Impact analysis of Krushik-a Live Demo Expo (Farmers Fair/ Technological week) in Agriculture and Rural Development

Abstract:

In farming community dissemination of knowledge and information within short span of time is a difficult job in developing countries. In present era of social media may miss lead the farming community resulting in heavy losses. So, agricultural exhibitions based on principles of 'Seeing is believing' & 'Learning by doing' must be planned to give real site of state of the art advance technologies developed by different agencies.So, the present study was conducted to analyze the impact of Live Agricultural Expo i.e. Krushik-2024 with the objective to get information regarding behavior and feedback of farmers visiting Exhibition. Study reveals that the interest of young generation agricultural students is increasing in agriculture sector. Moreover, live demonstration exhibitions/ farmer's fairs/ technological weeks like "Krushik" can play the crucial role in development of farming community in developing country. It has emerged as a excellent platforms through which advance technologies from both public and private sector can effectively disseminate within a short period of time.

Key words: Krushik, Farmer Fair, Technological week, Agricultural exhibition, Kisan mela

INTRODUCTION:

Since, 1991 Agricultural Development Trust's, Agricultural Science Center, Baramati which is locally known as Krushi Vigyan Kendra*i.e* KVK, Baramati is mainly worksfor mandates designed by Indian Council of Agricultural Research, Government of India, New Delhi.Main objective of Krushi Vigyan Kendra is rapid dissemination of needed information to the farmers.

In this context, KVK, Baramati is organizing farmer's fair/technological week at KVK Instructional farm, since 2015. This farmer's fair/Technological week is known as "KRUSHIK-2024- India's Biggest Live Demo and Agri. Expo". Recently, 9th edition of KRUSHIK-2024 was held during 18th to 22nd January 2024.During this technological week different emerging technologies were demonstrated to the farmers like "Farm of the Future":which comprise of Artificial Intelligence and Agriculture Technologies, based on sensors, drones, robotics etc.; Live demonstration of important crops like Vegetables, Sugarcane & Maize, fertilizer & other agri. Inputs, Organic farming, Dryland farming, Animal husbandry, machinery and Processing Technology. Vertical farming, Hydroponics, Aeroponics, NFT, Protected Cultivation Technology, Exotic Vegetable Production, Urban Farming & Terrace Gardening, Water Recycling, Climate Control, Pack house & Cold-Storage Unit, Export Guideline & Training, Novel Farming:Abiotic & biotic stress management, demonstration of improved seed & variety by use of improved crop production technology, use of low cost polyhouse, Use of Nano spray grade & Chloride-Sulphate free Israel, Germany, Netherlands imported fertilizer grade for crop production, Drought Management; Natural Farming; Use of Homeopathy for Crop residue free crop production, PROM Organic Manure, Crop residue Management, residue free crop production, Use of Bio-agent for crop production, Processing, Value addition & Interaction with Experts, Crop Diversification, Intercropping Technology. Advanced Indo Dutch CoE for Genetic Improvement in Cattle; Automation in milking & Processing, Cutting edge livestock technology, Embryo transfer technology, Sensor base animal health monitoring

system, Hydroponics feed production, Genomics, Climate SMART animal management technology, value addition technology, balanced nutrition through TMR, SMART Housing and Advisory services;Millets (Shree Dhanya): Introduction of Positive Millets like Kodo, Foxtail, Barnyard, Little Millet & their Production & Processing Technology, Interaction with Expert;Aquaculture:Aquaponics, Hatchery, Cage Culture, Plastic lining fish farming, Biofloc, Ornamental fish farming, Integrated fish farming, Feed mill (Floating, non-floating) and Integrated Farming Systems*i.e*Technology Demonstration on Agri-Horti-Dairy-Poultry-Fishery-Apiary-Sericulture Farming System Model. So, that new technologies and information can effectively reach to the farmers in short span of time. In present investigation a study was conducted to obtain information regarding behavior and feedback of farmers visiting farmers' Krushik.

MATERIAL METHOD:

This technological week i.e. KRUSHIK is held on area of 110 acre at Agricultural Development Trust's, Krushi Vigyan Kendra's farm in every January. More than 350+ International, National, state level exhibitor from public as well as private sector are participate in this exhibition every year. 9th edition of KRUSHIK-2024 was held during 18th to 22nd January 2024. During this event more than 1.5 lakh farmers visited this event. In present investigation randomlyselected 320 feedbacks from farmers were analyzed to study the impact analysis of Krushik exhibition in farming community.

RESULT AND DISCUSSION:

During Krushik 2024 very interesting, encouraging and satisfying feed backs were received from visitors. Following data revels the feedback analysis of randomly selected & personally interviewed 320 respondents (Fig. No.1 & Table No.1). Among them it was found that most of the visitors are highly impressed by animal show & followed by demonstrations arranged in exhibition. Most interestingly, 44.4 % visitors from agriculture background has appreciated & interested in adopting future Artificial Intelligence technology in agriculture which is demonstrated during Krushik 2024 exhibition. It reveals that, mostly farmers i.e. 69.1 % farmers were interested in live demonstrations rather than stalls type of exhibitions. Data also reveals that present era farmers are very much interested in modern emerging technologies demonstrated on fieldby various agencies like Field visits (60.3 %) followed by AI-Artificial Intelligence (44.4%). 47.8 % of evaluated feedbacks suggest that it is the best place for farmer-farmer interactions from different regions.

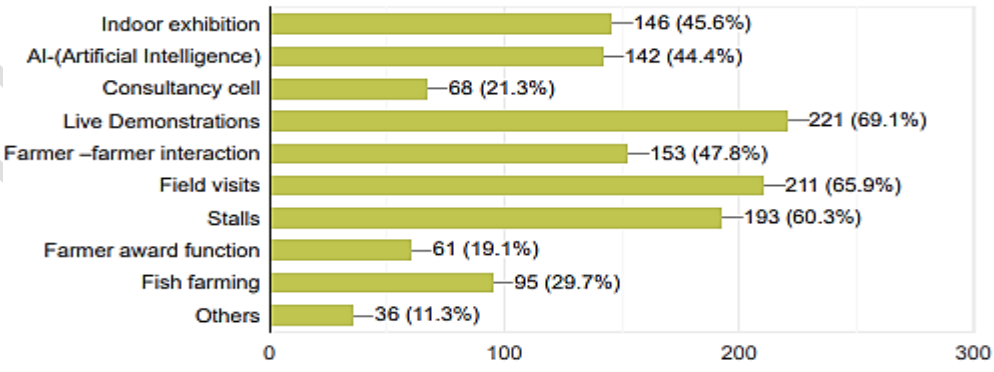

Figure 1feedback analysis of randomly selected & personally interviewed responsednts

Table : No. 1 Three best stalls, Demonstration as perceived by the respondents

Sr. No.	Category	Frequency	Percentage
1	Live demonstration vegetable plots	149	46.56
2	Technology Stalls	116	36.25
3	Machinery and implements	123	38.44
4	Artificial intelligence technology demonstration	127	39.69
5	Animal exhibition	219	68.44
6	Floriculture	80	25.00
7	Poly house technology	74	23.13
8	Fish farming	19	5.94

From feedback it was also found that farmer-exhibiter interaction was best & farmer- farmer interaction was high (83.1%) due to Krushik exhibition which had helped the farmers in cross learning, changing the boundaries of their imaginations & go for group farming (Fig. No.2).

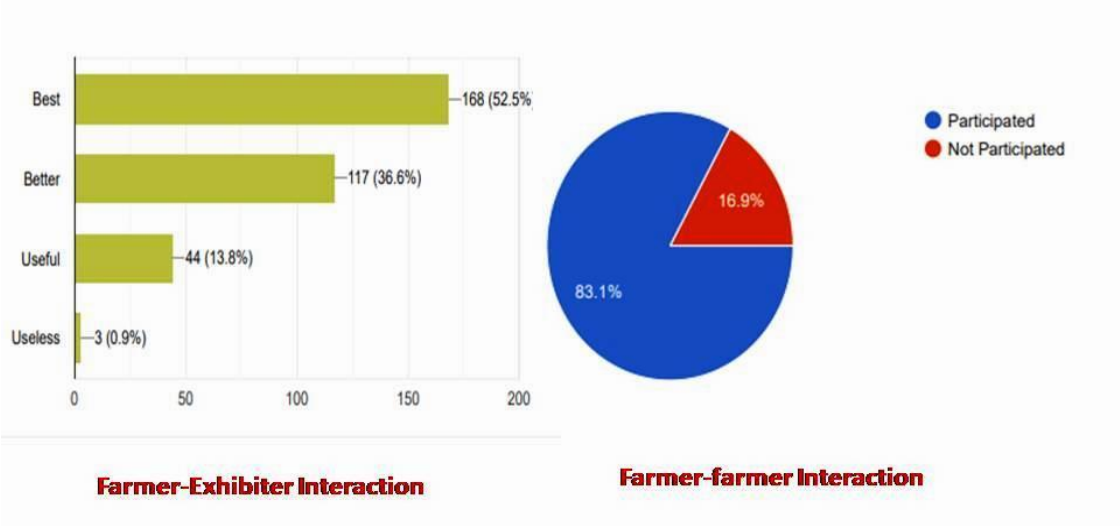

Figure 2: Farmer- farmerand farmer-exhibiter interaction

A. Interventions &Prospective :

Overall perspective of the respondents was best & Farmer's perception of usefulness of Krushik indicates that all 35 technological interventions displayed during Krushik was most useful & helpful (Table No. 2 & 3). Among them Dairy & Animal Husbandary, Information of fertilizers, Soil and water conservation, Agricultural Weather information, Biofertilizers,Honeybee rearing, Improved Sugarcane production technology, AI-Artificial Intelligence, Organic farming,Seed Storage & Processing and Agricultural implements & machine was apprised as a most useful. This indicates that in exhibition tremendous amount of visitors with varying range of interest visited the exhibition. Exhibition has created vast impact on diverse kind of visitors& it has capacity to boom the framing community.

Strategic management, facility will increase the impact of farmers also reported by Burgelman*et al.* (2008), Sattari *et al.* (2021) andYadav & Kumar (2017).

Table No. 2 Overall perspective of the respondents about Krushik 2024			
Sr. No.	**Category**	**Percentage**	**Frequency**
1	Best	172	53.75
2	Better	116	36.25
3	Normal	30	9.375
4	Poor	2	0.625
	Total	320	100

Table No. 3 Farmer's perception of usefulness of Krushik 2024				
Sr. No.	**Category**	**Most useful**	**Useful**	**Less useful**
1	High Yielding Varieties of seed	171 (53.44)	138 (43.13)	14 (4.38)
2	Information of fertilizers	195 (60.94)	118 (36.88)	12 (3.75)
3	Information of pesticides	168 (52.50)	127 (39.69)	34 (10.63)
4	Agricultural implements & ne	182 (56.88)	127 (39.69)	18 (5.63)
5	Irrigation methods	173 (54.06)	136 (42.50)	14 (4.38)
6	Soil and water conservation	192 (60.00)	114 (35.63)	18 (5.63)
7	Information on high-tech horticulture	126 (39.38)	177 (55.31)	25 (7.81)
8	Information on Kitchen ning	146 (45.63)	151 (47.19)	27 (8.44)
9	Information on IFS	123 (38.44)	152 (47.50)	48 (15.00)
10	Dairy & Animal Husbandary	210 (65.63)	94 (29.38)	19 (5.94)
11	Fisheries	143 (44.69)	163 (50.94)	19 (5.94)
12	Agro forestry	106 (33.13)	193 (60.31)	25 (7.81)
13	Ag. Weather information	199 (62.19)	100 (31.25)	26 (8.13)
14	Dry farming technology	123 (38.4)	184 (57.50)	16 (5.00)
15	Biofertilizers	195 (60.94)	113 (35.31)	14 (4.38)
16	Mushroom Cultivation	122 (38.13)	185 (57.81)	15 (4.69)

17	Honeybee rearing	209 (65.31)	99 (30.94)	17 (5.31)
18	Vermicomposting	180 (56.25)	139 (43.44)	8 (2.50)
19	Organic farming	183 (57.19)	128 (40.00)	17 (5.31)
20	Medicinal & herbal planting	134 (41.88)	169 (52.81)	18 (5.63)
21	Improved Sugarcane production technology	221 (69.06)	95 (29.69)	17 (5.31)
22	Contingency Crop planning	140 (43.75)	166 (51.88)	16 (5.00)
23	Seed Storage & Processing	183 (57.19)	124 (38.75)	19 (5.94)
24	Models/Charts/Poster	137 (42.81)	162 (50.63)	24 (7.50)
25	Hydroponics	157 (49.06)	137 (42.81)	31 (9.69)
26	Aeroponics	130 (40.63)	157 (49.06)	37 (11.56)
27	AI-Artificial Intelligence	175 (54.69)	127 (39.69)	25 (7.81)
28	Natural Farming	149 (46.56)	151 (47.19)	23 (7.19)
29	Mushroom production blogy	156 (48.75)	148 (46.25)	24 (7.50)
31	Bio-flock	126 (39.38)	145 (45.31)	51 (15.94)
32	Floriculture	173 (54.06)	132 (41.25)	18 (5.63)
33	Poly house technology	166 (51.88)	134 (41.88)	24 (7.50)
34	Exotic and new fruit crops	172 (53.75)	124 (38.75)	27 (8.44)
35	Any other	146 (45.63)	142 (44.38)	39 (12.19)

B. Impact study:

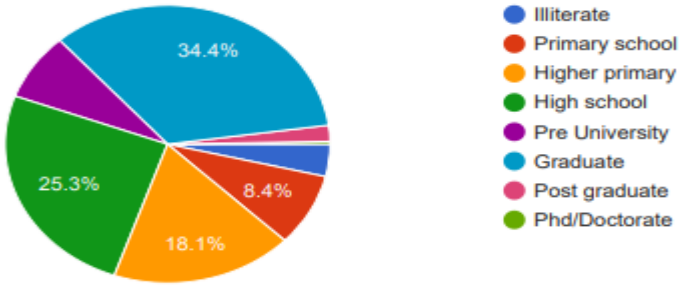

Figure 3 Pie chart showing educational status

Analysis of Krushik-2024 data revels that frequency of graduateyouths visitors are high as it satisfies their appetite for emerging information and modern agriculture technologies, Followed by High school students. It reflects the changing perception &changing mind set of young youth towards agriculture sector.In this context Exhibitions like “Krushik” play important role as a knowledge &information hub center and play crucial role in nation building.

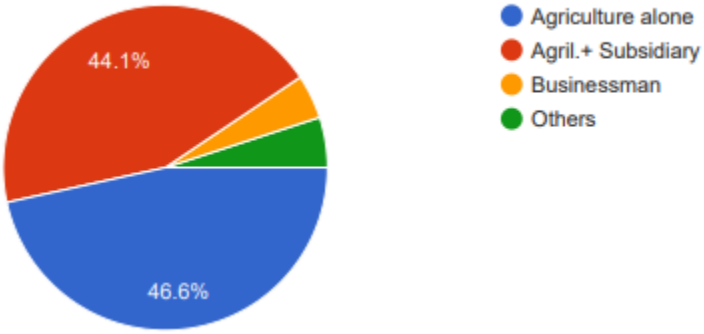

Figure 4Pie chart showingsubsidiary business status

It is observed that most of visitors are involved are from Agriculture (46.06%) or agricultural allied subsidiary business (44.06%) Fig.4.Moreover, analysis of visitorsintrest shows that farmer-farmer, farmer-exhibitor interaction really helping them to expand their business. Exhibitions like Krushik is a plat form them to shear and acquire recent advances in agriculture sector.

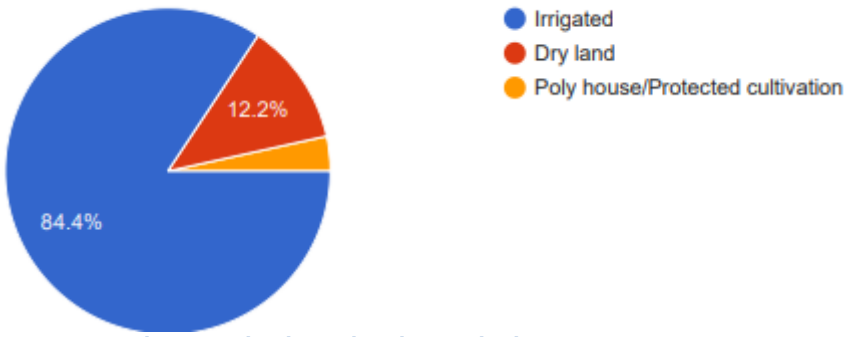

Figure 5 Pie chart showing agriculture status

Maximum amount of visitors i.e. 84.39% are involved in irrigated type of agriculture out of which mostly fruit crop growers (55%)followed by agronomical crop growers, vegetable growers and floriculturists Fig.5.

Table No. 4 Useful and innovative technology/information as perceived by the respondents

Sr. No.	Category	Frequency	Percentage
1	Technical information	206	64.38
2	Machineries and implements	165	51.56
3	Solar machineries	94	29.38
4	Demonstration	221	69.06
5	Livestock	189	59.06
6	Future Agriculture	151	47.19
7	Agri. allied technology	143	44.69

They are highly satisfied with the way of technology demonstrated (69.06%) and technology received through Krushik exhibition *i.e*. (64.38%) visitors followed by other categories of units. Table-4.

All above data indicates that information & knowledge received from Krushik is the key to establish new subsidiary allied agribusiness. While Table No.5 reflects impact of Krushik Exhibition that the 87.5 % of respondent farmers are willing to adopt the technologies demonstrated in Krushik-2024.

Table No. 5 Opinion about adoption of technology received in Krushik 2024

Sr. No.	Category	Frequency	Percentage
1	Adopt	280	87.5
2	Will not adopt/ not decided	40	12.5
	Total	320	100

Table No.6 Motivation of Respondents to others to participate in Krushik / Krishi Mela

Sr. No.	Category	Frequency	Percentage
1	Motivated	316	98.75
2	Not Motivated	4	1.25
	Total	320	100

Table No. 7 Planning for next year (Krushik-2025) visit

Sr. No.	Category	Frequency	Percentage
1	Yes	314	98.13
2	No	6	1.88
	Total	320	100.00

Data also reveals that percent of motivated respondents was 98.75% & Visitors are satisfied by all kind of demonstrations and units arrangements made during exhibition. 98.13 % of visitors are willing to visit next year's Krushik-2025 exhibition in search of new technologies & information (Table No.8).

This indicates that Krushik-2024 exhibition is highly successful in arrangement, Demonstration and technology dissemination on large scale among the visitor farmers of varying categories.

Similar results were also observed by Jambagi (2020), Sharma (2019), Jiyawan*et al.* (2012), Sharma and Hasan (2012) and Rathore(2013).

CONCLUSION:

Study reveals that theinterest of young generation agricultural students is increasing in agriculture sector. Moreover, live demonstration exhibitions/ farmers fairs/ technological weeks like “Krushik” can play the crucial role in development of farming community in a country. These are the platforms through which advance technologies from both public and private sector can effectively disseminate within a short period of time. Even complex high-tech technologies like AI, IOT, Machine Learning, sensor technologies can effectively reach to end farmer within short period of time.It is a right place to combination of individual, group and mass contact methods to shear thereexperiences and knowledge.

Agricultural exhibition like Krushikis an effective method for creating awareness on different technologies for the farmers, scientists, officers from agriculture and allied sectors, NGOs, public & private agencies etc. As it is works on both the principles of ‘Seeing is believing’ & ‘Learning by doing’ it has the capacity to accomplish the goal of doubling the farmers yield through reaching the unreached.

REFERENCES:

Burgelman R, Christensen C and Wheelwrigh T S. (2008) Strategic Management of Technology and Innovation. 5th Edition, McGraw-Hill/Irwin, ISBN-10: 0073381543.

Jambagi A K, (2020) Role of Fairs and Festivals in Agriculture and Rural Development,International Journal of Creative Research Thoughts, Volume 8, (1)2020.

Jiyawan R, Ghadei K, Singh M and Sujan D K. (2012) Behavioural Changes of Farmers through Krishi Vigyan Kendra. *Indian Research Journal of Extension Education* 1(Special Issue): 283-287.

Mittal S and Mehar M. 2013. Agricultural information networks, information needs, and risk management strategies: a survey of farmers in Indo-Gangetic plains of India. Working paper of CIMMYT, New Delhi, India.

Rathore S (2013)Perception of Farmers towards Patnagar Farmers' fair. *Indian Journal of Social Research.* 54(5):507-512.

Ruijuan Dai and Xifang Wang (2019) Review on the Function and Operation of Exhibition Industry, Advances in Social Science, Education and Humanities Research, volume 309, 1st International Symposium on Management and Social Sciences (ISMSS 2019).

Sattari A A, Malik A K and Yadav K (2021) Ccshau Farmers' Fair: Enabling Farmers to Access Technology And Advisory Services, J.SoilsandCrops**31(1)50-55.**

Sharma (2019) Perception of Farmers Towards Farmers' Fair Organized in G B Pant, Pantnagar,*J. Res. ANGRAU* 47 (3) 67-69, 2019.

Sharma, A and Hasan, S. (2012). Impact of 'FarmersFair' on Participating Farmers. Journal of Communication Studies. 30 (3):146-156.

Yadav K and Kumar (2017) Farmers Fair in Transfer of Technology: An Effective Extension Approach,Research Journal of Agricultural Sciences **9**(Special): 53-55, March (2018).