

Farmers' library:

Bihar farmers' views and experiences

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Modern education emphasizes the effective pedagogy of learning by doing, which can be applied in any subject, including agriculture, an oldest occupation of tilling soil. An outstanding intervention by Krishi Vigyan Kendra (KVK), Banka under Bihar Agricultural University (BAU), Sabour, Bhagalpur, at farmer's library to help the farmers to implement agricultural innovations in their fields through group discussions and excellent supervision of scientists from KVK Banka and BAU, Sabour. Through use of audio-visual communication tools, a farmers' library located in panchayat bharwan of climate resilient agriculture (CRA) programme adopted village Uprama (Lilatar-Kathachatar) offers a forum for showcasing modern agricultural techniques as well as facilitating learning and experimenting among the farmers. Majority of the farmers in that village and nearby villages meet daily in evening to talk about agriculture and animal production because farmers have extensive knowledge in these areas. Due to being a progressive farmer and doing farming in a diversified manner, all are interacting to each other and discussing on that particular innovative subject. By implementing a CRA project in that village by KVK Banka, farmers are growing crops using improved agronomic practices for crop production and agricultural machinery such as raised bed planters, laser land levelers, happy seeders, super seeders, and zero tillage, among others. Both mechanization and management are exposed to emerging trends in the agricultural industry through its sustainable development in agricultural production. India has been at the forefront of increasing agricultural output and ensuring the country's food security since the early Green Revolution, with a greater emphasis on cereal crops and pulses. Landholding sizes gradually shrank and the following two generations were forced to make due on the share of land inherited from their ancestors in accordance with the laws that applied to them. At the moment, ~70% of population is either directly/indirectly dependent on agriculture. To contribute more to GDP, agriculture has the potential to develop and create a wider range of high-quality products. Securing soil fertility allows farmers to reap benefits of their produce's strong output from field, which encourages them to keep planting new crops.

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The word library is derived from the Latin word 'Libraria' which means barks of a tree (that was an early writing material). Its origin is traced to another Greek word 'Librariun' which means a bookcase. The farmers' library is considered as a social institution, which provides free access to knowledge about technological interventions

of agriculture to the farming community. Farmers' library is an institution where farming books are acquired, arranged and served for use and it is the 'use' which is motive. Today, the farmers' library is a necessary unit in the social fabric because farmers have to enhance the production in qualitative and quantitative manner. Now farmers

library is an institution charged with functions of acquiring farming books and reading material of organizing them and putting them for use, to be served to progressive farmers and farm women and to inculcate habit of reading among them with idea of universal agricultural education. India is known for its precious agricultural production and had

its extension methodology with education research as its pillars. Information is the power that has been essential to evolution of human civilizations since prehistoric times, helping to shape social, political, economic, occupational, cultural, and many other facts of human society. Farmers' library used to be thought of as a repository for agricultural literature and associated materials, with books intended only for preservation.

Aims and objectives of farmers' library at Uprama, Banka

The goal of farmers' library is to provide users with tools they need to utilize its resources and services as efficiently as possible. The purpose of library is to develop an affection for reading among the farmers so that they can implement technical interventions in their fields. The farmers' library is also helpful in accelerating productivity and output of crops and animals by offering ideas and information to innovative thinking farmers, farm women, rural youth and extension professionals. Farmers' library in Uprama village is evidence to the continued existence of the teaching, learning and training process. It fosters imagination development through reading a range of books. For education, farmers' library acts as a brain of any institution amongst progressive farmers. Primary objective of a farmers' library is to provide the right information to the right users at the right time. The objectives of farmers' library are discussed below.

- **To support all educational programmes:** All activities are organized at farmers' library among farmers and which are carried out by organization, university and different KVKs. Progressive farmers use farmers' library for planning, information gathering, recreational activities innovations/new projects and an assortment of extracurricular activities that they occasionally carry out in field for demonstration. Thus, in order to meet the diverse demands of its patrons, farmers' library offers

publications that complement every educational initiative of the agricultural institute.

- **To cultivate reading and discussion habits:** Habit of reading books other than textbooks should be inculcated among farmers. If good habits of using farmers' libraries is developed at an early stage, then these will continue over time. Farmers' library contains *Kisan Diary*, *Krishak Sandesh*, *Krishak Samachar*, extension bulletin, popular articles, and leaflets for meeting recreational needs of the farmers. Reading and discussion habit improves imaginative skills and enhances implementation of technological interventions at farmers' field for getting profit.
- **To increase vocabulary and knowledge:** The reading material at the farmers library is managed such that different books have the same title. Farmers can improve their language and general knowledge to better communicate with other farmers about the use of technology. The farmers gain extra knowledge beyond their own practice which is beneficial for the farming community of other place.
- **To inculcate the habit of seeking help from additional sources other than books:** As a farmers' library is hub of activities, so students can use it for education, information, recreation and inspiration.
- **To encourage the lifelong education:** The farmers' library provides information, inculcate ideas and develop knowledge that is so essential to function successfully in today's



Exposure visits of progressive farmers at farmers' library

information and knowledge-based society. Reading material in library goes on updating from time to time and every learner deserves to polish knowledge which is new. For this purpose, library assists learner in their whole life. Farmers' library promotes literacy and disseminates useful information to the progressive farmers and encourages lifelong learning. It is fundamental for libraries to equip farmers with lifelong learning skills through its reading materials and resources and develop creative thinking and imagination and enabling them to live as ideal and responsible farmer.

- **To develop self-learning skills of farmers:** Farmers' library develops independent reading habits of farmers, improves quality of discussing, makes farmers acquainted with different library materials like success story, *Kisan Diary*, catalogue cards. It also trains the farmers to a life-long self-learning skill through utilization of library resources in any situation. It helps farmers to be a good citizen which ultimately supports towards national agricultural development.
- **To help extension functionaries to improve their training expertise:** Books in farmers' library is available for extension functionaries. Extension functionaries require further reading to keep their knowledge up to date. They also require many other items for support of training which are maintained in farmers' library at Uprama to create lifelong education in them and thirst for acquiring new knowledge/ideas.
- **To provide healthy material for recreational and entertainment purpose:** Farmers and extension functionaries like to read not only for their curriculum but also for their pleasure and recreation. Therefore, aim of farmers' library is to provide good books for entertainment purpose also. Farmers' library



Address by Vice Chancellor, Bihar Agricultural University, Sabour about farmers' library at Uprama, Banka

contains fiction, non-fiction, biographies and popular magazines for recreational needs of the users.

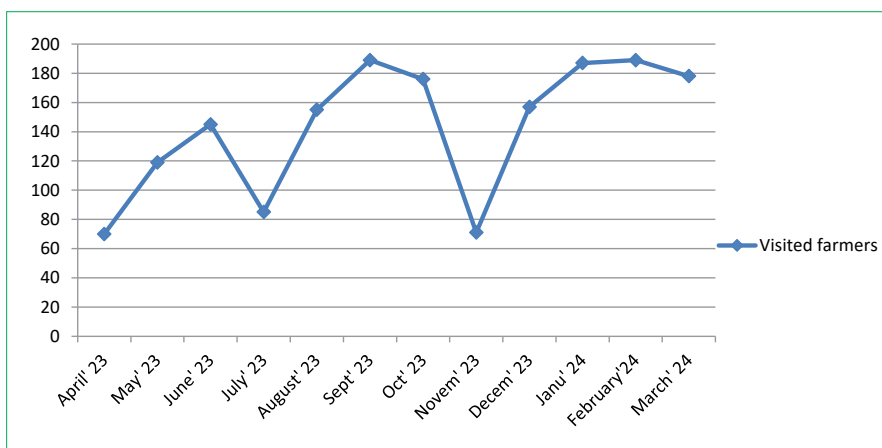
- **To add new books:** Books in farmers' library were added from time to time by Krishi Vigyan Kendra, Banka, Bihar. Whenever there is a change in curriculum or increase in farmers' strength, news books are added to satisfy user's needs. The list of newly purchased books is displayed on the notice board with the heading "list of new arrivals" to make users aware of the new books.
- **To preserve newspapers clipping:** Newspapers are most important sources of latest information. It would be most appropriate, if the relevant cuttings of educational write ups, items or events related to institute are organized and stored in file for future reference in farmers' library. Educational or informative articles may also be preserved and displayed on the bulletin board.
- **To provide reference books:** Bihar Kisan Diary, Krishak Sandesh, Krishak Samachar, extension bulletin, popular articles, leaflets and other reference books were made available in farmers library for use. Diversified choice of books for reading will help the users in building up emotional balance and stability and promote intellectual curiosity.

- **Preserved history and past culture:** Books are the authentic proof to preserve the historical as well as cultural heritage. Farmers gain such knowledge and enhance their vocabulary and information in farming.
- **For religious and spiritual upliftment:** Religious literature

is preserved in library for guidance for the future generation. By reading various stories as well as literature, the learners' increases and upliftment the religious and spiritual knowledge. Various yoga asanas are also part of such materials.

- **Arranged non-printed materials:** Farmers' library aims to provide extra material other than books including globe, chart, CDs, DVDs, maps etc. Library also aims to provide the facility of various film shown to the farmers. Its main purpose is reading as it inevitably increases the brain power of communities. It plays a very important role in promoting progress of knowledge. Hence, library is the centre of intellectual as well as social activities of the village community.

To increase the empowerment of the farmers in various personal



Month wise visit of progressive farmers and farm women at the farmers' library

Table 1. Satisfaction of farmers with respect to advisory and diagnosis services of farmers' library (n = 120)

Particulars	Satisfied		Somewhat satisfied		Not satisfied	
	f	% age	f	% age	f	% age
Technical knowledge of the expert	112	93.33	08	6.67	-	-
Communication skills	117	97.50	03	2.50	-	-
Time taken to solve problem	110	91.67	10	8.33	-	-
Availability of expert	102	85.00	08	6.67	-	-
Interest of expert in advisement	111	92.50	09	7.50	-	-
Expert guidance	104	86.67	06	5.00	-	-
Expert behavior	110	91.67	10	8.33	-	-
Language of expert	120	100.00	00	0.00	-	-
Sample diagnosis	111	92.50	09	7.50	-	-



Team of Krishi Vigyan Kendra (KVK) scientists and progressive farmers

and economic aspects, different information sources should be used along with organizing training program so that the farmers become more aware about the improved and changing agricultural practices, government program and schemes and credit facilities. More awareness needs to be created among the farmers about utilization of marketing channels for increasing their profitability. Information about real-time marketing scenario should be offered to the farmers so that they can make better decisions and enhance profitability.

More than 90% of farmers were satisfied with the various aspects under advisory/diagnosis services i.e. expert behaviour (91.67%), communication skills of expert (97.50%), sample diagnosis (92.50%), technical knowledge of the expert (93.33%), interest of expert in advisement (92.50%), time taken to solve problem (91.67%), expert guidance (86.67%) and language of expert (100%). While in case of availability of experts, 85% of the farmers were satisfied and 15% were somewhat satisfied for same (Table 1.). It indicated that most of the farmers were satisfied with the various aspects of advisory/diagnosis services.

Now a days, artificial Intelligence (AI) has been extensively applied in farming recently. To cultivate healthier crops, manage pests, monitor soil and growing conditions, analyses data for farmers, and enhance other management activities of food supply chain, agriculture sector is

turning to AI technology. It also helps farmers choose the optimum seed for a particular weather scenario. It also offers data on weather forecasts. AI-powered solutions will help the farmers produce more with fewer resources, increase crop quality, and hasten product time to reach the market. AI aids in understanding soil qualities. It helps farmers by suggesting the nutrients they should apply to increase the quality of the soil. It can help farmers choose the optimal time to plant their seeds. Intelligent equipment can calculate the spacing between seeds and the maximum planting depth. An AI-powered system known as a health monitoring system provides farmers with information on health of their crops and nutrients that need to be given to enhance yield quality and quantity. Another various extension strategies like market led extension, information and communication technology (ICT) led extension and agripreneurship led extension should be implemented in integrated approach to enhance the empowerment of farmers. Special importance should be given in increasing the income as well as



Training at farmers' library by Krishi Vigyan Kendra (KVK) scientists

profitability of farmers by improving productivity and lowering of costs. Small and marginal farmers need to be given courage to form farmer producer organizations (FPOs) to improve their competitive position in market. It will enable them to have economies of scale in procurement of the inputs, processing, marketing as well as export of the produces. It will also help them to have easy access to credit facilities. In collaboration with various organizations, farmers' library can play an important role to act as a facilitator in training the farmers to form FPOs. Farmers should be motivated for adopting the improved practices of integrated natural resource management, integrated pest management and integrated plant nutrient management in their farms. They should be trained about post-harvest management and value addition of the produces as well as meeting product quality standard necessary for export.

SUMMARY

The study was an attempt to generate and compile data about satisfaction regarding services provided at Farmers Library run by Krishi Vigyan Kendra, Banka, Bihar and Bihar Agricultural University, Sabour, Bhagalpur, Bihar. It can be concluded that high majority of the farmers were satisfied with advisory/diagnosis services, literature/publications services and technological interventions provided at the farmers' library. More than half and one third of the farmers had high and medium level of overall satisfaction, respectively towards at the farmers' library. Some key applications of artificial intelligence (AI) in farm science libraries are automated data management, implement AI systems for the automated organization and categorization of vast amounts of agricultural data, including research papers, reports, and datasets to be included.

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