

## Reflections of Animal Husbandry Subsidies on Dairy Cattle Enterprises: A Case Study of Hatay Province-Turkey\*

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Agricultural subsidy is one of the important and substantial issues at this time. Countries are continuing to subsidise agricultural production at varying rates depending on the world's changing trade rules. Turkey reserved 3,9 billion \$ to subsidise agricultural production in 2014. In the same year, the amount of agricultural subsidy in Hatay was around 75 million \$. The share of the Hatay province in Turkey's total agricultural subsidy is around 2%. While the amount of subsidy per farmer is 1.779,924\$ in Turkey, it is 3.490,01\$ in the Hatay province. Livestock is one of the important agricultural production sectors, and the share of agricultural subsidy for livestock is gradually increasing in Turkey. In this study, the utilisation level of subsidies in dairy cattle enterprises were examined in Hatay. It was found that 52,17% of the enterprises were growing feed crop, and 25,53% of them were utilising the feed crop subsidy. Milk production of the enterprises which were utilising the subsidy was 5.728,9 lt, the milk cost was 0,38\$/lt, and the absolute profit was found as 0,03\$/lt. In terms of enterprises which weren't utilising the subsidy, these values were found respectively as; 5.334,4 lt, 0,44\$/lt, and 0,09\$/lt. According to the research results, it's been concluded that livestock subsidies are decreasing production costs and increasing farmers' income significantly.

**Key Words:** Milk, cost, productivity, subsidy, Hatay, Turkey

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### Tarımsal Destekleme Uygulamalarının Süt Sığırcılığı İşletmelerinde Verim ve Ürün Maliyetine Etkisi: Hatay İli Örneği-Türkiye

Tarımsal üretimin desteklenmesi günümüzde güncelliğini koruyan önemli konulardan biridir. Ülkeler değişen dünya ticaret kurallarına uymak şartıyla değişen oranlarda tarıma destek vermeye devam etmektedirler. 2014 yılında Türkiye'de tarımsal üretimin desteklenmesine 3,9 milyar\$ ayrılmıştır. Tarımsal üretim potansiyelinin yüksek olduğu Hatay ilinde tarıma verilen destek aynı yıl yaklaşık 75milyon\$ düzeyinde olmuştur. Hatay ilinin ülke tarımsal desteklerinden aldığı pay %2 düzeyindedir. Türkiye'de kayıtlı çiftçi başına destek miktarı 1.779,924 ilen değer Hatay ilinde 3.490,01\$ olmuştur. Tarımsal üretimin önemli bir sektörü olan hayvancılık sektörü Türkiye'de uygulanan tarımsal desteklerden almış olduğu pay son yıllarda giderek artmaktadır. Hatay ilinde yürütülen çalışma ile süt sığırcılığı işletmelerinin hayvancılık desteklerinden faydalanma durumu incelenmiştir. Çalışma, anket uygulanan işletmelerden %52,17'sinin yem bitkisi yetiştirdiğini ve %25,53'ünün de yem bitkisi desteklerinden faydalandığını ortaya koymuştur. Desteklerden faydalanan işletmelerde süt verimi 5.728,9 lt, süt maliyeti 0,38\$/lt, mutlak kar 0,03\$/lt olarak tespit edilmiştir. Desteklerden faydalanmayan işletmelerde bu değerler sırası ile 5.334,4lt, 0,44\$/lt ve 0,09\$/lt olarak saptanmıştır. Yapılan çalışma sonucunda hayvancılık işletmelerine yönelik desteklerin ürün maliyetini azalttığı ve üretici gelirini önemli derecede artırdığı sonucuna varılmıştır.

**Anahtar kelimeler:** Süt, maliyet, verim, destekleme, Hatay, Türkiye

#### Introduction

Because of the inherent disadvantages, agriculture is one of the main sectors that is subsidised by protective policies especially in developed countries. The aim of agricultural policies in Turkey are; increasing farmers' income and quality of living, providing price stability and economic self-sufficiency, contributing to rural

development, and ensuring foreign exchange savings (Tan et.al., 2015).

In recent years, the number of studies about the effects of agricultural subsidies on product costs and farmer income are increasing. Smith (1990) examined agricultural subsidy policies and their development process in Britannia. Piccinini and Loseby (2001) examined the farmers' dilemma between agricultural subsidies and the market in

the EU and US. Babcock and Hart (2002) examined agricultural subsidies under the World Trade Organisation (WTO) in the US. Anderson et.al. (2006) examined the global importance of agricultural subsidies and market access. Oğuz and Kaya (2013) aimed to determine the milk production cost difference between farmers who were members of the milk producer's union and those who weren't. Dorward and Morrison (2015) researched the effects of agricultural subsidies on food safety and poverty reduction. Josling (2015) examined changes in agricultural subsidies, the good or bad effects of certain subsidies; and also focused on issues like sustainable development, biofuel subsidy, and consumer subsidy.

In this study; agricultural subsidies in Turkey, subsidy topics, and their values were examined. Also, agricultural subsidy applications in Turkey and in some developed countries were presented by means of the Producer Support Estimate (%PSE). In addition, agricultural subsidy topics in Turkey and Hatay by 2014 were summarized with values. In the last part of the study; the effects of livestock subsidy policies on dairy cattle enterprises, milk production cost, and farmer income in Hatay were examined.

## Materials and Methods

Main material of the study consisted of cross section data that were gathered from 141 dairy cattle enterprises in the Hatay province in 2013. Statistical packaged softwares were used to evaluate and analyze data. Also in the study, some secondary data were gathered from the Turkish Statistical Institute (TUIK), the Ministry of Food, the Agriculture and Livestock (MFAL), the Food and Agriculture Organization of the United Nations (FAO), and the Organisation for Economic Co-operation and Development (OECD).

In the study, the Neyman Method (Yamane, 2010); which is one of the Stratified Random Sampling Methods, was used to determine sampling frame and sample size. The formula is shown below:

$$n = \frac{\sum (N_h S_h)^2}{N^2 D^2 + \sum N_h (S_h)^2}$$

n= Sample size

S= Standard deviation

N= Number of total unit

D= Acceptable error margin (d/z)

d= Deviation from the average (%)

z= Degree of freedom (N-1) in the t-distribution frame and "t-value" that belongs to a specific confidence limit

In determining the sample size; the error margin was considered as 3,5%, and the confidence interval was considered as 95%. As a result of sampling, 141 dairy cattle enterprises were chosen as a provincial-wide sample of Hatay. Enterprises in the research areas were divided into 3 groups based on the number of dairy cattle that farmers owned (including calves, heifers, and cows). The first group consisted of enterprises which had 3 to 5 dairy cattle, the second group consisted of enterprises which had 6 to 10 dairy cattle, and the third group consisted of enterprises which had 11 or more dairy cattle. The research was carried out in 12 districts and 24 villages in Hatay by considering the number of dairy cattle and the amount of milk production. There were 27 enterprises in the first group, 32 enterprises in the second group and 82 enterprises in the third group. There were 141 enterprises in total within the research.

Method that was used to analyse dairy cattle activities:

Fixed Costs in Milk Production = Labor Cost + Depreciation + Interest + Administrative Cost

Variable Costs in Milk Production = Roughage + Concentrate Feed + Veterinary + Artificial Insemination + Temporary Labor + Salt + Electricity, water, etc. + Others

Labor cost consisted of family labor force, hired labor force, and shepherd costs. Depreciation costs consisted of building, tractor, other tool equipment, and animals. The Straight Line Method was used to calculate depreciation.

To Calculate interest cost in tool, machine, and building:

Interest = (Tool, Machine or Building Value + Junk Value) x Interest Rate

Interest for animals = (Breeding Value + Butcher Value)/2 x Interest Rate

Among the three groups; statistical differences in terms of the education level of enterprise owners, age, experience, milk production per cow, milk income, the amount of feed, veterinary, and

medicinal costs were analysed by means of the Variance Analyses and Tukey's Honestly Significant Differences Test (Tukey's HSD Test) (Çakıcı et.al., 2003). Differences between enterprises in terms of whether they're utilising the subsidy or not were analysed by the t-test (Green et.al., 2000).

## Results and Discussion

### Agricultural Subsidies in Turkey and in the World

In 2012, the Producer Support Estimate (PSE) was at 18.6% in OECD countries, 7% in the US, 19.4% in the EU, and 22% in Turkey (Acar and Aytüre, 2014). The PSE values for Turkey between 2012 and 2014 showed parallelism with the years between 1986 and 1988 which was around 21%. In the same period, this value was 18% in OECD countries (OECD, 2015). According to the OECD data, 88% of the global agricultural total value was provided by 49 countries; and based on the PSE, 601 billion \$ per/year on average was transferred to agricultural producers in these 49 countries between 2012 and 2014. Also, an additional 135 billions \$ was transferred as general agricultural services (OECD, 2015).

Expenses within the Common Agricultural Policy (CAP) that are covered by the EU budget are based on criterias determined by union member countries, and the fund that is allocated for the CAP is transferred based on the agricultural structure of member countries (Samsun, 2005). In 2013, 42% of the EU budget (167 billion \$) was allocated for agricultural subsidies (MFA, 2016).

In recent years, Turkey has been growing constantly and trying to gain a place in the global economy and agriculture. According to 2012 statistics, Turkey was the 17th country with a 1,1% share (788 billion \$) of the global economy.

In terms of agriculture, it was the 9th country in the world with a 4,2% share (62 billion \$) (İTB, 2014). In 2015, 2% of Turkey's national income was allocated for agricultural subsidies. Although this share is high in the Gross National Product (GNP) compared to OECD countries, agricultural subsidies are at a minimum level in Turkey. In addition, over 4 times more than this fund is provided to farmers as agricultural loans by domestic and foreign banks (İnan, 2016).

### Agricultural Production Values of Turkey and the Hatay Province

Agricultural production values of the research area were presented in Table 1. In 2013, distribution of the Hatay province in Turkey's plant production value was 2,25%, 0,80% in livestock, 0,41% in animal products, and the share of Turkey's total agricultural production value was 1,42%. In 2014, respectively it was 2,30%, 0,78%, 0,41% and 1,42%.

According to 2014 statistics, Turkey's agricultural production consisted as follows; 47,84% plant production, 30,52% livestock, and 21,64% animal production. For the Hatay province, the same values were as follows; 77,15%, 16,66% and 6,19%. So, more than 3/4 of Hatay's agricultural production consisted of plant production.

### The Share of Agricultural Subsidies in the National Budget and in the Ministry of Food, Agriculture and Livestock Budget

In accordance with the agriculture law in Turkey (the official gazette no: 5488); agricultural subsidies are financed by budget resources and outsourcing, and the resource that is allocated can't be lower than 1% of the GNP.

Table 1. Agricultural Production Values of Turkey and the Hatay Province

Year	2013		2014	
	Turkey (000\$)	Turkey (000\$)	Hatay (000\$)	Hatay (000\$)
Plant Production	43.414.235	42.111.084	974.840	967.431
Livestock	27.063.505	26.864.991	216.880	208.929
Agricultural Products	18.991.419	19.052.175	78.445	77.611
<b>Total</b>	<b>89.469.161</b>	<b>88.028.250</b>	<b>1.270.166</b>	<b>1.253.971</b>

Source: MFAL, 2016. Ministry of Food, Agriculture and Livestock, Hatay Provincial Directorate, 2015 briefing report, p.29

However, it was found within this study that this rate was never achieved between 2006 and 2015 (Official Gazette, 2006).

Turkey's GNP was 800.107.000.000\$ in 2014, and according to the law, the amount that was suppose to be allocated (1%) as agricultural subsidy was 8.001.070.000. However, only 3.928.063.518\$ of funds were transfered; in other words, farmers utilised less than 50% of the subsidy (TSI, 2015).

Distribution of the agricultural subsidy payments of Turkey and the Hatay Province were presented in Table 2. Countrywide, 3,9 billion\$ was paid as agricultural production subsidy. Among agricultural subsidies, the share of area-based subsidies, premium subsidies and livestock subsidies were around 85% in total. The share of the Hatay Province in Turkey's total agricultural subsidy resource was 1,91%.

Country-wide, the Hatay Province took a 4,17% share in premium subsidies; and provincial-wide, the share of the premium subsidy was around 65% among other agricultural subsidies. By 2015, agricultural subsidy expense was 3.428.161.132\$ in Turkey, and it was 55.241.424\$ (except IPARD rural development subsidies) in the Hatay Province (MFAL, 2016a-2016b).

#### Subsidy Value Per Farmer

According to the Farmer Register System (FRS) data of 2014, the number of registered farmers in Turkey were 2.206.874, and there were 21.463 (0,97%) registered farmers in the Hatay Province (Table 3).

Table 2. Distribution of Agricultural Subsidy Payments by Topics (2014)

Subsidies	Turkey		Hatay		Hatay/ Turkey (%)
	Value (\$)	Rate (%)	Value (\$)	Rate (%)	
Area-Based Subsidies	1.034.135.545	26,33	6.756.415	9,02	0,65
Premium Subsidies	1.156.464.395	29,44	48.236.045	64,4	4,17
Livestock Subsidies	1.112.684.258	28,33	5.718.330	7,63	0,51
Agricultural Insurance Subsidies	153.597.920	3,91	1.383.243	1,85	0,9
Compensatory Payments	52.672.225	1,34	0	-	-
Other Agricultural Subsidies	117.803.945	3	1.460.211	1,95	1,24
Rural Developmnet Subsidies	134.354.721	3,42	1.467.522	1,96	1,09
Rural Developmnet Subsidies for Southeastern Anatolia Project (GAP)	32.627.960	0,83	0	-	-
IPARD Rural Development Subsidies	130.216.167	3,32	9.884.396	13,2	7,59
Livestock Subsidies for Southeastern Anatolia Project (GAP)	3.506.382	0,09	0	-	-
<b>Total</b>	<b>3.928.063.518</b>	<b>100</b>	<b>74.906.162</b>	<b>100</b>	<b>1,91</b>

Source: MFAL,2014 Annual Activity Report. ([http://www.tarim.gov.tr/SGB/Belgeler/Bakan%C4%B1k\\_Faaliyet\\_Raporlar%C4%B1/2014%20FAAL%C4%B0YET%20RAPORU.pdf](http://www.tarim.gov.tr/SGB/Belgeler/Bakan%C4%B1k_Faaliyet_Raporlar%C4%B1/2014%20FAAL%C4%B0YET%20RAPORU.pdf), erişim:08.06.2016)

GTHB, 2016. Hatay İl Gıda ve Hayvancılık İl Müdürlüğü. Hatay İl Tarımı Genel Bilgileri. s.5. (<http://hatay.tarim.gov.tr/Belgeler/Sol%20Men%C3%BC/HATAY%20%C4%B0L%20SUNUMU%20SON.pdf>, erişim 08.06.2016)

Table 3. Agricultural Subsidy Payments of Turkey and the Hatay Province (2014)

Location	Agricultural Subsidy Value(\$)	The Number of Registered Enterprises	Average Subsidy Value Per Enterprise (\$)
Turkey	3.928.063.518	2.206.874	1779,92
Hatay	74.906.162	21.463	3490,01
Hatay (%)	1,91	0,97	196,08

Source: MFAL,2014 Annual Activity Report. ([http://www.tarim.gov.tr/SGB/Belgeler/Bakanl%C4%B1k\\_Faaliyet\\_Raporlar%C4%B1/2014%20FAAL%C4%B0YET%20RAPORU.pdf](http://www.tarim.gov.tr/SGB/Belgeler/Bakanl%C4%B1k_Faaliyet_Raporlar%C4%B1/2014%20FAAL%C4%B0YET%20RAPORU.pdf), erişim:08.06.2016)

GTHB, 2016. Hatay İl Gıda ve Hayvancılık İl Müdürlüğü. Hatay İl Tarımı Genel Bilgileri. s.5. (<http://hatay.tarim.gov.tr/Belgeler/Sol%20Men%C3%BC/HATAY%20%C4%B0L%20SUNUMU%20SON.pdf>, erişim 08.06.2016)

The Hatay province has a 1,43% share in Turkey's agricultural production and has turned this production into an advantage. While the value of agricultural subsidy per farmer was 1.779,92\$ country-wide, it was 3.490,01\$ (96,08% more) per farmer in the Hatay province.

#### Agricultural Subsidy Utilisation Situation of Dairy Cattle Enterprises

The agricultural subsidy utilisation situation of dairy cattle enterprises in the research area was shown in Table 4. By 2013, the value that was utilised as livestock subsidy was 242.111\$ in total, and 56% of the dairy cattle enterprises (79) utilised livestock subsidy.

Table 4. Agricultural Subsidy Utilisation Situation of Dairy Cattle Enterprises

Subsidies	Groups			Total
	I	II	III	
Milk Incentive Subsidy (\$)	0	3.041,68	104.069,1	107.110,87
The Number of Enterprises	0	7	58	65
Enterprise Average	0,00	434,52	1.794,30	1647,86
Calf Subsidy (\$)	70,41	387,25	16.128,43	16.586,09
The Number of Enterprises	1	5	41	47
Enterprise Average	70,41	77,45	393,38	352,90
Mature Animal Subsidy (\$)	164,29	1.161,75	53.154,34	54.480,38
The Number of Enterprises	1	5	27	43
Enterprise Average	164,29	232,35	1.436,60	1266,99
Forage Plant Subsidy (\$)	6.665,41	2.398,61	54.869,98	63.934,00
The Number of Enterprises	3	5	28	36
Enterprise Average	2.221,80	479,72	1.959,64	1.775,94
The Number of Enterprises that Grow Forage Plants	12	16	41	69
Enterprises that Utilise Forage Plant Subsidy / The Number of Enterprises that Grow Forage Plants (%)	25	31,25	68,29	52,17
The Number of Enterprises (Total)	27	32	82	141
Enterprises that Utilise Forage Plant Subsidy / The Number of Enterprises (Total) (%)	11,11	15,63	34,15	25,53

Table 5. Milk Production Cost of Enterprises (2013)

Total Milk Production (lt)	3.860.010
Milk Production Cost (\$)	1.698.761
Average Milk Sale Price (\$/lt)	0,47
<b><u>Milk Cost (Except Subsidies)</u></b>	
Milk Cost Per Liter (\$/lt)	0,44
<b><u>Milk Cost (Include Subsidies)</u></b>	
Total Subsidy Value (\$)	242.111
Milk Cost (\$)	1.456.650
Milk Cost Per Liter (\$/lt)	0,38

Among subsidies that were utilized, milk incentive subsidy was in first place, forage plant subsidy was in second place, and mature animal subsidy was in third place. Among the enterprises that were examined, forage plant growth rate was 48,94%, and the utilisation rate of forage plant subsidy in the enterprises that were growing forage plants was 52,17%. The utilisation rate of forage plant subsidy in total was 25,53%.

The effects of livestock subsidies on milk production cost in dairy cattle enterprises was presented in Table 5. By 2013, the amount of milk that was produced by enterprises within the study was 3.860 tons, and the production cost was around 1,7 million \$. Milk sale price per unit was calculated as 0,44\$/lt.

While the milk cost was 0,44\$/lt and the absolute profit was 0,03\$/lt in the enterprises which weren't utilising subsidies; the milk cost was 0,38\$/lt and the absolute profit was up to 0,09\$/lt in the enterprises which were utilising subsidies. In a study carried out in the Konya province, milk cost for the enterprises which were registered to the milk producers' association was found as 0,65 TL/lt, and was 0,67 TL/lt for the enterprises which weren't registered to the milk producers' association (Oğuz and Kaya, 2013). In another study that was carried out in the Amasya province, milk cost for the enterprises which were registered to the Cattle Breeders' Association of Turkey (CBAT) was found as 0,329 TL/lt, and was 0,366 TL/lt for the enterprises which weren't registered to the CBAT. When utilizing livestock subsidies while being registered to the CBAT; the cost to an enterprise was lower (at the rate of 13,07%), because enterprises were getting more subsidies due to their being registered with the CBAT (Özüdoğru and Tatlıdil, 2012).

In this study, the average number of dairy cattle per enterprise was found as 4,87. One of the most

important organizations in Turkey that commercializes farmers' milk is the CBAT, but every enterprise is legally obligated to have at least 5 dairy cattle or more to be registered to this association. Other organizations such as the Milk Producers' Association, and the Agricultural Development Cooperatives, are also options for farmers to commercialize their milk. Besides these, producers can also choose to sell their milk to dairy farms, dairy processing facilities, or they can sell directly to consumers themselves on the streets (Saner, 2012). Producers usually choose selling their milk independently when they are not able to fulfil the conditions needed to be registered with the associations.

#### **General Characteristics of Dairy Cattle Enterprises in Terms of Subsidy Utilization**

Data within this study were compiled from 141 dairy cattle enterprises. The number of enterprises which were utilising the husbandry subsidy was 79, and the number of enterprises which weren't utilising the husbandry subsidy was 62. Data about number of dairy cattle, enterprise owner's age, study duration, and experience duration were evaluated in 3 categories as enterprises which were either utilising the subsidy or not, and enterprises' mean (Table 6).

According to "T test" results, there was no statistical significance between enterprises utilising the subsidy or not in terms of enterprise owner's age, study duration and experience duration. However, there was a difference between enterprises which were utilising the subsidy or not, in terms of the number of dairy cattle at the level of 0.01 significance. Yet, the average for dairy cattle was 6,27 in the enterprises which were utilising the husbandry subsidy, and was 3,10 in those which weren't utilising the husbandry subsidy.

Table 6. General Characteristics of Dairy Cattle Enterprises in Terms of Subsidy Utilization

Characteristics	Enterprises which Utilise Husbandry Subsidy	Enterprises which don't Utilise Husbandry Subsidy	Mean
The Number of Dairy Cattle(Head)	6,27	3,10	4,68
Study Duration of Enterprise Owner (Year)	6,47	6,27	6,37
Age of Enterprise Owner	44,75	45,53	45,14
Experience Duration of Enterprise Owner (Year)	16,54	16,71	16,62

The number of dairy cattle in the enterprises which were utilising the husbandry subsidy was found to be 2 times more the ones which weren't utilising the subsidy. Utilising subsidies is especially necessary to decrease milk costs in large scale enterprises. So, enterprises which have a fairly large amount of animals pay more attention to utilising subsidies, while smaller enterprises don't have enough awareness about subsidy utilization to decrease the costs. In addition to this, smaller enterprises are devoid of milk subsidies because of commonly selling their products by themselves as milk or processed milk products (cheese, yogurt, etc.).

#### Differences in Milk Production Per Dairy Cattle

In the study, Variance Analysis and the Tukey HSD Test were used to determine variations in different enterprise groups in terms of milk production. According to the analysis results, a difference was found between the first and the

third group at a 2% significance level; but no statistical difference was found between the first group and the second group or between the second group and the third group (Table 7).

Within the research, the number of enterprises that utilised the livestock subsidy was 79. In total, 2.835,8 tons of milk was produced in these enterprises, and milk production was found as 5.728,9 lt per cattle/year. There were 62 enterprises which weren't utilising subsidies. In total, 1.024,2 tons of milk was produced by these enterprises, and milk production was found as 5.334,4 lt per cattle/year. Among these two groups, milk production of enterprises which were utilising subsidies were 7,40% higher than the ones which weren't utilising subsidies. According to the "T-Test" results, milk production per dairy cattle of the enterprises which were utilising the subsidy was found statistically different at the significance level of 1% comparing to the ones which weren't utilising the subsidies

Table 7. Comparative Analysis Results in Terms of Enterprise Groups

Dependent Variable	Tukey HSD (I) Groups	Multiple Comparisons					95% Confidence Interval	
		(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound	
Milk Productivity	1	2	-126,052	232,925	0,851	-677,916	425,812	
		3	-534,041	197,775	0,021	-1002,624	-65,457	
	2	1	126,052	232,925	0,851	-425,812	677,916	
		3	-407,989	185,788	0,075	-848,171	32,194	
	3	1	534,041	197,775	0,021	65,457	1002,624	
		2	407,989	185,788	0,075	-32,194	848,171	

## Conclucions

Due to inherent disadvantages, agricultural production is subsidised by almost every country in the world, and details about subsidies such as amounts and limits are determined by the World Trade Organization (WTO). According to the agricultural law that was legalised by 2006; 1% of the GDP must be allocated as agricultural subsidy, however, only 50% of this subsidy was provided in the last 10 years.

Hatay province has a high agricultural potential, and took a 2% share of Turkey's total agricultural subsidy in 2014. Among other subsidies, premium subsidy took first place with 29% in Turkey, and this rate was 64% in the Hatay province. While the share of livestock subsidy was 28% in Turkey, it was only 7,63% in the Hatay province.

In this study, it was found that 56% of the enterprises were utilising livestock subsidies, and 46% of the enterprises were utilising the milk incentive subsidy. Other enterprises didn't utilise livestock subsidies for a variety of reasons. Another important outcome of this study was that milk production cost was 14% lower in the enterprises which were utilising subsidies comparing to the ones which weren't; and a statistical difference was found at the significance level of 1% in milk production between these two groups. In order to enhance dairy cattle raising and competitive capacity, it is important to increase enterprise capacity and productivity level. Moreover, it is essential to work on agricultural extension activities to improve the level of utilising agricultural subsidies.

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