



Inter-Agency Task Force on  
**Social and Solidarity Economy**

# **Contribution of Cooperatives on Employment Generation**

*Evidence from West Bengal Milk Cooperative in Burdwan  
District*

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## Abstract

The present study seeks to identify the possible contribution of cooperatives, one of the major actors of social and solidarity economy (SSE), to achieve a few targets of Sustainable Development Goal 8 – Decent Work and Economic Growth. Bardhaman Cooperative Milk Union has been selected for the purpose of the present study. In order to check whether the different features of social and solidarity economy (SSE) are present in the West Bengal Milk Cooperatives and to assess its potential role in achieving SDG 8, the primary data have been collected with the help of a structured questionnaire for the year 2017-18. Employment generation of the West Bengal Milk Cooperative has been examined with the help of average value of labour utilization. The major findings of the study are: (i) West Bengal Milk Cooperative shares most of the common characteristics of SSE; (ii) West Bengal Milk Cooperative plays a very important role for achieving targets associated with SDG 8. (iii) Overall labour utilization per household per annum in member group is higher than the non-member group. Therefore, it may be concluded that West Bengal Milk Cooperative may be regarded as an SSE agent and it is engaged in achieving two targets of the SDG 8.

## Keywords

Social and solidarity economy, Sustainable Development Goals, Cooperatives, Employment generation

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## I. Introduction

Social and Solidarity Economy (SSE) is also known as third sector which is observed in different countries along with the first sector (i.e., public sector) and the second sector (i.e., private sector) (Bull, 2015). The International Network for the Promotion of Social and Solidarity Economy defines SSE as ‘an alternative to capitalism and other authoritarian, state-dominated economic systems. SSE includes traditional forms of cooperatives, mutual associations and non-governmental organizations, as well as women’s self-help groups, community forestry groups, social provisioning organizations or ‘proximity services’, fair trade organizations, associations of informal sector workers, social enterprises and community or group currency and finance schemes (Peter, 2013). SSE has been an important response for workers to change the labour world. It is an alternative source of employment and income through work that combines the principles of self-management, cooperation and solidarity in carrying out production activities of goods and services, distribution, consumption and finance (Bull, 2015). ILO Promotion of Cooperatives Recommendation, 2002 (No. 193) calls for measures to be adopted for “establishment and expansion of a viable and dynamic sector of the economy, which includes cooperatives, that responds to the social and economic needs of the community.” So cooperatives share the common characteristics of SSE organisations; e.g., economic and social function, collective dimension, solidarity, autonomy, voluntary involvement and participation. Cooperatives as one of the major actors of SSE contribute to achieve the Sustainable Development Goals (SDGs) and their associated targets. The specificity of such contributions derives from the principles, values and governance structure of cooperatives. In some cases cooperatives may be more efficient than other forms of business and social organizations to achieve a certain goal or target (Schwettmann, 2014, ILO). Employment is one of the most important contributions made by cooperatives in the world. Based on data from 156 countries, the updated estimate shows that employment in or within the scope of cooperative concerns is 9.46% of the world’s employed population. (Cooperatives and Employment, Second Global Report, 2017). In this context the present study seeks to identify the possible contribution of the West Bengal Milk Cooperative on productive employment generation (i.e., SDG 8) of milk producers in the Burdwan district from the state of West Bengal in India.

Apart from the introductory section, the study has been organized in six sections as follows: In Section II we shall provide a brief review of relevant past studies in this field. Section III will provide objectives and hypothesis of the study. Section IV comprises of database and methodology of the study. Section V will be devoted to the analysis and interpretation of the study. The last section, Section VI will rest on findings and conclusion of our study.

## II. Literature Review

Cooperatives came into existence in Western Europe and in parts of the U.S.A. and Australia in the seventeenth century to allow small producers to assert their independence more effectively and these cooperatives contribute significantly to succession from subsistence to market economy. Between 1914 and 1950, five categories of cooperatives were observed: the consumer cooperative pioneered by Rochdale of England, worker cooperative in France, credit cooperative in Germany, the agricultural cooperative in Denmark, Germany and housing cooperatives emerged in parts of industrialized Europe (Mago, 2013).

In Russia cooperatives started working after the Second World War as socialist collective production under central authority planning. The perception of cooperatives in Europe and USA was underpinned by the ideology of economic growth. While in Africa it was influenced by colonialism whose masters wanted to increase food production for their industrial workers (Delvetere, 2008). Small scale cooperatives have gained South African government support and

it anticipates a positive correlation between cooperatives and reduction of unemployment (Ortmann and King, 2007).

However, it is difficult to prove that cooperatives have contributed significantly to employment and to the alleviation of the consequences of poverty. There is no hard evidence to document the role of cooperative on employment generation. Research projects of ILO on the contribution of cooperatives to employment have elaborated on the variety of ways in which marketing cooperatives, client-owned cooperatives, credit cooperatives, consumer cooperatives and Worker-owned cooperatives have impacted positively on employment and Income. More specifically, cooperatives can make specific contributions to employment generation through (a) worker-ownership; (b) joint labour contracting; (c) facilitation of access to resources, markets, land and finance; and (d) workers' takeover of bankrupt private or public enterprises (Schwettmann, Jürgen 2014). "With 2.6 million cooperative societies, over 1 billion members and a combined turnover of 3 trillion US-\$ the global cooperative movement is the largest organization in the world, bigger in terms of membership than the trade union movement, economically more powerful than several G20 nations and providing employment to many more people than all multinational companies taken together." (Schwettmann, Jürgen 2014).

According to a report of ILO (Schwettmann, Jürgen 2014), cooperatives and the wider social economy contribute around 7% to the global GDP and to the global employment. In the European Union the SSE contributes 7% to wage employment (CIRIEC 2007); in Africa, about 7% of the population are members of a cooperative (Schwettmann, Jürgen 2014); and the global cooperative membership represents about 14% of the world population. (Schwettmann, Jürgen 2014). The 44.000 Indian labour contracting cooperatives, which are active in construction, forestry and public works, provide jobs, income and livelihoods to 2.7 million self-employed workers who otherwise would not have found employment (NLCF 2013). Argentina went through a catastrophic recession during 2001 and 2002. As a result, hundreds of private enterprises went bankrupt and the unemployment rate rose to 25%. In this situation thousands of workers engaged those bankrupt companies and transformed them into "empresasrecuperadas". Some 350 enterprises with 25.000 jobs were rescued that way (Hille 2009). In Serbia, youths in the age bracket 15 to 30 may become member of a youth cooperative which serves as an employment agency, matching the youths' profile with the requirements of the labour market. Some 200,000 young Serbians join those cooperatives every year, of those 50,000 find a permanent job. (Schwettmann, Youth Cooperatives in Serbia 2005)

In Indian context a number of studies have examined the role of dairy cooperatives on income and employment generation in different parts of the country; e.g., Tuteja and Singh (2004) are of the view that livestock based milk processing units in rural Haryana helped to generate income and employment among people in that area. According to Ramachandran (2004), dairy farming in Kanyakumari District of Tamil Nadu has a potential role to increase income and employment in that district. Sharma et al (2004) showed the likely contribution of crop and dairy enterprises towards income and employment generation with respect to different size of holdings in the semi-arid regions of Rajasthan. Sidhu et al (2004) demonstrated the positive impact of dairy cooperative on income and employment generation in Punjab. Meena, Jain and Dhaka (2009) opined that dairy cooperative societies in Alwar district of Rajasthan contributed positively on income and employment generation of that district. However, these studies did not consider whether the cooperatives were working from the perspectives of social and solidarity economy and sustainable development goals. Besides, any notable work in this respect has not been observed in the state of West Bengal, particularly in the district of Burdwan.

In this back drop, the study seeks to identify the possible contribution of cooperatives, one of the major actors of social and solidarity economy (SSE), to achieve full and productive employment

and decent work for all women and men, including for young people and persons with disabilities and equal pay for work of equal value (Target 8.5) and substantially reduce the proportion of youth not in employment, education or training (Target 8.6) of sustainable development goal no. 8.

### Section III

#### Objectives

The objectives of the study are as follows:

- (i) To check whether the different dimensions of social and solidarity economy (SSE) are present in the West Bengal Milk Cooperative
- (ii) To find out the linkage between SEE and SDG 8 in the context of West Bengal Milk Cooperative
- (iii) To examine the contribution of the West Bengal Milk Cooperatives on employment generation of the members' households in Burdwan district from the state of West Bengal in India

#### Hypothesis

The dairy industry in India has spread over the entire country and cooperatives have been accepted as an institution to enhance the milk production for the development of this industry. Most of the milk is produced in rural areas but the profitable market for milk and its products go to the urban areas. Accordingly, the Planning Commission of India opined that "producer's cooperatives should be recognized in villages to supply milk to the urban milk supply schemes, milk powder making plants and to the consumers". It not only ensures adequate supply of fresh milk to the urban milk consumers but also brings profitable returns to the milk producers. The cooperatives not only give loans to the members to purchase cattle at a low interest, but also provide cattle fodder and other materials at a low cost as compared to market price. As a result, the cost of production of milk is low among the member groups of milk cooperatives. Besides, the cooperatives also help the members for marketing the milk and milk products at a competitive price. So cooperatives are expected to generate income and provide employment opportunities among the member groups. Accordingly, testable hypothesis of the present study is that employment generation of the member's households in the West Bengal Milk Cooperatives is expected to be high than non-member's households in the district of Burdwan.

### IV. Database and Methodology

West Bengal Milk Cooperative has been purposively selected from the state of West Bengal in India. The West Bengal Milk Cooperative plays a major role in the dairy development program in the state of West Bengal. There are a number of primary milk producers cooperative societies at the village level that, in conjugation, form milk union in the district level. The goal of the primary milk societies in West Bengal is to promote the economic interests of the members. It works towards improving the quality as well as increasing the quantity of the milk production. It follows the structure of 'Anand Pattern' of Gujarat. The primary milk producers' cooperative societies functioning at the village level, join to form a milk union in the district level for carrying out such activities which are conducive and essential for the socio economic development of the milk producers by procuring, processing and marketing of milk and milk products. These milk unions provide various inputs to the primary societies for onward transmission to producer members. There are 14 milk cooperative unions in West Bengal, which procure an average of 3.91 lpd milk from 3,028 societies with 2,26,837 members.

From these cooperative unions, Bardhaman Cooperative Milk Union has been selected for the purpose of the present study. The said milk union has been divided into three strata, viz. small (1-3 milch animals), medium (3-6 milch animals) and large (more than 6 milch animals) milk

procurement strata on the basis of milk producing households. Then 30 member households (i.e., members who have at least one milch animal and supply milk to cooperative union for a period of 240 days in a year) have been randomly selected from each of the stratum. Thereafter, an equal number of non-member households (i.e., members who have at least one milch animal and supply milk to any agency except cooperative union for a period of 240 days in a year) of almost similar resource situation have been selected in the same cooperative milk union to serve as valid basis of comparison. Thus, a total of 180 households have been selected for the present study.

To check whether the different features of social and solidarity economy (SSE) are present in the West Bengal Milk Cooperative, the five broad dimensions along with their sub-dimensions of SSE are considered following the study of Benjamin. These dimensions are: socially responsible governance, people-centered development, environmental conservation, socio-economic sustainability and edifying ethical values. The detail sub-dimensions of all the five broad dimensions of SSE are mentioned in the analysis and interpretation part.

To assess the potential role of West Bengal Milk Cooperative in achieving SDG no.8, the following steps have been followed:

- (i) SDG targets have been considered but not the goals, because most goals address more than one SDG dimension.
- (ii) SDG targets have been identified to which cooperatives could make a strong or at least useful contribution.
- (iii) The nature of the cooperative-specific contribution for each of different targets has been determined.
- (iv) General subjective conclusion has been drawn regarding the role and recognition of cooperatives in the SDG process, and the implementation of the future goals. (Schwettmann, Jürgen 2014)

In order to check whether the different features of social and solidarity economy (SSE) are present in the West Bengal Milk Cooperative and assess the its potential role in achieving SDG no.8, the primary data have been collected with the help of well structured questionnaire for the year 2017-18. A five-point Likert-type scale ranging from 5 'agree' to 1 'disagree' has been considered for the above two purposes. Cronbach's Alpha coefficients have been estimated in order to determine the reliability of the different dimensions.

Employment generation of the West Bengal Milk Cooperative has been examined with the help of average value of labour utilization following the study of Meena et. al (2009). It has been computed from two perspectives, namely the ratio of man day to household per annum and the ratio of man day to animal unit per annum. The total actual time spent in different activities per day was converted into man days by assuming ten working hours. One day work of women labour is assumed to be equivalent to one day work of men labour and child (both girl and boy) labour has been considered to be equivalent to zero man day. In this way, number of hours per day in different types of activities have been computed and aggregated to work out the labour utilization in dairy operations. To examine the impact of dairy cooperatives on employment generation, t test has been applied to test the difference between the mean value of labour utilization for member and non-member groups across different categories. Besides, work participation rate (which is the ratio of number of workers to total number of family members) has also been computed for member and non-member groups across different categories and similarly t test has been applied to examine the difference between the mean value of work force participation rate for member and non-member groups.

## V. Analysis and Interpretation

In conformity with the objectives of the study, the different dimensions of SSE satisfied by the West Bengal Milk Cooperative are examined. After establishing the West Bengal Milk Cooperatives as one of the SSE actors, we have checked whether the said cooperative considers SDG 8 in its performances. To substantiate further in this respect we have examined the contribution of the West Bengal Milk Cooperative on employment generation of the members' households in Burdwan district from the state of West Bengal in India. Cronbach's Alpha coefficients have also been estimated in order to determine the reliability of the different dimensions of SSE and SDG selected for the purpose of the study. The results of this analysis have been explained in this section one by one.

### Reliability analysis:

Table 1 represents the reliability (Cronbach's Alpha) of the five broad dimensions of SSE and two targets of SDG 8. The Cronbach's Alpha values of each of the selected dimensions are found to be higher than the minimum threshold value of 0.7.

**Table 1: Reliability of the selected dimensions**

Dimensions	Cronbach's Alpha
Socially responsible governance	0.923
People-centered development	0.874
Environmental conservation,	0.864
Socio-economic sustainability	0.793
Edifying ethical values	0.756
Target 8.5 of SDG 8: Full and productive employment and decent work for all women and men	0.875
Target 8.6 of SDG 8: Substantially reduce the proportion of youth not in employment, education or training	0.791

*Source: Author's own calculation from survey evidence, 2017-18*

### Five dimensions of SSE satisfied by the West Bengal Milk Cooperative:

From the first panel of Table 2, it is observed that most of the respondents of the cooperative slightly agree that marginalized, socially excluded people mainly the women have decision making power in the cooperative as its mean score is 4. Besides, all the respondents of the cooperative agree to the point that leaders and managers of the cooperative are responsible and accountable along with their strong willingness to serve the people. In terms of adherence to the triple bottom line goals of people-centered development, environmental conservation, and socio-economic sustainability respondents slightly disagree as their mean score is 2.

In terms of people-centered development (Second Panel of Table 2) three dimensions have been taken up for the study: they are cooperatives as creator of decent jobs for the marginalized, socially excluded people; Cooperatives as provider of access to affordable financial services; Cooperatives as provider of deposit & loan services to members. On these dimensions, the respondents agree to the point that cooperatives create decent jobs for the marginalized, socially excluded people. The respondents slightly agree on the point that cooperatives provide access to affordable financial services, technical assistance, marketing support and capacity building as its mean score is 4. The respondents totally agree to the point that cooperatives offer deposit & loan services to members. Loan facility and in fact, promotes dairy farming.

As evident from the third panel of Table 2, the respondents agree on the point that the cooperatives take initiative on campaign against adding harmful preservatives to the produced milk and

promote the production of nutritious milk. The cooperative provides loan facility to the dairy farmers and milch cattle raisers for producing nutritious milk free from harmful preservatives and chemicals in the milk as evident from the responses of the respondents who highly agree on it. The respondents agree on the point that the cooperatives promote the use of waste materials available from the households as organic fertilizers and bio-gas for various domestic uses. The respondents remained neutral as to the conduct of seminars and workshops by the cooperatives on environmental conservation in partnership with governmental agencies and environmentalists as well as NGOs.

From the fourth panel of Table 2, it is observed that the respondents agree on the statement that: the cooperatives finance its operations mainly from internal funds & revenues. The respondents collectively agree on the point that the revenues generated by the cooperatives increased consistently over the years. The respondents also reached a consensus and agreed on the question of obtaining increased security and being able to mitigate its risk in joining the cooperative rather than operating alone in the competitive market with global outreach. Thus, cooperatives provide its member a sense of security, technical assistance, marketing support and capacity building.

From the last panel of Table 2, the respondents agreed that cooperatives increase leadership qualities, respect of rights for others, rejection of all forms of violence and discrimination, increasing responsibility and accountability.

**Table 2: Mean perceived scores of the five dimensions of SSE satisfied by the West Bengal Milk Cooperative**

<b>Five dimensions of SSE</b>	<b>Mean perceived scores</b>
<b>1. Socially responsible governance</b>	
1.1 Marginalized, socially excluded people (i.e. landless peasants) especially the women occupy leadership positions	4
1.2 Leaders & managers of the cooperative are responsible & accountable. They are motivated to serve the people.	5
1.3 They adhere to the triple bottom line goals of people-centered development, environmental conservation, and socio-economic sustainability.	2
<b>2. People-centered development</b>	
2.1 Cooperatives create decent jobs for the marginalized, socially excluded people	5
2.2 Cooperatives provide access to affordable financial services, technical assistance, marketing support, and capacity building	4
2.3 Cooperatives offer deposit & loan services to the members. Loan facility is geared up to promote dairy farming.	5
<b>3. Environmental Conservation</b>	
3.1 The cooperative's loan facility is geared to promote nutritious milk production free from harmful chemicals	4
3.2 Use of waste materials as raw materials for production of organic fertilizer, biogas etc.	4
	3

3.3 Conduct of seminars on environmental conservation in partnership with governmental agencies & environmentalists as well as NGOs	
<b>4. Socio-economic sustainability</b>	
4.1 Sources of funds: The cooperatives finance its operations mainly from internal funds & revenues	4
4.2 Profitability: Revenues of the cooperative increases	4
4.3 Feeling of security: Membership in cooperatives means access to finance, technical assistance, marketing support and capacity building and a feeling of security.	4
<b>5. Edifying Ethical Values</b>	
The edifying ethical values of the leadership and general membership of the cooperatives include:	
1. Working together	4.5
2. Respect for the rights of others, rejection of all forms of violence and discrimination	4.5 4.3
3. People at the centre of development	4
4. Responsibility	4
5. Accountability	

Source: Author's own calculation from survey evidence, 2017-18

#### Linkage between SEE and SDG 8 in the context of West Bengal Milk Cooperative:

To assess the potential role of West Bengal Milk Cooperative in achieving SDG no.8, the two SDG targets (namely, Target 8.5 and Target 8.6) have been considered. It is evident from Table 3 that the respondents agree on the point that the cooperatives take initiative on full and productive employment and decent work for all women and men. The respondents also agree on the point that the cooperatives substantially reduce the proportion of youth not in employment, education or training. The cooperative-specific contributions resulting from the said two targets may be stated as: Increased bargaining power, voice and representation of producers or consumers united through a cooperative venture, outreach capacity to the informal economy and rural areas etc. Thus, the said cooperative plays a very important role in the SDG process and the implementation of the future goals.

**Table 3: Perceived Mean Score of SDG Targets**

SDG Targets	Perceived Mean Score
Target 8.5: Full and productive employment and decent work for all women and men, including for young people and persons with disabilities and equal pay for work of equal value	5
Target 8.6: substantially reduce the proportion of youth not in employment, education or training	4

Source: Author's own calculation from survey evidence, 2017-18

### Impact of West Bengal Milk Cooperative on Employment:

It is observed from Table 4 that overall labour utilization per household per annum in member group (251.82 man days) is higher than the non-member group (194.19 man days) and the value of t- statistic is significant at 1% level. It is also seen that average values of labour utilization in all the three categories in member group are higher than non-member group and the t values are also statistically significant at 1% level. Thus, it may be concluded from the above mentioned results that West Bengal Milk Cooperative provides more employment to the member groups.

**Table 4: Labour utilization by member and non-member groups**

Category	Man days/Household per annum			Man days/Animal unit per annum		
	Member	Non-member	't' value	Member	Non-member	't' value
Small	159.31	129.31	4.96**	52.32	49.24	2.52*
Medium	250.33	189.64	4.78**	46.29	39.92	4.05**
Large	345.82	263.63	3.82**	44.12	34.15	3.12**
Overall	251.82	194.19	6.13**	47.57	41.10	3.13*

Notes: \*\* implies significant at 1% level, \* implies significant at 5% level

Source: Author's own calculation from survey evidence, 2017-18

With regard to labour utilization per animal unit, it is evident that there exists difference in average labour use per animal unit in both the member and non-member household groups. The overall labour use per animal unit per annum in the member group (47.57 man days) is higher than the non-member group (41.10 man days) and the value of t- statistic is significant at 1% level. It implies that member households having relatively higher number of milch cattle require higher man days of labour for their cattle rearing. The inter-category comparison among the three stratum on the labour utilization per animal unit shows that the labour utilization declines with the enhancement of the herd size in both the groups and the t values are also statistically significant either at 1% level or 5% level.

**Table 5: Work force participation rate**

Category	Member group	Non-member group	't' value
Small	0.69	0.58	3.79**
Medium	0.67	0.54	3.62**
Large	0.62	0.49	3.38**
Overall	0.66	0.53	3.59**

Notes: \*\* implies significant at 1% level.

Source: Author's own calculation from survey evidence, 2017-18

Table 5 depicts that the work force participation rate is higher for member group than the non-member group. It implies that 13% (i.e., 0.66-0.53) workers are more employed because of the presence of milk cooperative in that region. The difference is also statistically significant at 1% level. The said cooperative provides additional source of employment besides the other mode of employment in the selected region.

## VI. Findings and Conclusion

From the major observations of the study we see that (i) West Bengal Milk Cooperative shares most of the common characteristics of SSE, namely socially responsible governance, people-centered development, environmental conservation, Socio-economic sustainability and edifying

ethical values. (ii) West Bengal Milk Cooperative plays a very important role for achieving few targets of the SDG 8. (iii) Overall labour utilization per household per annum in member group is higher than the non-member group. (iv) There exists difference in average labour use per animal unit in both the member and non-member household groups. (v) Milk producers in member groups of West Bengal Milk Cooperative are better off as compared to their counterparts in non-member groups. The employment on member groups is significantly higher than non-member groups. Therefore, it may be concluded that West Bengal Milk Cooperative may be regarded as SSE agent and it is engaged in achieving two targets of the SDG 8. Thus, along with the other different modes of employment generation the West Bengal Milk Cooperative contributes significantly in this respect to the household members in the district of Burdwan. However, we are aware of the limitations of our study. The major findings and conclusion are region and time specific. The study is based on a selected region of the district of Burdwan in the state of West Bengal where the selected cooperative operates. To draw more general conclusion one has to take other cooperatives operating in the state and outside the state into consideration, which shall be dealt with in future research studies.

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