sometimes used to define rurality. Therefore, any successful rural development strategy would contain an agricultural development component; however, they were not the same thing. While agricultural development aimed at improving the welfare of populations through sustained improvements in the productivity of the agricultural sector, rural development aimed at the improvement of welfare of rural populations through the sustained growth of the rural economy, which included agriculture, but may not be its only component; and not necessarily the most dynamic (7).

One of the major problems facing many of the third world countries today was how to create a strategy which would lead towards rapid economic development and industrialization. There was a great deal of argument over how this industrialization would be achieved (8).

An alternative form of industrialization has largely been argued in terms of "appropriate technology or Cottage industry". This concept had been used by some third world observers seriously concerned with unemployment and poverty. Appropriate technology defined as technology which uses locally available raw materials and power resources. It minimized imported goods, used existing indigenous skills, simple imported techniques and avoided over-complex and expensive training. (8).

Unfortunately, the appropriate technology argument was by itself fallacious. Technology never came alone; it was packaged as part of a social organization designed to produce goals. It might seem obvious that technology was part of institutions and, as institutions were tied up with national politics, the choice of technology was always determined by the character of the political system. (8).

Studies have shown that the value of indigenous knowledge (IK) lies in its ability to deliver social and economic goods; that certain traditional practices if popularized, and integrated with modern knowledge systems, could help to alleviate poverty (9).

### 1.1 History of Cottage Industry

Rural families were some of the first to become involved

in the cottage industry. They added to their agricultural income by making products at home. Merchants provided the raw materials to the families, collected and marketed the finished product, and then paid the family a percentage of the price charged to the end consumer. Some of the items made by these at-home workers were cloth and clothing, shoes, cigars, and hand-decorated items.

Cottage industries developed in cities around 1870, resulting in the harsh tenement housing system. Immigrant families lived and worked in these crowded, unsafe apartment buildings. They worked for extremely low wages, usually making garments. This system lasted until around 1920, when better management of factories made home-produced goods less competitive (10).

Hand-decorating of items, sewing, and other highly specialized activities still operated as cottage industries today. Economists point to the rise of a new type of cottage industry whereby people can stay at home to perform work on their computers that formerly had to be done at the office. "Telecommuters" is another term used more frequently today to refer to home-based employment. Many jobs that used to require workers' physical presence in the office could be performed from home.

There were many reasons that people chose to work from their homes. They could be experienced or inexperienced, young or elderly, healthy or physically challenged, single or married, with or without children. Many mothers and/or fathers of young children find it more productive, more cost-effective, and safer to keep their children with them while they work at home. They had the flexibility of arranging their job around their family's needs. Many parents enjoyed being spend time with their children during the day. Parents maintained responsibility for the safety of their own children and kept abreast of how much they were learning; knowing who they were playing with, and saving money on day-care expenses at the same time.

Home employment gave control of one's life to oneself. There was freedom and flexibility in setting work schedules. Parents could be at home for their children, had the flexibility of scheduling work flow around school activities such as field trips and sports activities.

### 1.2 Cheese-making

In some regions, there is a high demand for dairy products-both for traditional and modern items. Much of the technology and machinery necessary for processing is fairly simple, which may at first sight appeal to the would-be processor. Milk, however, is a highly perishable food and there is a high risk of transmitting food-poisoning bacteria to consumers. It is stressed, therefore, that milk processing of any kind must be done under carefully controlled hygienic conditions (11).

Furthermore, in developing countries, milk processing is often more problematic than in temperate climates, owing to higher temperatures and humidity.

Consequently, milk spoils at a faster rate, cheese ripens too quickly, and it is often difficult to ensure adequate cooling conditions.

Milk production is inevitably subject to large seasonal variations. In the summer months when pastures are good, cows yield more milk than in winter; a surplus in summer is therefore common. Cheese making an effective method of preserving some of the surplus and has been a traditional occupation of European farmers' wives for generations.

Most cheeses contain 25 to 35 per cent of protein and this protein is of high biological value. The fat content usually varies from 16 to 40 per cent. Cheeses are also high in calcium, vitamin A and riboflavin. There are also dietetic cheeses made from skimmed milk. Cheeses contain tyramine, the amine of the amino acid tyrosine. The amounts vary greatly, but a portion of cheddar may contain 20 mg. Tyramine stimulates the sympathetic system by inhibiting uptake of noradrenalin at the synaptic junctions where its concentration increases, causing a big rise in blood pressure. The tyramine naturally present in food is normally destroyed very quickly in the tissues by monoamine oxidases (MAO) (12).

Cheese is made from milk by the combined action of lactic acid bacteria and the enzyme rennin (known as rennet). Just as cream is a concentrated form of milk fat, cheese is a concentrated form of milk-protein (11).

Cheese as a foodstuff is as ancient as domesticated animals, and the nourishing qualities and its propensity for storage made it ideal for people of innumerable cultures. It could be made from the milk of any milk-giving animal, although the end product will vary in its flavor and characteristics. Cheese has been known to be made the milk of cow, sheep, goat, mare, lama, reindeer, buffalo, Zebra, and Yak. Cultures are jealously guarded commodity, but within a given geographic area the Cheeses produced by different houses could very well be indistinguishable from each other to the layman (13).

### 1.3 Cheese Making in Sudan

The Sudan has an agricultural based economy. Most of the exported products are exported in their raw form. Large amounts of perishable products are spoiled during the production season, while there were off-season shortages. Food products were traditionally processed to extend their shelf life in a variety of different ways as such as dehydration, fermentation and other forms of food preservation. Sudanese people particularly women have a wealth of knowledge in indigenous processing and preservation methods of food. Research institutions have improved these traditional methods of food preservation by offering training courses on dairy products such as cheese, yoghurt, butter and ghee among other products. Some of the skills learnt are used to process food for income generation to improve on the overall livelihoods of families (14).

### 1.4 Cottage Cheese-making in Sudan

Cottage cheese accounted for 5 percent of the world's cheese production. The two main markets for cottage cheese were Eastern Europe and North America, where it was a part of the daily menu and made up 12 percent of all cheese (15). A considerable amount of cheese was made in Sudan from the main domestic animal species such as cattle, sheep, goats and camels. Most of the livestock of the country is concentrated in rural areas in the hands of nomads (16).

According to Osman (17) a pickled type of cheese called gibna bayda is made. It is reported that this type of white cheese was introduced to Sudan by early Greek immigrants. The Sudanese experience is an example of adaptation of a foreign product which is suitable for the local conditions and has now established itself successfully in the traditional livestock products systems (18). Cheese making is a major milk preservation method in Sudan (19). The major traditional cheese types that produced in Sudan are Gibna Bayda (17); Gibna Mudaffra (20) and Mish Cheese (21). They are varying in composition, texture, color, taste and flavor, due to composition of milk, production methods, microbial flora, type of package, microbial activity during ripening and ripening conditions.

Cheese production in the Sudan has been started by the foreign families migrated to the Sudan, and settled mainly at Ed Dueim, in the Blue Nile Province (22). In Sudan cheese is produced throughout the country especially in El Doeim, White Nile Province, El Obeid, North Kordofan Province Nyala, South Darfur, Darfur Province and other localities in the country. Gibna Bayda is produced in four areas in South and West Darfur States. In Darfur Gibna Bayda is produced throughout the year and the highest production is during the rainy season.

Milk produced in rural areas is always converted into other products which withstand longer storage periods such as fermented milk, ghee, cheese and sour milk (23). The making of Gibna Bayda in Darfur varies from one place to the other. The variation is due to the method of processing. Sudanese Gibna Bayda is unique among cheese varieties in that high concentrations of table salt (Sodium Chloride) is added to the milk before processing (24). It is manufactured from raw or heated milk (25). During processing under tropical conditions cheese deteriorates rapidly before it ripens thus salting before renneting becomes essential for its preservation (26).

During the seasons when milk is relatively plentiful, Baggara women process part of the milk extracted from their cows into buttermilk (roob) and clarified butter or ghee (semin). The existence of seasonally surplus milk at low prices has prompted several entrepreneurial merchants to set up small-scale rural cheese-making which offer women higher prices for whole milk than they could otherwise obtain from buttermilk (27).

**1.5 Cottage Cheese-making in South Kordofan State**

South Kordofan State is characterized by nomadic grazing land with dispersed settled farming communities practicing rain fed agriculture, gum tapping and for income generation. Training the community in cheese making was identified as means of alleviating poverty. Cheese making not only assisted households in their access to food, but also gave the population including women a means of income generation (28).

In March 2010, FAO and Umseirdiba Association for Development trained 60 poor people from Korom Village in cheese processing, providing them with the necessary processing materials (28). However, some of the trained households' incomes did not increase; they had not started any cheese-production as they lacked the start-up capital. Also, they (trained households) faced tough competition from capitalists who offered milk producers better services (28).

**2. Result and Discussion**

The fight to reduce poverty in Korom Village was spearheaded men due to their heavy responsibilities; however, females have also contributed in the fight significantly. (Table 1) Cheese making not only assisted households in their access to food, but also gave the population including women a means of income generation (28). Poor women and men needed a range of assets and capabilities to increase their well-being and security (29).

**Table 1: Gender of the Respondent**

GENDER	Frequency	%
Male	36	60
Female	24	40
TOTAL	60	100

Among the questionnaire's respondents, all the project targeted age groups are above 18. Reduction of poverty involved ages ranging from 18 to 49 constitutes the most productive section, selection of below 18 automatically excludes children from practicing Cheese-making; hence, encouraging them to go to school. Furthermore, elderly are not included in the project due to their vulnerability and less productivity (See table 2).

**Table 2: Age Ranges**

Age Range	Frequency	%
18-25	9	15
26-33	18	30
34-41	27	45
42-49	6	10
50-56	0	00
Above 56	0	00
TOTAL	60	100

Table (3) represents Percentage of married among questionnaire respondents (85%). This may ensure larger number of secondary beneficiaries. The researcher hopes that singles take Cheese-making production to earn incomes to prepare them for marriage.

**Table 3: Marital status of heads of household**

Marital status	Frequency	%
Married	51	85
Widow	00	00
Single	9	15
Divorced	00	00
Separated	00	00
Total	60	100

Table (4) show that 70% of the respondents are basic school graduates. It is clear from this result that most of the people who practice Cheese-making in the village have attained basic education; and only 10% have reached High Secondary education. This is an encouraging indicator considering the pace of implementation of adult education program in the area.

**Table 4: Educational Levels**

Educational Level	Frequency	%
Kalwa	12	20
Basic School	42	70
Secondary	6	10
University	0	00
TOTAL	60	100

Number of Dependants on the household is (70%). Clear from that the birth rate is extremely high and consequently the dependency burden is very high. This is mainly due to the polygamy that is widely practiced among the members of the Hawazma tribe who forms the majority in the village. Also, a family practicing a cottage Industry needs the support of family members, hence, large family is considered necessary. (Table5). Nuclear family is main form of social living on country like Sudan.

**Table 5:** Numbers of Dependants

<i>Numbers of Dependants</i>	<i>Frequency</i>	<i>%</i>
Less than 5	18	30
6-11	42	70
12-16	00	00
17-22	00	00
TOTAL	60	100

Table (6) illustrated that 50% of the family members attending Basic School. Education is very expensive for the poor people. This indicates that the majority of family members attend basic school. Only 30% attend Secondary school, however, there is no Secondary school in the village, and parents have to send Children to Kadugli (city near Korom Village). Beside that Secondary education, incur more expenses as child have to stay with relatives or in school dormitories.

**Table 6:** Family member at School

<i>School Attendances</i>	<i>Frequency</i>	<i>%</i>
Nursery	12	20
Basic School	30	50
Secondary	18	30
Others	0	00
TOTAL	60	100

60% of people practicing Cheese making among the sample as main job. Tea Selling, sale cooked food, and agriculture are secondary job for the resist of the respondent. 40% (Table7). The primary target of the research is cottage Cheese-makers. Every beneficiary should practicing Cheese-making as a main job. In addition to Cheese-making, practicing of Tea selling and sale of cooked foods and agriculture are evident in the sample. Cheese-makers do engage in farming during the rainy season to sustain their families. This shows that Cheese-making may reduces in some seasons. As Menchin (30) said focusing on income-producing solutions for the working poor was a powerful way to alleviate the pains of poverty for an entire family.

**Table 7:** Jobs undertaken

<i>Jobs undertaken</i>	<i>Frequency</i>	<i>%</i>
Cheese –making only	24	60
Tea selling+ cheese	12	20
Cooked food sale+	6	10
Others +	6	10
TOTAL	60	100

Table (8) illustrated that 100% of the cheese making are market outside the village. This shows that all Cheeses produced do not have markets in the village, hence, the product is transport to Kadugli for sale. However, the producers face huge marketing costs including transportation costs, they also lacked marketing skills. But still they benefits from making cheese.

**Table 8:** Marketing for Cheese production.

<i>Markets for cheese produced</i>	<i>Frequency</i>	<i>%</i>
inside	0	00
outside	60	100
TOTAL	60	100

From table (9) it is clear that respondents who received incomes between 34SDG and 45SDG (50%) are the ones who benefit most from the packages offered. Those respondents tackle cheese-making as main job. But the respondents received 33SDG and less, this is not satisfactory to them and they tackle another job beside the cheese-making. This may be due to market outside the village and the lake of marketing skills. In spite this the income of most of the respondents increased. All the people in Koron Village began Cheese-making activities receiving assistance in the forms of training package and some ingredients necessary for Cheese-making offered by Food and agriculture Organization for Umeirdiba Association for Development.

**Table 9:** Daily Incomes gain/ (SDG)

<i>Daily income gain/(SDG)</i>	<i>Frequency</i>	<i>%</i>
Less than 10	6	10
11-21	15	25
22-33	9	15
34-45	30	50
Above 45	0	00
TOTAL	60	100

Table (10) represents that 70% of the respondents their income increased as result of the project. 30% of the respondents are not achieved any increased in their income. This is a clear indication of the success of the project in achieving its primary objective of increasing incomes and subsequently reducing poverty. However, some beneficiaries do not benefit due to the increased prices of goods and the high costs of transportation, and also high competition in Cheese-making. IDFA, 2001 mention that cheese making not only assisted households in their access to food, but also gave the population including women a means of income generation

**Table 10:** Income increases as a result of the training.

<i>Incomes increased</i>	<i>Frequency</i>	<i>%</i>
Yes	42	70
No	18	30
TOTAL	60	100

70% of the respondents' incomes cover their expenses from cheese-making 30% do not; they however, cover their expenses from other sources of income and agriculture during rainy seasons. (See table 11). Some beneficiaries cannot cover their expenses due to the increased prices of goods and the high costs of transportation.

**Table 11:** Incomes covering expenses

<i>Expenses covered</i>	<i>Frequency</i>	<i>%</i>
Yes	42	70
No	18	30
TOTAL	60	100

Table (12) shows that 70% of the respondents have good impact on the socioeconomic of lives. This another confirmation of the project effects in improving the socio-economic lives of the targeted people, hence, reducing poverty. 30% of the respondents do not benefit from Cheese-making industry. As the targeted beneficiaries use simple tools for Cheese-making, they cannot compete with the capitalists who use more advanced tools for production; and due to increases in prices of goods like sugar, tea, coffee and flour for which milk is exchanged with, most Cheese-makers found it difficult to buy milk from the nomads. Also, the cottage Cheese-makers cannot compete with the capitalists who offer milk producers better services like cake meals for the animals; afford better and efficient means of transport and better markets in other cities.. High independence are indicated..

**Table 12:** Impacts of the training

<i>Impacts of training</i>	<i>Frequency</i>	<i>%</i>
Yes	51	85
No	9	15
TOTAL	60	100

### 3. Conclusions

Traditional cheese methods need to be encouraged and improved to utilize the surplus milk in rural areas, since the introduction of large dairy plants is not feasible now;

- Impediments to the development of large scale cheese making are low milk production, lack of good roads, lack of electricity, cooling facilities and lack of capital;
- In spite of the popularity of Gibna Bayda, there were no studies on the production method and chemical composition of this cheese in Darfur states;
- The microfinance industry is having a powerful impact on the lives of those living in poverty. In addition to helping families emerge from poverty, it is helping them reach balance in gender equality, garner better education for themselves and their children, and move towards a better life for the next generation;
- Lack of communication and transport infrastructure, especially for poor rural communities, often located in isolated zones, which impedes contact with markets;
- Access to information: in many cases information on supply and demand is indispensable in order to participate in and interact with the market. Knowing how to find reliable information is of

key importance;

- Exclusion from certain areas: a clear example is that of the financial market, as the lack of formal guarantees and adequate information hinder vulnerable people's access to financial capital. – Discrimination against certain groups;

### 4. Recommendation

- Establishment of Secondary school in the village or nearby to avoid parents sending Children to far away for Secondary education,
- Training on marketing skills for all Cheese-makers to sell their product.
- There is need for the improvement of livestock races in the long run to increase the quality and quantity of milk.
- Suggest that micro- funds project being established by the Ministry of Social Welfare-South Kordofan State should consider the plight of vulnerable in Korom village.

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