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## Exploring dairy innovation platform: Actor profiles, information dissemination pattern and credibility perception

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### Abstract

Access to trustworthy and credible information is a challenge for dairy sector stakeholders. For many actors in the dairy subsector, access to information is a limitation and there is doubt about the validity and dependability of the information that is currently available. This study aimed to investigate the actors profiles dissemination of dairy information through innovation platforms and evaluate the credibility of the involved actors. Interviews were conducted with 60 randomly selected actors from the Eastern and Western regions of Haryana. Researchers accounted for 50 percent of the sample and were predominantly over 50 years old with doctorate degrees (100%). Extension personnels (55%) and input suppliers (65%) were. The researchers primarily focused on animal feeding practices, while extension personnels and input suppliers emphasized animal breeding practices. Animal breeding practices constituted the majority (76.22%) of the disseminated dairy information. Input suppliers were perceived as significantly more credible ( $77.61^c \pm 1.45$ ) compared to extension personnels ( $74.75^b \pm 1.37$ ) and researchers ( $72.26^a \pm 1.39$ ). However, there were no significant differences in credibility among the actors. Such information is essential for ensuring reliable knowledge exchange within the dairy sector. Knowledge exchange leads to improved milk quality, enhanced production processes and ultimately, increased income for farmers in the dairy sector that helps for increased focus towards diversified farming system.

**Keywords:** Dairy actors, dairy innovation platform, information dissemination and credibility

### Introduction

Innovation platforms (IP) are dynamic spaces which brings together multiple actors together to exchange knowledge and take synergic action to solve a common problem where in every member contributes something unique and makes it a win-win collaborative mechanism (Makini *et al.* 2013; Pali and Swaans, 2013) [5, 8]. The Innovation Platform is a physical, virtual or physico-virtual network of stakeholders which has been set up around a commodity or system of common interest to foster association, partnership and shared focus to generate innovation on the commodity or system. A typical Innovation Platform should have a mix of stakeholders drawn from both the public and private sector stakeholders such as scientists, extension workers, representatives of farmers, farmers' associations, private firms, non-governmental organizations and government policy makers who communicate, cooperate and interact (often across sectorial and ministerial lines). Innovation Platforms (or networks and forums) assemble stakeholders to share information, identify opportunities, discuss problems and agree on joint activities related to a shared interest, often with a specific commodity/cluster focus. Innovation platforms focus on all kinds of innovation, not necessarily research alone and they may be led by actors other than researchers. Even so, they present an important venue and opportunity for many research organizations to engage with other Agricultural Innovation System actors, improve their understanding of how they can best fit into the Agricultural Innovation System and develop partnerships. In transforming countries, innovation platforms are likely to be more mature than in agriculture-based countries, where public support and funding are pre-requisites for success (Source: Agricultural Innovation Systems: An investment source-book, World Bank, 2012). An innovation platform is an equitable, dynamic space that brings together heterogeneous actors together to exchange knowledge and take action to solve a common problem. It is a place where stakeholders will interact to jointly identify problems, device solutions, implement research and development agenda and evaluate the cycle (A.A. Adekunle and A.O. Fatunbi, 2012) [1].

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Social organization, representation and incentives are important to make sure a 'true' participatory and inclusive innovation process.

It requires flexible planning that stimulates incremental change through a mix of technological, organizational and 2068institutional innovations and (reflexive) learning. Than a better understanding of local institutions embedded in norms and values is crucial to change people's practices and decisions. As there is often weak linkages among actors in the innovation system, brokers have a vital role to play to facilitate these inclusive innovation processes. The engagement and successful participation of the various multi-stakeholders creates interest in sustaining the platform partly by the Innovation Platform arrangement and ensures that all partners have a contribution to make an obvious benefit derive from the activities of the Innovation Platform. It enables them to be complementary and helps in monitoring adaptive management of innovation through innovation-platforms.

## Methodology

### Research design

Haryana is between 27°39' to 30°35' N latitude and between 74°28' and 77°36' E longitude. The total geographical area of the state is 4.42 mha, which is 1.4 percent of the geographical area of the country. The ex-post-facto research design was adopted for this study since the phenomenon has already occurred.

### Selection of districts

The Haryana state was divided under different regions which comprises of 22 districts divided into two agro regions *viz.* Eastern region and Western region. Both the two regions were purposively selected for the study to represent the entire state. Purposively one district in each region i.e. Eastern region and Western region was selected. Thus a total of two districts were selected purposively based upon highest bovine population. These two districts are active areas of Innovation Platform. Karnal is having four ICAR research institutes namely NBAGR (National Bureau of Animal Genetic Resources), CSSRI (Central Soil Salinity Research Institute), IWBRR (Indian Institute Of Wheat And Barley Research), and NDRI (National Dairy Research Institute). Two regional sub stations of SBI (Sugarcane Breeding Institute) and IARI (Indian Agriculture Research Institute). It also has one Krishi Vigyan Kendras of NDRI Karnal and one Krishi Gyan Kendra of CCSHAU (Chaudhary Charan Singh Haryana Agricultural University) Uchani. While, Hisar has two universities namely CCSHAU (Chaudhary Charan Singh Haryana Agricultural University) and LUVAS (Lala Lajpat Rai University of Veterinary and Animal Sciences).

### Selection of actors

From each district 10 researchers, 10 extension personnels and 10 input suppliers having at least 5 years of experience in their respective fields were selected randomly. Thus, the study comprised of 60 actors. All actors agreed to answer for the questionnaires and gave their consent prior to data collection during March 2017. Interview was conducted at the convenience of the actors.

### Data collection and statistical tools

The three actors of dairy innovation platform *viz.*, Researchers, Extension Personnels and Input suppliers were

classified on the three categories of age such as young (upto 35 years), middle (36 to 50 years) and Old (more than 50 years) for the (Census report, GOI, 2011) <sup>[11]</sup>.

The actors knowledge dissemination was analysed on concerned dairy farming practices like Animal Breeding, Animal Feeding, Animal Healthcare, Dairy Management Practices and Advisory services by using semi structured interview schedule. The numerical scores of 1 for rarely contact, 2 for contact sometimes and 3 for frequently contact were assigned and thus obtained against each item was totaled up to get overall average weighted score of dissemination of information by the actors on dairy innovation platform to the farmers.

The method of Successive Interval Scaling technique developed by Thurston was used to develop the credibility scale of actors in dairy innovation platform (Table 1). The statements having high scale values and low Q values were selected and incorporated in the interview schedule of the actors. Average discrepancy was calculated to check the internal consistency of the developed scale. Credibility of dairy information by actors through numerical scores of 1 for least credible, 2 for credible and 3 for most credible were assigned and thus obtained against each item was totalled up to get overall credibility of dairy innovation platform. Multiple comparisons were done based on the DMRT (Duncan's Multiple Range Test) at 5 per cent level of significance. The average weighted percentage was calculated for different actors to understand the credibility of actors in dairy innovation platform as perceived by the actors.

The data collected from the actors were tabulated statement wise with respect to each variable of the study. Master sheets containing pooled scores were prepared for respective categories of actors from dairy innovation platform. The analytical techniques used in the study include average, frequency, percentage, cumulative square root frequency method. Data were analyzed for the most part by using the tabular method techniques for analysis which we intensively used for its inherent quality to present the true picture of the dairy innovation platform in simplest form.

## Results and Discussion

### Profile characteristics of the actors from dairy innovation platform

The majority of researchers fall into the "Old" category (50%), indicating that a significant portion of them was over 50 years old with high level of education (100%). The majority of researchers had "High" experience levels (45%), with an average experience of 21.75 years (Table 2). Researchers tend to be older individuals with extensive experience and a doctorate-level education, indicating a strong academic background and long-term involvement in the field.

The age distribution among extension personnel was more evenly spread, with a higher percentage falling into the "Middle" category (55%) with more varied educational background. The highest percentage held a graduation degree (55%), followed by post-graduation (15%) and doctorate (10%). Experience levels among extension personnel were spread across "Low," "Medium," and "High" categories, with an average experience of 19.45 years (Table 3). Extension personnel had a more diverse age range, educational background and experience levels. This suggests a mix of individuals with varying degrees of practical and academic knowledge.

Similar to extension personnel, most input suppliers were in the "Middle" age category (65%). The education level of input suppliers varied from primary to senior secondary, with the highest percentage with middle school education (35%). The majority of input suppliers had "Low" experience levels (65%), with an average experience of 16.30 years (Table 4). Input suppliers were predominantly middle-aged with relatively lower educational levels. Their experience varies, indicating a mix of newcomers and individuals with more experience.

#### **Dissemination of dairy information to farmers**

There were three main actors of dairy innovation platform i.e. Researchers, Extension personnels and Input suppliers. Most of them receive information on dairy farming from the three actors at innovation platform. The bird eye view from Figure 1 reveals the researchers disseminated maximum information in animal feeding practices (73.33%), extension personnels disseminated maximum information in animal breeding practices (82.00%), even Mohammad *et al.*, 2012 reported that the role of extension agents is more proactive in disseminating important information to dairy farming. Further it was viewed that input suppliers disseminated maximum information in animal breeding practices (78.00%). In overall the maximum dairy information disseminated by the actors was on animal breeding practices (76.22%). Hence it was observed that more likely all the actors are actively engaged in disseminating dairy information to farmers. The similar finding was reported by Adenkule and Fatunbi (2012) [1] ensures that all partners have a contribution to make an obvious benefit derive from the activities of the Innovation Platform.

#### **Dissemination of animal breeding information to farmers**

The data was further analyzed and presented in Table 5, it was observed that majority of the information was disseminated by input suppliers (88.33%) on selective/cross breeding methods for breed improvement followed by majority was disseminated by extension personnels (85.00%) among the animal breeding practices. The maximum information disseminated by the researchers was on selective/cross breed improvement aspects (73.33%). In overall, it was observed that the maximum information was disseminated by extension personnels (82.00%). In animal breeding practices, the majority of the information disseminated by different actors was on selective/cross breed improvement aspects (82.22%).

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#### **Dissemination of animal feeding information to farmers**

In the field of animal feeding, majority of the information was disseminated by researchers (86.67%) and extension

personnels (86.67%) for composition of concentrates. The data presented in the Table 2 further revealed that 86.67 per cent of information on mineral mixture was disseminated by input suppliers. In overall, dissemination of information from dairy innovation platform, it was observed that the maximum information was disseminated by extension personnels (74.17%). In animal feeding practices, the majority of the information disseminated by different actors was on composition of concentrates (85.00%) and mineral mixture.

#### **Dissemination of animal healthcare information to farmers**

The cursory look on Table 5 reveals that same majority of the information was disseminated by extension personnel (88.33%) on mastitis control, followed by information was disseminated by input suppliers (83.33%). It was also observed that maximum information about control of endoparasite (83.33%) and vaccination (83.33%) were disseminated. In overall, dissemination of information from dairy innovation platform, it was observed that the maximum information was disseminated by extension personnel (77.73%). In animal healthcare practices, the majority of the information disseminated by different actors was on mastitis control (83.89%).

#### **Dissemination of advisory services information to farmers**

The Table 5, reveals that majority of the information was disseminated by researchers (78.33%) on training, followed by the information disseminated was on control linkage creation by input suppliers (68.33%). It was also observed that there was maximum information about linkage creation by input suppliers (58.33%). In overall, dissemination of information from dairy innovation platform it was observed that the maximum information was disseminated by researchers (61.90%). In animal advisory services, the majority of the information disseminated by different actors was on training (65.56%). While data collection it was noticed that farmers were eager to know more and more about the scientific dairy farming and wants information on training, project proposals etc.

#### **Credibility of actors in Dairy Innovation Platform**

##### **Credibility of actors**

From Table 6, it was revealed that among the actors significantly higher credibility was recorded on input suppliers ( $77.61 \pm 1.45$ ) over extension personnels ( $74.75 \pm 1.37$ ) and researchers ( $72.26 \pm 1.39$ ). Means with same superscript in the column indicated non-significant differentiation in terms of credibility of information provided by the different actors. Multiple comparisons were done based on the DMRT (Duncan's Multiple Range Test) at 5 per cent level of significance.

##### **Credibility of Dairy Innovation platform as perceived by the actors**

From Table 7, it was observed that the credibility of actors as told by the actors of dairy innovation platform on "Resource person are more credible in providing information required by actors of dairy innovation platform" was maximum from researchers (80.00%) followed by from extension personnels (80.00%) and input suppliers (78.00%). Further it was revealed that the credibility of actors on "Scientists and veterinary officers are more credible to the farmers" was maximum from researchers (89.00%) followed by from

extension personnels (86.00%) and input suppliers (84.00%). The credibility of actors on “Dairy farmers most often use the information from fellow farmers as they are most credible” was maximum from input suppliers (81.00%) followed by from researchers (79.00%) and extension personnels (74.00%). The credibility of actors on “Farmers prefers Dairy Mela/Pasu palan mela (PPM) for source of information” was same from both extension personnel (91.00%) and input suppliers (91.00%) followed by from researchers (89.00%). The credibility of actors on “Non-local communication channels involve the highest search costs to get the needed information” was maximum from researchers (52.00%) followed by from extension personnels (46.00%) and input suppliers (45.00%). The credibility of actors on “The use of local channels is declining over a period” was maximum from researchers (56.00%) followed by from extension personnels

(55.00%) and input suppliers (50.00%). The credibility of actors on “Increasing literacy rate results in increased utilization by the farmers” was maximum from input suppliers (71.00%) followed by from extension personnels (71.00%) and researchers (51.00%).

Among all the seven statements of scale the maximum credibility of actors was 90.33 per cent on “Farmers prefers Dairy Mela/Pasu palan mela (PPM) for source of information”. Our findings are similar and in line with findings of Hai *et al.* (2003) [2], Kumar (2006) [3] and Chauhan and Kansal (2014) [6] as all the actors of the platform were full actively participating in the Dairy Mela/Pasu palan mela. Many farmers often participated in training programmes, lectures, livestock shows, animal welfare camps and Pashu Palan Mela during various occasions organised by institutes.

**Table 1:** Credibility of actors in Dairy Innovation Platform

Sl. No.	Statements	Q values	Scale values
1	To assess an innovation actor to use their own knowledge and skills.	2.94	3.86
2	Resource person are more credible in providing information required by actors of dairy innovation platform.	2.41	3.53
3	To evaluate dairy actors for having insufficient knowledge and skill.	1.66	2.47
4	Input dealers/agents have more role in dairy innovation platform.	2.10	1.90
5	Scientists and agriculture officers are more credible to the farmers.	1.74	3.68
6	The lack of information support from the institutional sources decreases the credibility.	1.69	1.50
7	Dairy farmers most often use the information from fellow farmers as they are most credible.	2.41	3.44
8	Farmers prefers Dairy Mela/Pasu palan mela(PPM) for source of information.	1.96	3.43
9	In animal husbandry practices professionally qualified person is more credible source of information.	2.94	3.62
10	Farmers prefer non institutional sources more credible than institutional sources.	2.21	1.74
11	Non-local communication channels involve the highest search costs to get the needed information.	1.69	1.77
12	The use of local channels is declining over a period.	1.57	2.04
13	Effects of sources of motivation for dairy communication have close association with utilization of information.	2.32	2.48
14	Easy accessibility of the mass media channels results in increased information utilization by the farmers.	2.73	3.41
15	Increasing literacy rate results in increased utilization by the farmers.	1.55	2.66
16	Dairy managers most often uses the information from other farmers followed by print media.	2.20	2.92

**Table 2:** Profile of Researchers of Dairy Innovation Platform

Variable	Category	Frequency (n = 20)	Percentage
Age (years) Average: 46.95 Range:33 to 55	Young (Up to 35)	2	10.00
	Middle (36 to 50 years)	8	40.00
	Old (more than 50)	10	50.00
Level of Education Average: 8.00 Range: 7 to 8	Post graduate	0	00.00
	Doctorate	20	100.00
Experience (years) Average: 21.75 Range: 8 to 37	Low (Upto 19)	6	30.00
	Medium (20-25)	5	25.00
	High (More than 25)	9	45.00

**Table 3:** Profile of Extension Personnels in the Dairy Innovation Platform

Variable	Category	Frequency (n = 20)	Percentage
Age (years) Average: 35.75 Range: 27 to 47	Young (Up to 35)	9	45.00
	Middle (36 to 50)	11	55.00
	Old (More than 50)	0	00.00
Level of Education	Senior secondary	4	20.00
	Graduation	11	55.00
	Post-graduation	3	15.00
	Doctorate	2	10.00
Experience (years) Average: 19.45 Range: 10 to 28	Low (Up to17)	7	35.00
	Medium (18-23)	9	45.00
	High (More than 23)	4	20.00

**Table 4:** Profile of Input Suppliers in the Dairy Innovation Platform

Variable	Category	Frequency (n = 20)	Percentage
Age (years) Average: 41.90 Range: 23 to 56	Young (Up to 35)	4	20.00
	Middle (36 to 50)	13	65.00
	Old (More than 50)	3	15.00
Level of Education	Primary	4	20.00
	Middle	7	35.00
	Secondary	3	15.00
	Senior secondary	6	15.00
Experience (years) Average: 16.30 Range: 8 to 31	Low (Upto17)	13	65.00
	Medium (18 to 21)	5	25.00
	High (More than 21)	2	10.00

**Table 5:** Dissemination of dairy information to farmers

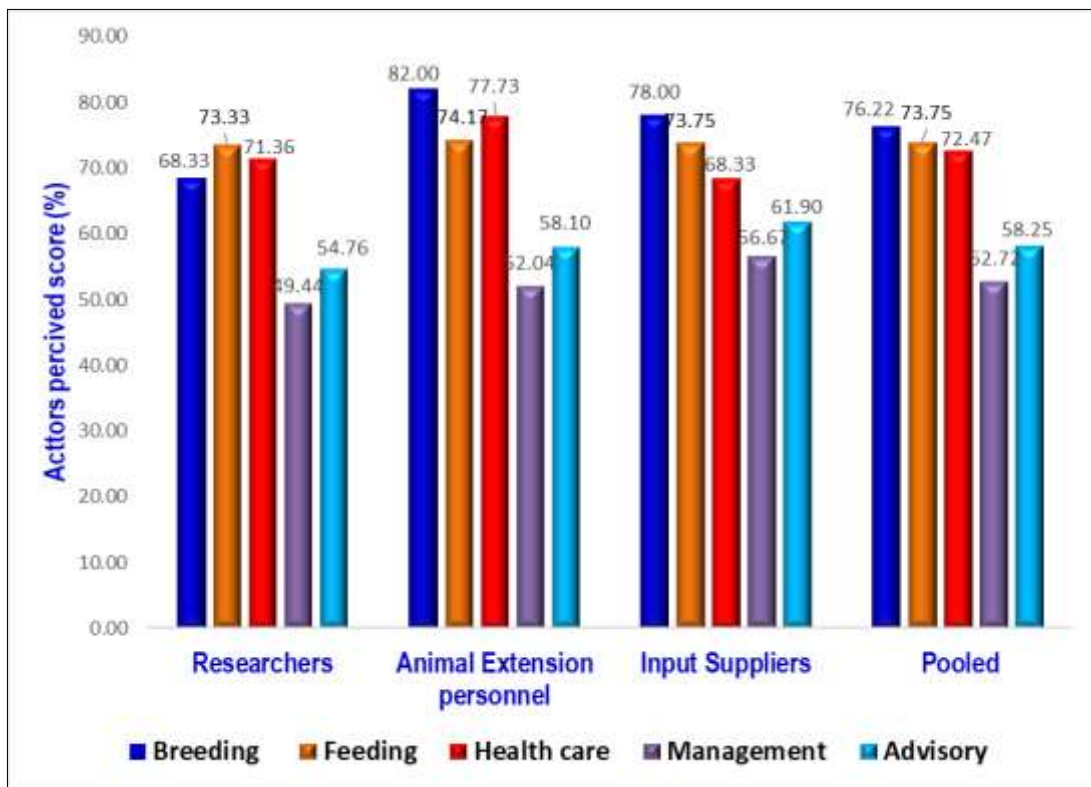
Particulars	Average weighted score (%)			
	Researchers (n <sub>1</sub> = 20)	Extension personnel (n <sub>2</sub> = 20)	Input suppliers (n <sub>3</sub> = 20)	Pooled (n = 60)
<b>Animal Breeding</b>				
Proper time of insemination	65.00	83.33	76.67	75.00
Service period	68.33	78.33	75.00	73.89
Pregnancy diagnosis	66.67	80.00	70.00	72.78
Breed improvement	Selective/cross	73.33	85.00	82.22
	Up-gradation	68.33	83.33	77.22
Overall	68.33	82.00	78.00	76.22
<b>Animal Feeding</b>				
Concentrate feeding	75.00	81.67	78.33	78.33
Composition of concentrates	86.67	86.67	81.67	85.00
Fodder	71.67	81.67	76.67	76.67
Silage	93.33	80.00	73.33	82.22
Mineral mixture	85.00	83.33	86.67	85.00
Colostrum feeding	78.33	78.33	73.33	76.67
Quantity and type of green fodder	40.00	43.33	58.33	47.22
Feed supplements	56.67	58.33	61.67	58.89
Overall	73.33	74.17	73.75	73.75
<b>Animal Healthcare</b>				
Naval cord	70.00	81.67	56.67	69.44
Disbudding	56.67	56.67	53.33	55.56
Control of endo-parasite	83.33	76.67	75.00	78.33
Control of ecto-parasite	56.67	58.33	68.33	61.11
Disease/disorder treatment	58.33	76.67	76.67	70.56
First aid kit	81.67	81.67	56.67	73.33
Vaccination	83.33	80.00	73.33	78.89
Prolapse management	70.00	81.67	61.67	71.11
Treatment of anoestrus and repeat breeding	71.67	81.67	81.67	78.33
Mastitis control	80.00	83.33	88.33	83.89
Abortion control	73.33	80.00	60.00	71.11
Overall	71.36	77.73	68.33	72.47
<b>Dairy Management Practices</b>				
Clean milk production	41.67	41.67	55.00	46.11
Housing system	50.00	58.33	65.00	57.78
Control of mosquito, ticks etc.	48.33	60.00	61.67	56.67
Bedding material	50.00	58.33	58.33	55.56
Cleaning of cattle shed	58.33	53.33	58.33	56.67
Milking machines	53.33	60.00	61.67	58.33
Manure management system	56.67	51.67	55.00	54.44
Farm records	41.67	43.33	46.67	43.89
Extreme weather control	45.00	41.67	48.33	45.00
Overall	49.44	52.04	56.67	52.72
<b>Advisory Services</b>				
How to start dairy	61.67	45.00	55.00	53.89
Training	78.33	66.67	51.67	65.56
Marketing	56.67	61.67	56.67	58.33
Linkage creation	61.67	68.33	58.33	62.78
Meetings/ Kisanmandal/ Kisanghosti	58.33	60.00	55.00	57.78
Demonstrations	53.33	53.33	46.67	51.11
Field trip/field day	63.33	51.67	60.00	58.33
Overall	61.90	58.10	54.76	58.25

**Table 6:** Credibility of Dairy actors

Sl. no.	Actors (n = 60)	Credibility (Mean±S.E)
1	Researchers (n <sub>1</sub> = 20)	72.26 <sup>a</sup> ±1.39
2	Extension personnel (n <sub>2</sub> = 20)	74.75 <sup>b</sup> ±1.37
3	Input suppliers (n <sub>3</sub> = 20)	77.61 <sup>c</sup> ±1.45

**Table 7:** Credibility of Dairy Innovation platform as perceived by the actors

Sl. No.	Statements	Researchers (n <sub>1</sub> = 20)	Extension personnel (n <sub>2</sub> = 20)	Input Suppliers (n <sub>3</sub> = 20)	Pooled (n = 60)
1	Resource person are more credible in providing information required by actors of dairy innovation platform.	85.00	80.00	78.00	81.00
2	Scientists and agriculture officers are more credible to the farmers.	89.00	86.00	84.00	86.33
3	Dairy farmers most often use the information from fellow farmers as they are most credible.	79.00	74.00	81.00	78.00
4	Farmers prefers Dairy Mela/Pasu palan mela (PPM) for source of information	89.00	91.00	91.00	90.33
5	Non-local communication channels involves the highest search costs to get the needed information	52.00	45.00	46.00	47.67
6	The use of local channels is declining over a period	56.00	50.00	55.00	53.67
7	Increasing literacy rate results in increased utilization by the farmers	51.00	71.00	85.00	69.00



**Fig 1:** Dissemination of dairy information to farmers

**Conclusion**

The profiles showcased a remarkable diversity among the various participants within the dairy innovation platform. This diversity was marked by distinct roles: researchers contributing academic expertise, extension personnel offering a blend of practical and theoretical knowledge, and input suppliers bringing valuable practical experience to the table. This varied composition significantly enriched the process of knowledge sharing and collaboration within the platform. The outcome was potential for comprehensive solutions that catered to the multifaceted needs of the dairy sector.

It's worth emphasizing that these profiles also signaled the importance of tailored approaches for capacity enhancement, education and engagement. Each groups unique characteristics warrant specific strategies to maximize their potential contribution.

In the dairy industry, reliable access to credible information is pivotal for stakeholders aiming to elevate both milk quality and production processes. The present study delved into the intricacies of information distribution through innovation platforms while also gauging the credibility of the actors involved. The central figures in this ecosystem were researchers, extension personnel and input suppliers. A notable finding was the proactive engagement of all actors in disseminating dairy-related knowledge, with a particular emphasis on refining animal breeding practices. Notably, extension personnel emerged as the most trusted information sources, closely followed by input suppliers and researchers. Despite their distinct roles, a shared sense of overall credibility was evident among these actors.

Comprehending the dynamics of information flow and actor credibility within the dairy landscape provides valuable

insights for policymakers, researchers, extension workers and input suppliers. Armed with this understanding, these stakeholders can collaboratively devise strategies that pave the way for elevated milk quality, optimized production methods and augmented income for farmers. In essence, this study underscores the pivotal role played by reliable knowledge exchange and effective collaboration among diverse participants in driving positive transformation within the dairy sector.

## References

1. Adekunle AA, Fatunbi AO. Approaches for Setting-up Multi-Stakeholder Platforms for Agricultural Research and Development. *World Applied Sciences Journal*. 2012;16(7):981-988.
2. Hai A, Srivastava RM, Singh RP. Livestock farmer's preference of communication media and their use by Extension Workers in Tribal Bihar. *Indian Journal of Extension Education*. 2003;XXXIX(1&2):31-34.
3. Kumar R. Information management behavior of khol crop growers of Belgaum District of Karnataka State. M.Sc. Thesis, University of Agricultural Sciences, Dharwad; c2006.
4. Kilelu CW, Klerkx L, Leeuwis C. Unravelling the role of innovation platforms in supporting co-evolution of innovation: Contributions and tensions in a smallholder dairy development programme. *Agricultural systems*. 2013;118:65-77.
5. Makini FW, Kamau GM, Makelo MN, Adekunle W, Mburathi GK, Misiko M, *et al.* Operational field guide for developing and managing local agricultural innovation platforms. Nairobi. Kenya. KARI; c2013. p. 92.
6. Manisha C, Kansal SK. Most Preferred Animal Husbandry Information Sources and Channel among Dairy Farmers of Punjab. *Indian Res. J Ext. Edu*. 2014;14(4):33-36.
7. Mohammad A, Gupta J, Kumar RS, Subash S. Linage Pattern Among Actors of Milk Production Innovation System in Coastal Saline Soil Zone of West Bengal (India). *Journal of Global Communication*. 2012;5(1):39-43.
8. Pali PN, Swaans K. Guidelines for innovation platforms: Facilitation, monitoring and evaluation; c2013.
9. Rajalahti R. *Agricultural Innovation Systems. An Investment Source Book*; c2012.
10. Swaans K, Boogaard B, Bendapudi R, Taye H, Hendrickx S, Klerkx L. Operationalizing inclusive innovation: lessons from innovation platforms in livestock value chains in India and Mozambique. *Innovation and Development*. 2014;4(2):239-257.
11. GOI [Government of India]. *Census of India 2011*. New Delhi: Office of the Registrar General and Census Commissioner, India, Ministry of Home Affairs; c2011.