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## DETAILED ANALYSIS OF MILK SUPPLY CHAIN AND INFORMATION REQUIREMENT OF DAIRY FARMERS OF PUNJAB

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### ABSTRACT

The current examination is an endeavor to find out the information needs and looking for conduct of dairy practioners of Punjab State (India). This depends on the information gathered from 102 actioners at Pashu Palan Mela (Livestock Fair) held at Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana during September 2019 by means of organized Interview Schedule. The examination uncovered that 70.58% practioners required data on various endowment plans of the Government, trailed by 70% on feed and grain and 64.70% on animal reproducing. About 89.21% practioners met their data needs from Pashu Palan Mela and animal government assistance camps, and 85.29% got required data from TV and papers. The time of practioners, involvement with dairy cultivating, group size possessed and participation of dairy cultivating related associations have a critical connection with their data needs. Taking into account progressions in Information and Communication Technology and its developing flexibility among practioners, the digital augmentation is relied upon to assume a significant job in dispersal of animal farming data in not so distant future. The versatile put together data administrations grounded with respect to the organization between milk cooperatives, media transmission organizations and veterinary college could be an imperious endeavor for conveying data to the palms of dairy practioners.

**Keywords:** Dairy farming, communication technology, Supplychain

### Introduction

India is an agrarian nation with 68.84% of her populace living in provincial territories (Chandramouli, 2011). The greater part of the Indian population (52%) is occupied with farming for occupation (SIA, 2011-12). Notwithstanding, the commitment of horticulture to the Gross Domestic Product (GDP) of the country is ceaselessly shrinking. It has declined from 36.4% in 1982-83 (NKC, 2009) to 13.7% in 2012-13 (Economic Times, 2013). Notwithstanding the exponential growth of modern and administration segment, absence of an adequate information framework for ranchers can be ascribed as one of the reasons for this.

Till up to this point, animal cultivation/dairy cultivating is typically carried out as a backup occupation by ranchers for meeting up domestic needs just as to enhance their pay from agriculture. But in the contemporary period, when most of rustic people have little landholdings, the domesticated animals creation is normal to be expert poor and lively in diminishing destitution (Birthal and Taneja, 2006). During 2011-2012, the domesticated animals division contributed 3.92% share to the national GDP (NDDDB, 2014).

Punjab, a north Indian State is one of the main milk makers in the nation. Around 17.31 million individuals in the state live in rustic territories constituting 62.50% of its total populace. The live stock sector has contributed 8.4% to the Net State Domestic Product at constant (2004-05) costs in 2010-11 (GADVASU, 2014). The livestock sector has given low maintenance just as all day employment prospects to

ranchers and family units in the state at an enormous scope. animals economy relies essentially upon the auspicious transfer of data to dairy ranchers. To structure and create an appropriate data framework for familiarizing the ranchers with relevant and definitive data, a comprehension of their information needs and looking for conduct is basic. More the ranchers have introduction to wellsprings of data more they are prone to embrace the advancements and best administration rehearses

Therefore, the current investigation was conducted to:

1. Discover the data needs of dairy ranchers of Punjab state and utilization of wellsprings of data by them for meeting these needs.
2. To evaluate the adequacy of wellsprings of information in addressing necessities of farmers.
3. To look at the effect of financial components and other attributes on data needs of dairy farmers

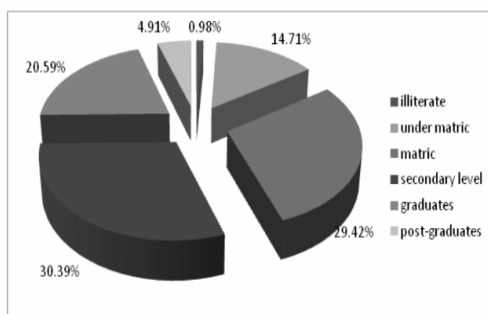
### Material and Methods

The Directorate of Extension Education, GADVASU organises two days 'Pashu Palan Mela' (domesticated animals reasonable) at the university campus in the long stretches of March and September consistently. During the reasonable, a huge number of ranchers from Punjab and bordering states visit the slows down of various divisions of the college to supplement their insight into animal cultivation. For the purpose of study, information was gathered from arbitrarily chosen 102 farmers of the Punjab state at September 2014

reasonable held at GADVASU. In the up close and personal meeting with dairy ranchers, the structured interview plan was utilized as the information assortment instrument. The interview plan was set up in vernacular (Punjabi) to establish better correspondence among ranchers and researchers at the hour of information assortment. Test of the examination was chosen purposively. Ranchers having at least five dairy cattle were considered for interviews. The information was investigated utilizing MS-Excel and Statistical Package for Social Sciences (SPSS) 22.0 information analysis software

Out of all out 102 dairy ranchers talked with, 100 were guys and remaining two were females. Time of respondents differed between 18 to 65 years with the mean estimation of 37.53. The dominant part of dairy ranchers (44.11 percent) was in the age gathering of 31-40 years. About 87.25 percent ranchers sought after horticulture and 10.78percent did dairy cultivating as their principle occupation. Two farmers had different business as the significant wellspring of work. About 89.22percent ranchers followed dairy cultivating as an auxiliary occupation. Educational capability of respondents differed to an incredible extent including one unskilled rancher (Figure 1). Around 30.39 percent respondents were proficient up to optional level followed by 29.42percent instructed up to matric standard. The territory of Punjab comprises of three locales including Malwa, Majha and Doaba. The greater part of ranchers (78.43percent) spoke to Malwa region followed by 17.64 percent ranchers from Doaba region. Remaining4 respondents had a place with the territory falling in purviews of Majharegion. The landholding of respondents ran between 02-45acres. Around 1/3rd ranchers were developing 06-10 sections of land, 19.60percent had 16-20 sections of land, and other 19.60 percent ranchers were cultivating under 05 sections of land of land. Family unit size of respondents went from 02-16 individuals with male strength differing among 01-10 and female individuals in the midst of 01-06. Herd size possessed by ranchers shifted between 05 to 100 dairy cattle with an average of 18.64. Most of respondents (39.21 percent) had 05-10 creatures, while 31.37 percent possessed 11-20. Around13.72 percent ranchers had 21-30 dairy cattle, five had more than 50 animals incorporating rancher with the crowd size of 100 animals. Nearly 2/3rd (65.68 percent) of ranchers were effectively associated with the occupation of dairy cultivating for over 20 years, while, 15.68percent got included during the most recent five years

Figure 1: Educational qualification



The pay of ranchers went between 0.2-2.2 million for each annum. About 41.17 percent ranchers could understand English; 64.70 percent could read Hindi and all aside from one could peruse and compose Punjabi (local language). Around 13.72 percent ranchers had the membership of associations identified with dairy cultivating, whereas remaining dominant part (86.28 percent) reacted something

else. Nearly 23.52 percent ranchers had gone to the preparation programmes organised by colleges, dairy advancement load up, co-operatives, animal farming division, and so on. eventually of time. The remaining 76.48 percent respondents had not taken an interest in any such preparing program

### Results and Discussion

The state Government offers sponsorships to ranchers from time to time under different plans to empower dairy cultivating. The majority of ranchers (70.58 percent) required data on different sponsorship plans of the Government. Almost 70 percent farmers looked for data on feed and grub for keeping livestock sound. The animal breed is unequivocal for harvesting higher yield that is the reason almost 2 /third of respondents (64.70percent) communicated the requirement for data on animal breeding. Animal reproduction, new procedures in d vaporous far mi ng/modernization of dairy ranches, animal wellbeing the board, care of pregnant animals, and so forth were different angles on which farmers seek information. The results clarify that ranchers were quick to know about the sponsorships/impetuses offered by the administration to support dairy cultivating to get profited. Maybe data about such schemes doesn't arrive at ranchers at mass level. Moreover, livestock health angles were other significant issues about which dairy farmers needed data, supporting the investigations of Phand *et al.* (2009) and Rezvanfar *et al.* (2007). Protection of animals and marketing and treatment of milk were in any event need of information needs of respondents. Fortifying of milk co-agents in the state brought about the foundation of milk assortment focuses in almost each town of the state facilitating the advertising of milk. Almost all ranchers supply crude milk to drain assortment centres. This could be the motivation behind why they required less data about milk dealing with and preparing.

It is obvious from table 1 that Pashu Palan Mela and animal welfare camps sorted out by GADVASU and domesticated animals shows organized by Department of Animal Husbandry were the significant sources of information for dairy ranchers. These sources earned most noteworthy score with respect to viability in addressing data needs of livestock proprietors. About 85.29 percent ranchers got needed information through TV and papers having second and 3rd most noteworthy scores, separately. The outcomes bolstered the findings of Babu *et al.* (2012) and Demiryurek (2008) that ranchers prefer to get to data from formal sources. Be that as it may, these were contrary to the investigations of Bachhav (2012) and Nande *et al.* (2009). All with the exception of one respondent were educated at various levels, therefore, 79.41 percent of them got imperative data from books. Companions/neighbors/family members, magazines, Rural Veterinary Officers/Veterinary Officers, and so forth were other key sources of information for dairy ranchers. Open division inquire about stations, Agriculture Technology Management Agency (ATMA), Credit Agencies and Kisan Call focuses were the least utilized sources of information. Gatherings of the associations/clubs concerned with animal cultivation and dairy cultivating were the source of information for 27.45 percent respondents. Inferable from the affordable expense of equipment and programming combined with growing literacy rate in provincial regions, the Internet availability is getting strengthened in towns. However, other 27.45 percent farmers

used the Internet to get essential data on dairy farming, the gatherings of the associations/clubs were evaluated more effective than the Internet for fulfilling data requirements. The media impact of TV, expanding proficiency rate, the widespread flow of papers and moderateness made these

other profoundly utilized wellsprings of data, following Pashu Palan Mela and animals appears. In any case, ATMA and Kisan Call Centres stayed under-used. Absence of mindfulness on the part of ranchers can be credited as purposes behind under-usage of these administrations

**Table 1.** Sources of information and their effectiveness

S.N.	Source of information	No. of Users	% of users	Level of effectiveness			Total Score	Mean Score
				Highly Effective	Effective	Not Effective		
1	Television	87	85.29	58	27	02	230	2.25
2	Radio	31	30.39	09	11	11	60	0.58
3	Newspaper	87	85.29	54	32	01	227	2.22
4	Books	81	79.41	55	22	04	213	2.08
5	Magazines	61	59.80	36	19	06	152	1.49
6	Progressive farmers	44	43.13	23	15	06	103	1.01
7	Friends/Neighbours/ Relatives	62	60.78	28	28	06	146	1.43
8	Meetings of organizations/ clubs	28	27.45	15	08	05	66	0.64
9	University/ KVK experts	45	44.11	26	19	Nil	116	1.13
10	Cooperative societies	23	22.54	04	11	08	42	0.41

**Table 2.** Correlation between socio-economic factors/ other characteristics and information needs

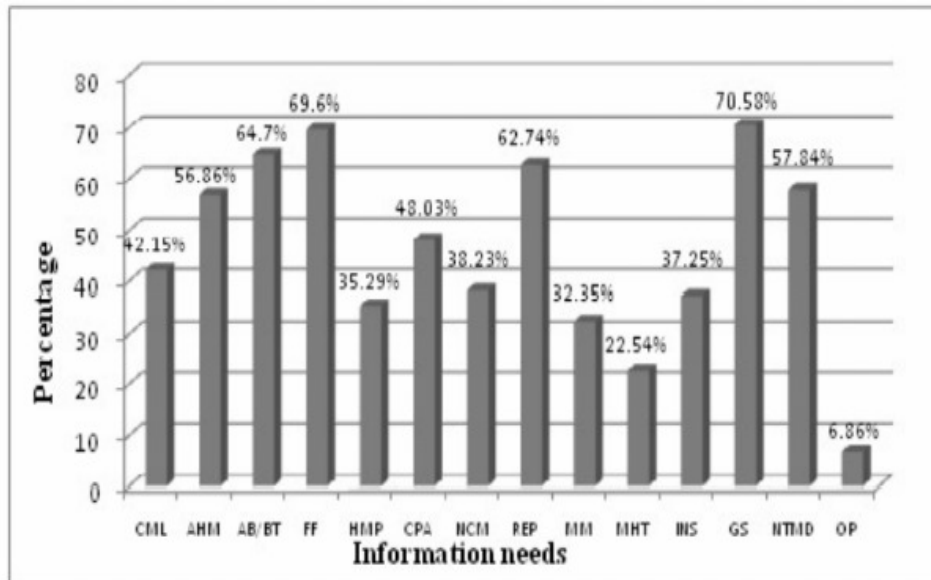
S. No.	Socio-economic factors and other characteristics	'r' values
1	Age	-.2128*
2	Experience	-.3452*
3	Number of family members	-.1550 <sup>NS</sup>
4	Herd size	.1857*
5	Income	.0771 <sup>NS</sup>
6	Landholding	.1420 <sup>NS</sup>
7	Membership of dairy organizations	.2388*
8	Qualification	.0540 <sup>NS</sup>
9	Training	.0812 <sup>NS</sup>
10	No. of languages known	-.0946 <sup>NS</sup>

\* Significant at 0.1 level of probability, NS indicates Non-Significant

It is clear from table 2 that financial components and other characteristics including age, understanding of dairy cultivating, herd size and participation of dairy related associations had significant relation to data needs of dairy ranchers supporting the studies of Kavithaa *et al.* (2014),

Patel *et al.* (2014), Badodiya and Choudhary (2011), Onuekwusi and Atasie (2011) and Zhao and Zhang (2009). The quantity of steers claimed and membership of dairy related associations were positively related to information needs of dairy ranchers

**Figure 2:** Information needs of farmers



[CML: care and management of livestock, AHM: animal health management, AB/BT: animal breeding/ breeding tips, FF: fodder and feeds, HMP: hygienic milk production, CPA: care of pregnant animals, NCM: newborn calf management, REP: reproduction, MM: marketing of milk, MHT: milk handling techniques, INS: insurance, GS: Govt. subsidies, NTMD: new techniques in dairy farming/ modernization of dairy farms, OP: other purposes]

**Fig. 3:** Problems faced in accessing information

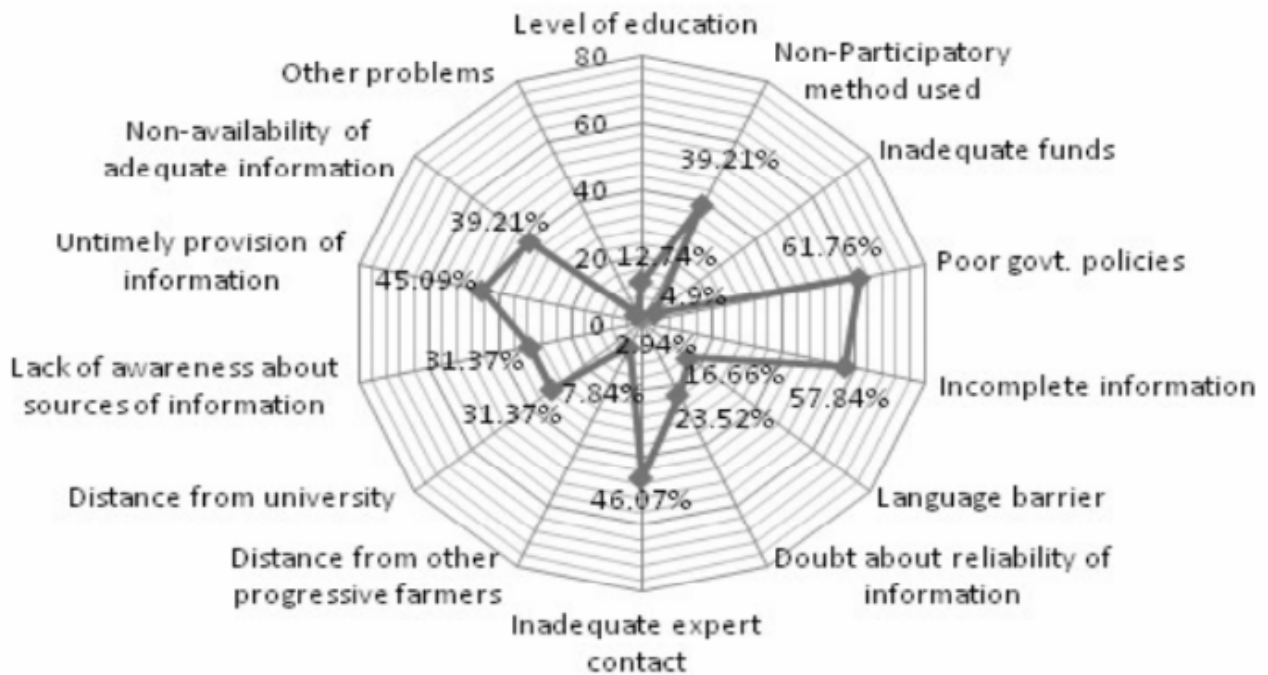
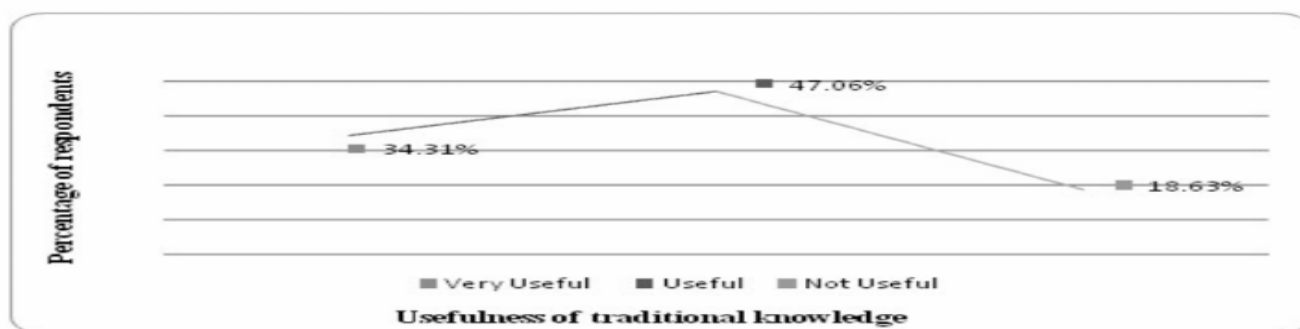


Figure 3 clarifies that most of respondents for example 61.75percent were not happy with the administration approaches for the dissemination of data on creature farming. Because of this information hole, ranchers now and again couldn't use the schemes provided by the administration. About 57.84 percent farmer's denounced the fragmented data on dairy cultivating as the prime hindrance to fulfilling data needs. GADVASU is located at Ludhiana, a city at the focal point of Punjab, still 46.07percent ranchers expressed insufficient master contact and 31.37percent showed good ways from college as blocks in accessing master data. Less than ideal arrangement of information, non-accessibility of sufficient data and non-participatory methods utilized for data spread were the other barriers in addressing data needs as expressed by ranchers.



**Figure 4:** Level of usefulness of traditional knowledge

It is clear from figure 4 that 47.06 percent respondents considered traditional information as 'helpful' for animal husbandry. About 34.31 percent appraised it as 'valuable'. On the other hand, 18.63 percent ranchers didn't discover traditional knowledge solid for animal farming and considered it 'not useful' for their motivation. The assessments of ranchers uncovered that a majority of them despite everything rely upon customary practices in dairy farming as opposed to logical advancements

### Conclusion

Ranchers must be furnished with opportune and important information inputs to get the limit of the dairy part. The information needs of dairy ranchers for the most part spun around the subsidy schemes of government and animals wellbeing perspectives. However, this doesn't imply that they didn't require data on other issues identified with dairy cultivating. Ranchers become natural with some of the dairy viewpoints by experience, henceforth requiring less information about these. Open libraries in towns having need based assortment of data assets could be a healthy enterprise to spread agrarian and animal cultivation literacy. Shockingly, the territory of Punjab has not yet sanctioned Library Legislation, denying the country individuals, most of whom are farmers from true and sorted out data get to. The government of Punjab state needs to take a genuine note of this for the strengthening of rustic individuals by and large and agricultural community specifically. With expanding availability to ICTs in villages, especially the Internet, the digital expansion is expected to assume a significant job in scattering data to ranchers in near future. All respondents yet three had cell phones, which could be a reasonable vehicle for contacting clients individually. The milk co-agents, media transmission organizations and veterinary college may go into the association to provide dedicated voice and instant message benefits over cell phones to dairy ranchers in the state. The Internet radio is another innovation based methods which can be utilized by augmentation office for disseminating data to masses. The ranchers feel more good in social event data from animal husbandry experts. Hence, association of animal government assistance camps by extension faculty at town level can be a decent activity to deliver individualized data to ranchers. At the equivalent time, progressive dairy ranchers need to approach to share their knowledge and involvement in others for the advancement of dairy farming. Panchayats (town level overseeing body) can provide platforms for talking about the issues identified with dairy cultivating at the village level. In spite of the fact that a large portion of the domesticated animals activities like feeding, watering, draining, and so

forth on most of ranches are women oriented, their support in data/information system development and spread programs isn't encouraging. Women investment in both data framework development, as well as data scattering, is fundamental for sustainable dairy advancement in the State

### References

- Babu, S.C.; Glendenning, C.J.; Asenso-Okyere, K. and Govindarajan, S.K. (2012). Farmers' information needs and search behaviour: case study in Tamil Nadu, India. IFPRI discussion paper 01165. The International Food Policy Research Institute 1-37
- Bachhav, N.B. (2012). Information needs of the rural farmers : A study from Maharashtra, India: A survey. Library Philosophy and Practice (e-journal), paper 866.
- Badodiya, S.K. and Chaudhary, P.C. (2011). Effectiveness of farm telecast in seeking agricultural information by the farmers. *Journal of Community Mobilization and Sustainable Development* 6(2): 125-127.
- Birthal, P.S. and Taneja, V.K. (2006). Livestock sector in India: Opportunities and challenges for smallholders. In: Birthal PS, Taneja VK and Thorpe W, eds. *Smallholder livestock production in India: Opportunities and challenges. Proceedings of an ICAR-ILRI international workshop held at National Agricultural Science Complex, Pusa, New Delhi, 31 January-1 February 2006.*
- Boz, I.; Akbay, C.; Bas, S. and Budak, D.B. (2011). Adoption of innovations and best management practices among dairy farmers in the Eastern Mediterranean region of Turkey. *Journal of Animal and Veterinary Advances* 10(2): 251- 261.
- Chandramouli, C. (2011). Census of India 2011: provisional population totals, paper 2, rural-urban distribution. New Delhi: Office of the Registrar General and Census Commissioner, India, p.2
- Demiryurek, K.; Erdem, H.; Ceyhan, V.; Atasever, S. and Uysal, O. (2008). Agricultural information systems and communication networks: the case of dairy farmers in the Samsun province of Turkey. *Information Research* 13(2).
- Economic Times (2013) Agriculture's share in GDP declines to 13.7% in 2012- 13.
- GADVASU (2014). Vision 2030. Punjab: Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, p.3
- Kavithaa, N.V.; Rajkumar, N.V. and Sree Lakshmi, C.M. (2014). Information seeking behaviour of dairy farmers. *International Journal of Science, Environment and Technology* 3(4): 1502-1506

- Nande, M.P.; Gawande, S.H.; Patil, A.M. and Khode, N.V. (2009). Information seeking behavior of dairy farmers in Nagpur District of Maharashtra. *Journal of Community Mobilization and Sustainable Development*, 4(1): 99-102.
- National Dairy Development Board (2014) Share of agriculture & livestock sector in Gross Domestic Products [.http://www.nddb.org/English/Statistics/Pages/Livestock-Sector-GDP.aspx](http://www.nddb.org/English/Statistics/Pages/Livestock-Sector-GDP.aspx)
- National Knowledge Commission (2009). Report to the nation. Delhi: Govt. of India, p. 215.
- Onuekwusi, G.C. and Atasie, C.M. (2011). Socio-economic characteristics affecting information source use among farmers in Ikwuano Local Government Area of Abia State, Nigeria. *Journal of Community Mobilization and Sustainable Development* 6(2): 128-140.
- Patel, P.; Patel, M.M.; Badodia, S.K. and Sharma, P. (2014). Entrepreneurial behaviour of dairy farmers. *Indian Res J Ext Edu* 14(2): 46-49
- Phand, S.; Tiwari, R. and Sharma, M.C. (2009). Assessment of information need of dairy owners in Maharashtra. *Journal of Community Mobilization and Sustainable Development*, 4(2):4-9
- Rezvanfar, A.; Moradnezhai, H. and Vahedi, M. (2007). Information needs of farm women related to dairy farming and home management in Ilam State of Iran. *Livestock Research for Rural Development* 19(8).