

KHETI KI BAAT, EKTA AI KE SAATH

An assessment of farmers' engagement with
AI in agriculture



CREDITS

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Acknowledgement

Farming communities of Atiya and Basarahi Panchayat, Bodhgaya (Bihar) and Ghaghra Panchayat, Gumla (Jharkhand)

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1. Introduction

Kheti Ki Baat, Ekta AI Ke Saath is a joint initiative by Palakiya Foundation (PF) and Earth On USA, aiming to explore the feasibility of Artificial Intelligence (AI) support for both large and small-scale farmers in rural India. Agriculture practices today are deeply impacted by climate change. In the form of organic or natural farming, new and reformed farming practices are emerging, creating new patterns of demand in the market.

This market unpredictability and limited access to new and timely information, AI presents a unique opportunity to bridge those knowledge gaps, while making use of the farmer's wisdom. It is an attempt especially for communities that are often left out during digital innovations.

This pilot introduced Ekta AI, a WhatsApp-based chatbot designed to provide contextualised farming advice, government scheme-related updates, and other agricultural information in local languages. The intervention targeted farmers from

Basarahi and Atiya panchayats in Bodhgaya (Bihar) and Ghaghra panchayat in Gumla (Jharkhand), engaging 71 farmers through orientation sessions, followed by hands-on experience of the AI tool over several days. The participants represented a cross-section of rural India varying in age, gender, digital literacy.

This report captures the learnings from the pilot study, focusing on how farmers interacted with the AI, their ease of use, the relevance of information received, and their willingness to adopt the technology further. By analysing their experiences, the report reflects on the opportunities and limitations of deploying AI tools in grassroots agricultural systems and offers recommendations to enhance Ekta AI's effectiveness and inclusivity.



@AI generated image

2. AI and Agriculture

The integration of advanced technology in agriculture holds significant potential to transform rural livelihoods, enhance productivity, and bridge information gaps in agricultural practices.

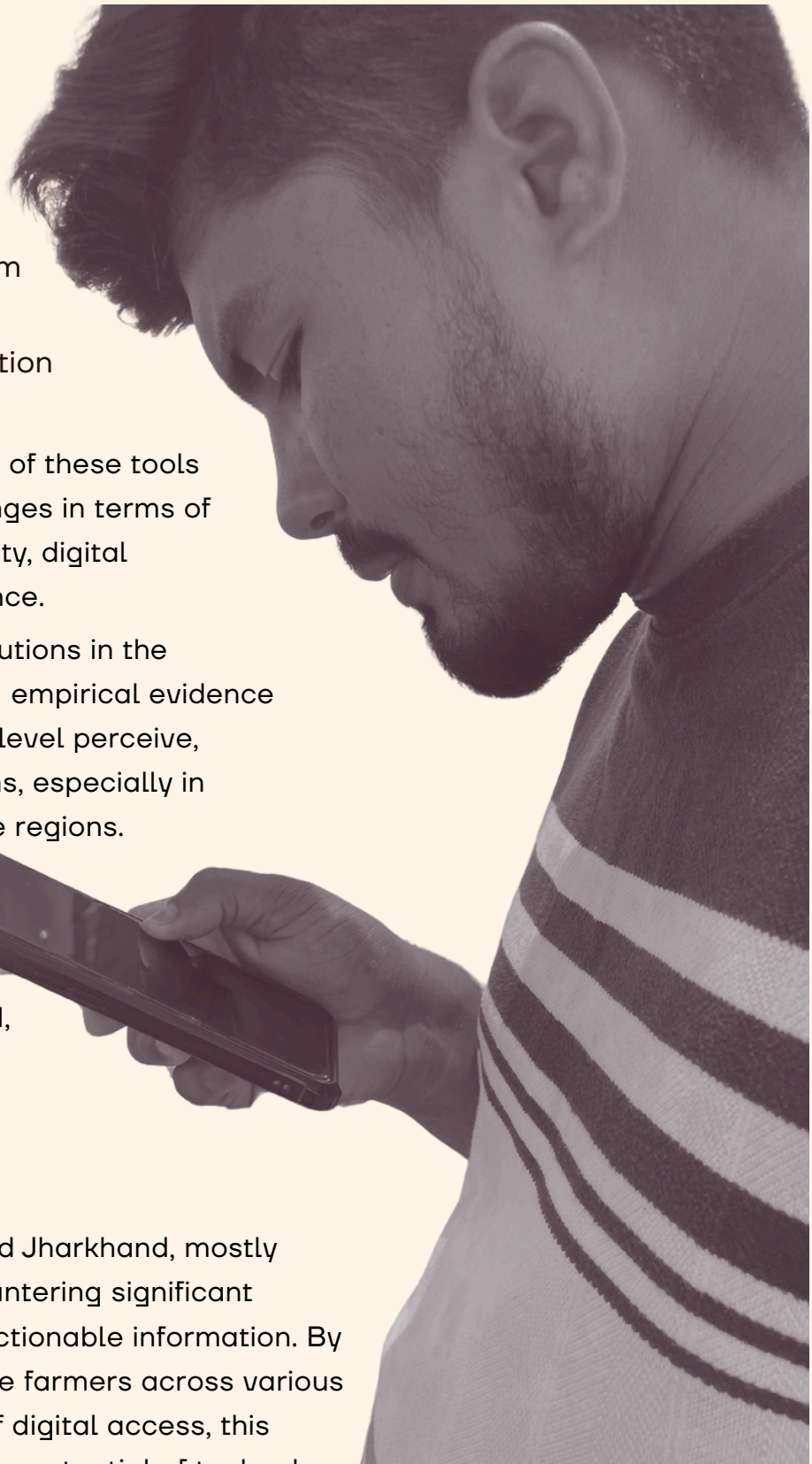
However, the practical application of these tools in rural India poses critical challenges in terms of accessibility, language compatibility, digital literacy, and its contextual relevance.

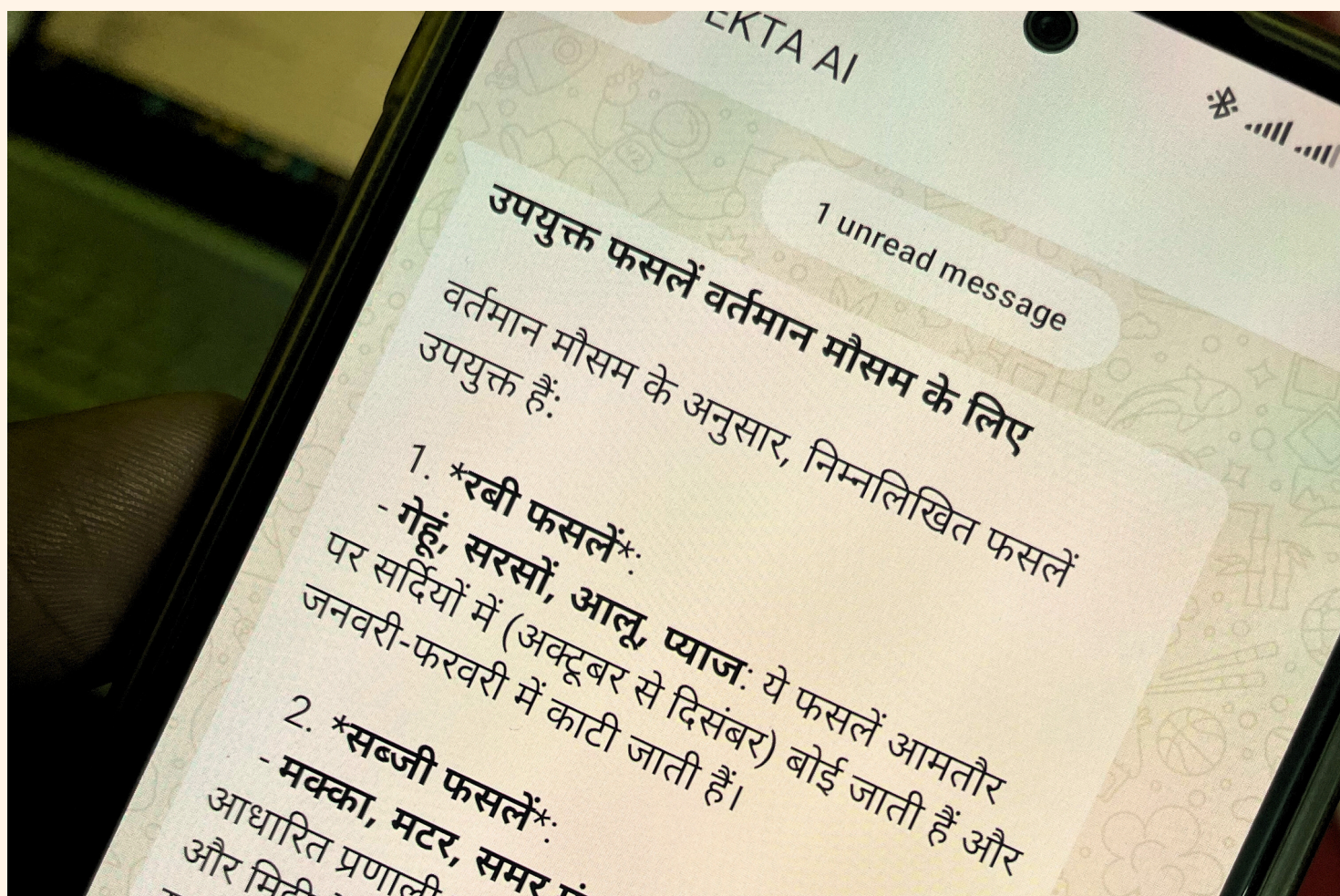
Despite the rise of tech-driven solutions in the agricultural sector, there is limited empirical evidence on how farmers at the grassroots level perceive, adopt, and utilise these innovations, especially in linguistically and culturally diverse regions.

This pilot study aims to address this gap by evaluating the on-ground feasibility and relevance of Ekta AI, in delivering agricultural knowledge and various scheme-related information to rural farmers. The project specifically

targeted communities in Bihar and Jharkhand, mostly small and marginal farmers encountering significant barriers in accessing timely and actionable information. By examining the experiences of these farmers across various age groups, genders, and levels of digital access, this report seeks to critically assess the potential of technology

as a catalyst for inclusive agricultural development. The essence of this initiative lies not only in testing a technological intervention but also in generating evidence that can help in contextually strategising and implementing such tools. The findings contribute to the broader discourse on participatory technology design in agriculture.





EktaAI, developed by EarthON Foundation USA, is India's first multilingual AI-powered farming assistant, launched at the Move for Earth Symposium in Delhi in March 2025. Tailored for smallholder farmers, it delivers real-time, reliable guidance on crop health, soil quality, pest control, weather, and market trends. This is accessible via mobile, web, or WhatsApp in multiple Indian languages. Farmers can interact by typing, speaking, or sharing images, and receive clear, localised answers drawn from trusted agricultural research, grassroots insights, and Farmer Producer Organisations. By combining advanced AI tools like language understanding and image recognition with community-driven knowledge, EktaAI enables inclusive, sustainable smart farming across diverse rural regions.


Ekta AI



3. Methodology

This study used a mixed-methods, field-based approach to evaluate the accessibility of Ekta AI. The intervention was conducted in selected panchayats across two districts: Basarahi and Atiya in Bodhgaya (Bihar) and Ghaghra in Gumla (Jharkhand). Palakiya Foundation has been actively working with the rural communities (including SHGs, CLFs, and FPOs) in these panchayats.

A total of 71 farmers participated in the orientation sessions, were introduced and trained to use Ekta AI, a WhatsApp chatbot. Out of these 71 participants, 52 farmers had smartphones and were familiar with WhatsApp. Post orientation, farmers were asked to independently explore the chatbot's features and interact with it for three to four days, allowing for an authentic user experience.

The data gathered was primarily qualitative. The feedback was finally collected from 47 farmers. Responses were captured through a combination of phone interviews and in-person interactions, later compiled in a Google Form for analysis.

4. Findings

4.1. All the questions with charts

4.1.1 Age Group of Participants

Out of the 47 farmers surveyed for this study, around half (55%) of them belonged to the age group of (37–47 years), while 7 into the 26–36 age group (14.9%) and 14 (29.8%) belonged to the 47+ age category.

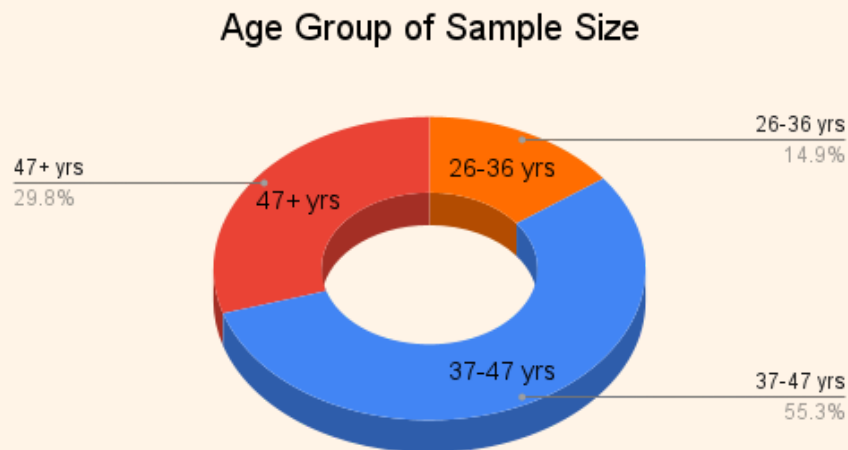


Figure 1: Age Group of Participants

4.1.2 Gender of Participants

The total respondents whom 25 (53.2%) were male and 22 (46.8%) were female.

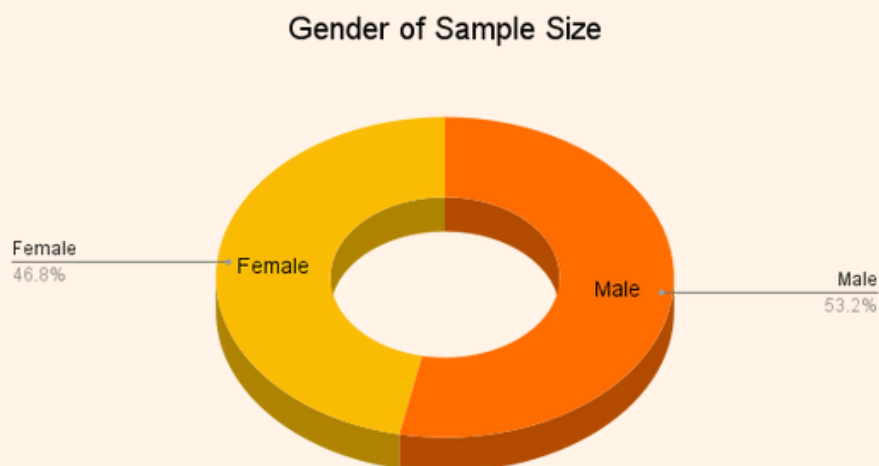


Figure 2: Gender of Participants

4.1.3 Was it easy to ask questions from Ekta AI? (Yes/No)

For 76.6% (36) of respondents, communicating with Ekta AI via WhatsApp was easy, whereas 23.4% (11) of respondents experienced some difficulty. If we break the data further, for the youth farmers falling in the age group of 26–37 years, chatbot was easy to use. 8 of 8 had a positive response. Among the farmers in the age bracket of 37–47 years (25), women farmers (14) had a better AI experience than men (07). While for farmers above 47 years (14), women had trouble interacting with the AI chatbot and 04 among 11 male farmers found it tough.

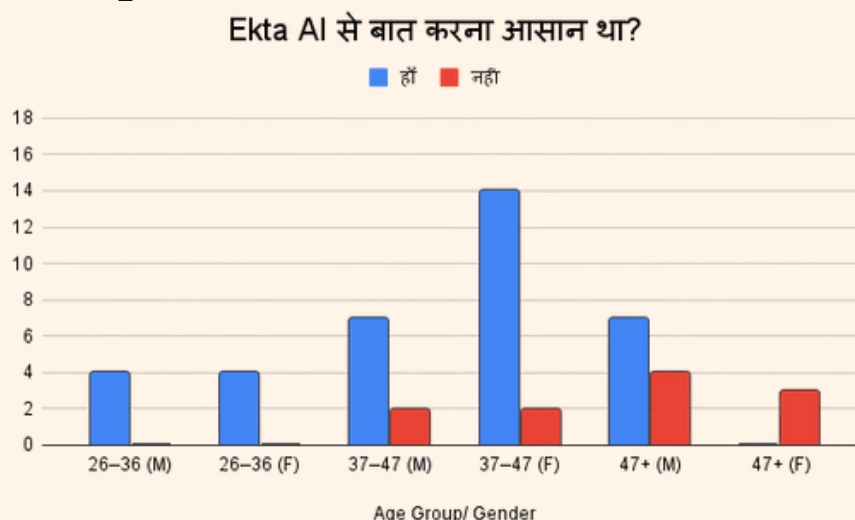


Figure 3: Was it easy to talk to Ekta AI?

4.1.4 Is Ekta AI able to understand your language? (Yes/No/Sometimes Yes, Sometimes No)

For 66% respondents (31), Ekta AI was able to ‘sometimes yes and sometimes no’ understand prompts. Another, 21.3% (10) told, the tool was able to clearly understand their prompt, while 12.8% (06) told, AI could not understand their voice prompts. In the age group (26–36 years), men and women both had positive experience. Among 37–47 age group, 18 respondents (7 male and 11 women) said, AI relatively understood (sometimes yes, sometimes no) their language. In the age group of 47+, Ekta AI was somewhat better accessible to men than women.

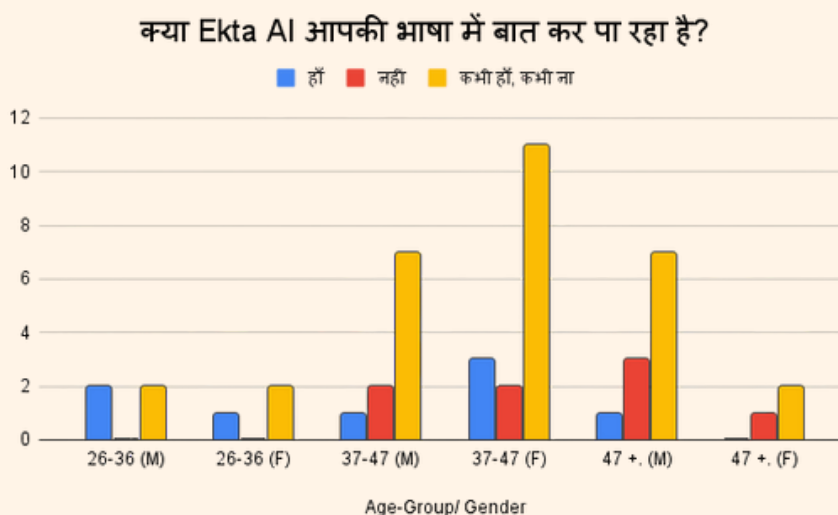


Figure 4: Is AI able to understand your language?

4.1.5 Did you benefit from the information provided by Ekta AI? (Yes/No/Somewhat)

Of 47 participants, information provided by Ekta AI in its existing form was somewhat useful to 26 (57.44%) respondents (14 women, 12 men). While, 6 (12.76%) respondents found the information quite useful. Among the age group of 37-47 years, out of 26 respondents 18 (10 women and 8 men) found the information somewhat useful. In the 47+ years age bracket, out of 14, 11 respondents (78.57%) found the information provided by Ekta AI not useful.

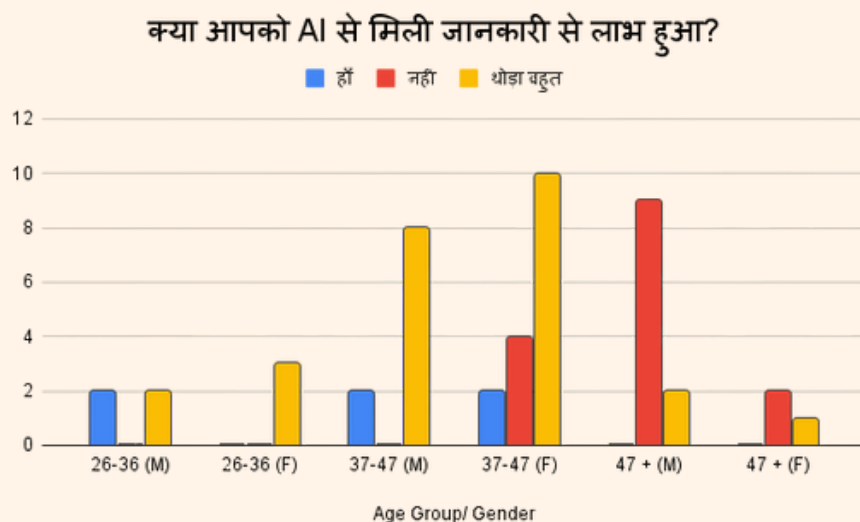


Figure 5: Was the information helpful?

4.1.6 Did you receive factual information from the AI? (Very Much/A little/Not at all)

When it came down to 'factual' information, respondents among most of the age groups showed a great skepticism towards Ekta AI. Out of 47, 36 (76.59%) farmers were unsure if the information provided by Ekta AI was factual. To them the primary reasons were:

- most of their prompts in the first instance were answered in an unfamiliar language mostly Urdu or Arabic.
- the answers provided by Ekta AI were generic and lacked depth.

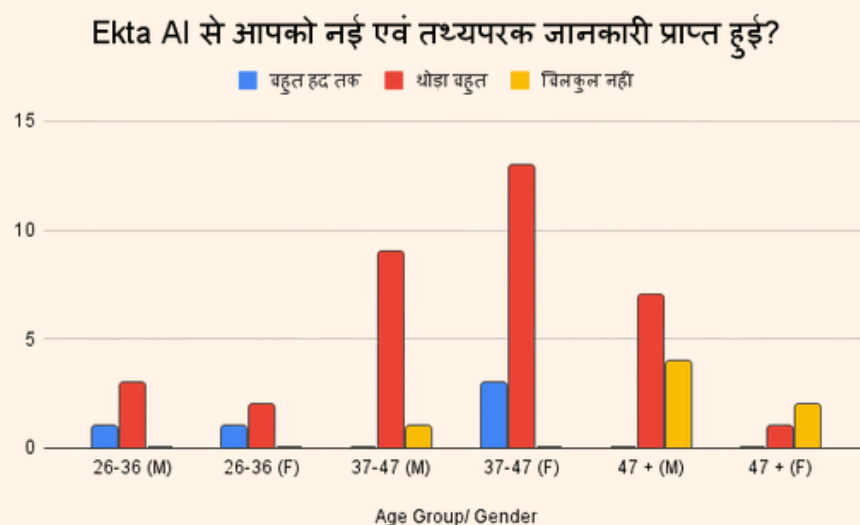


Figure 6: Was the information factual?

4.1.7 Will you continue using Ekta AI? (Yes/No/Sometime)

61.7% (29 out of 47) farmers said that would 'sometimes' continue using Ekta AI in its existing form. While 21.3 % (10) users said, they would continue the use of Ekta AI. 17% (8) users denied using the tool saying it wasn't able to understand their language. The younger (26-36) and middle age (37-47) group of farmers seemed more inclined and open towards using the AI technology. While among 47+ age bracket, farmers seemingly were disinterested in the tool.

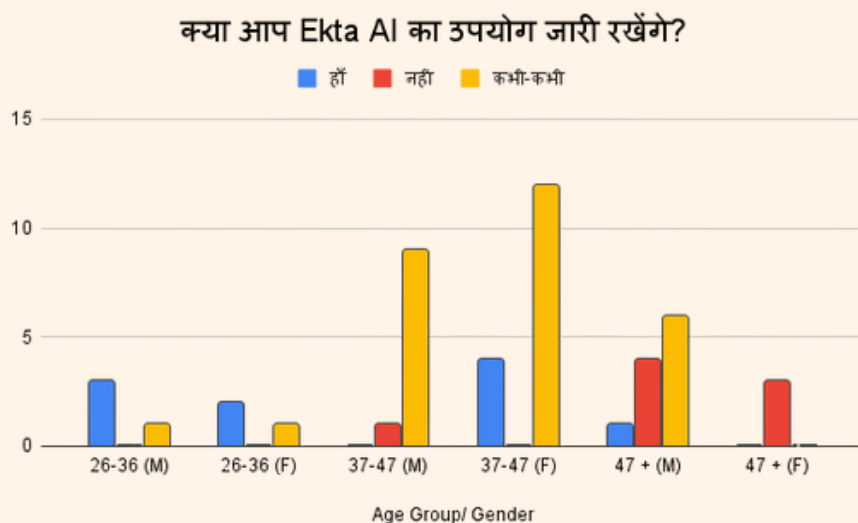


Figure 7: Will you continue using AI?

4.1.8 Would you recommend its use to other farmers? (Yes/No/Not For Now)

Out of the total survey, 42.6% (20) farmers said that they will introduce the AI platform to other farmers. Among the 26-36 age bracket, both men and women farmers are open to recommending Ekta AI to other farmers, while among 37-47 age bracket, women farmers are more open to recommend the AI tool than men. Most of the farmers under 'Not For Now' category said, they would recommend AI tool to others post improvisation.

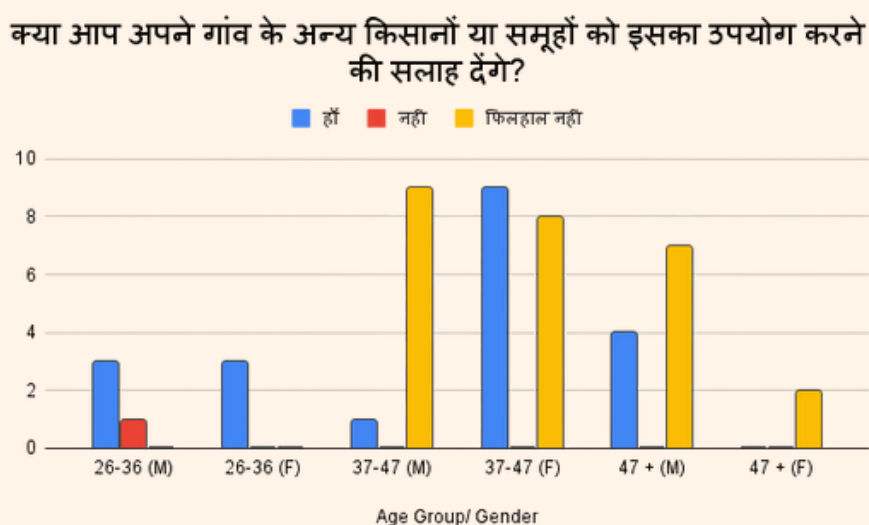


Figure 8: क्या आप अपने गांव के अन्य किसानों या समूहों को इसका उपयोग करने की सलाह देंगे?
हाँ, फिलहाल नहीं, नहीं

4.1.9 How can Ekta AI be further improved?

The most common suggestion across all age groups (22 among 47, 53.19% respondents), especially 37-47 (F) and 47+ (M) was to integrate Ekta AI with government departments and schemes. While 13 respondents (27.65%) said, Ekta AI needs to improve on all three fronts primarily – understand local language and dialects, provide contextual agricultural information and should be integrated with government schemes and departments.

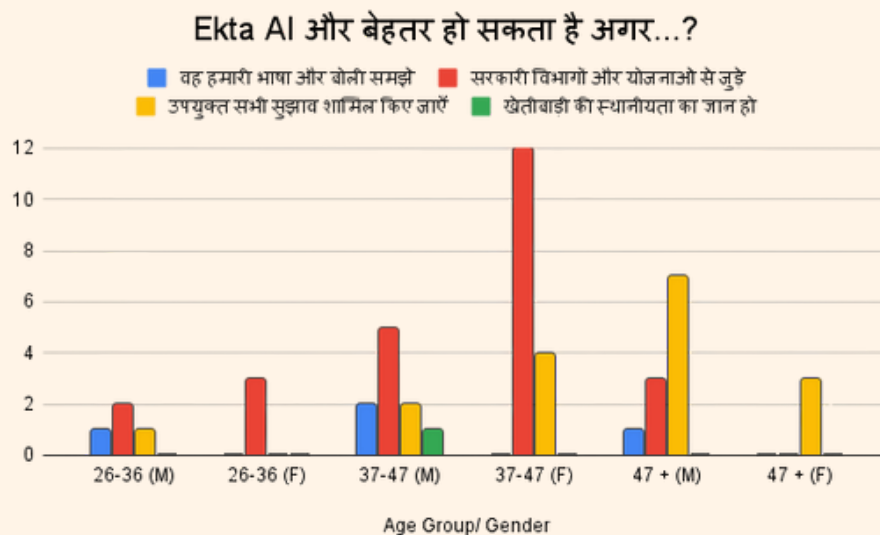


Figure 9: How can Ekta Ai be improved?

5. Conclusion

The survey findings indicate that farmers are open to AI. While Ekta AI in its existing form has challenges but farmers largely are not averse to accepting AI. Younger and middle-aged farmers, especially women, showed a greater ease and willingness to engage with the platform, aged women farmers (47+) faced more challenges in both using the chatbot and finding value in the information provided. Most users felt the AI's responses were only occasionally aligned with their needs, especially in terms of language and practical farming relevance. Suggestions point to a strong demand for local language support and integration with government schemes. Overall, while Ekta AI shows promise, its usefulness and reach will depend on how well it adapts to the specific needs of older users and local farming contexts.



6. Recommendations

a. Chatbot needs to develop an understanding of the local language and dialect of the region. Communities said that the chatbot could not respond to voice prompts in the Magahi-Hindi dialect. It could only respond to prompts given by farmers in Hindi.

b. Its response to voice prompts needs to be quicker. In the present state of its inception, the response usually takes time.

c. To avoid the chatbot providing repetitive answers, Ekta AI needs more nuanced knowledge feeding to provide efficient results to farmers.

d. Ekta AI is required to be integrated with agriculture, food supplies, and public distribution departments. An overwhelming

response from farmers suggests that the communities have common queries about government departments, policies, and the know-how of government schemes.

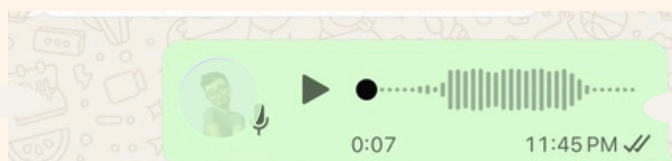
e. Collaboration with agricultural universities and research institutions will enrich Ekta AI.

f. Capacity building programs with farmers, SHGs, and FPOs are required so that farmers get better understanding of using artificial intelligence.

g. At numerous instances, it was observed that the response received from Ekta AI was generic and similar to the response received by WhatsApp chatbot. Hence, Ekta AI is expected to be providing more nuanced answers.



Annexure-1



राष्ट्रीय बागवानी मिशन (NHM)

राष्ट्रीय बागवानी मिशन का उद्देश्य बागवानी क्षेत्र का समग्र विकास करना है। यह मिशन विशेष रूप से फलों, सब्जियों, जड़ और कंद फसलों, मशरूम, मसालों, फूलों, सुगंधित पौधों, नारियल, काजू, कोको और बांस के उत्पादन को बढ़ावा देने के लिए कार्य करता है।

मुख्य उद्देश्य:

- बागवानी क्षेत्र में उत्पादन और उत्पादकता बढ़ाना।
- किसानों को आधुनिक तकनीक और संसाधनों के साथ सशक्त बनाना।
- जल उपयोग दक्षता और मिट्टी स्वास्थ्य प्रबंधन पर ध्यान केंद्रित करना।

प्रमुख विशेषताएं:

- राज्यों को स्थानीय जरूरतों के अनुसार

करी पत्ते का पौधा घना बनाने के लिए कुछ सुझाव:

1. *सही स्थान का चयन*:

- करी पत्ते को धूप पसंद होती है। इसे ऐसी जगह लगाएं जहां इसे दिन में कम से कम 6-8 घंटे धूप मिले।

2. *मिट्टी की तैयारी*:

- अच्छी जल निकासी वाली मिट्टी का उपयोग करें। मिट्टी में खाद मिलाकर पौधे की वृद्धि को प्रोत्साहित करें।

3. *सिंचाई*:

- नियमित रूप से पानी दें, लेकिन ध्यान रखें कि पानी जमा न हो। गीली मिट्टी पौधे की जड़ों को नुकसान पहुंचा सकती है।

4. *कटाई और छंटाई*:

- पौधे को घना बनाने के लिए नियमित रूप से पत्तियों की कटाई करें। इससे नई शाखाएं निकलती हैं और पौधा घना होता है।

5. *खाद का उपयोग*:



Ekta AI Prompts & Responses

Annexure-2

15/07/2025, 21:38

खेती का डिजिटल मित्र: Ekta AI सर्वेक्षण

खेती का डिजिटल मित्र: Ekta AI सर्वेक्षण

इस सर्वे के माध्यम से हम यह जानना चाहते हैं कि कृत्रिम बुद्धिमत्ता (AI) किसानों, स्वयंसेवी समूहों, एफपीओ और समुदायों की जरूरतों को कैसे मदद कर सकती है।

1. आपका नाम

2. उम्र

Mark only one oval.

- ☐ 15-25
- ☐ 26-36
- ☐ 37-47
- ☐ 47 +

3. लिंग

Mark only one oval.

- ☐ पुरुष
- ☐ महिला
- ☐ अन्य

4. Ekta AI से बात करना आसान था?

Mark only one oval.

- ☐ हाँ
- ☐ नहीं

Questionnaire for Survey

5. क्या Ekta AI आपकी भाषा में बात कर पा रहा है?

Mark only one oval.

- ☐ हाँ
☐ नहीं
☐ कभी हाँ, कभी ना

6. Ekta AI से मिली जानकारी से लाभ हुआ?

Mark only one oval.

- ☐ बहुत ज्यादा
☐ थोड़ा बहुत
☐ बिल्कुल नहीं

7. Ekta AI से आपको नई एवं तथ्यपरक जानकारी प्राप्त हुई?

Mark only one oval.

- ☐ बहुत हद तक
☐ थोड़ा बहुत
☐ बिल्कुल नहीं

8. क्या आप Ekta AI का उपयोग जारी रखेंगे?

Mark only one oval.

- ☐ हाँ
☐ नहीं
☐ कभी-कभी

Questionnaire for Survey

9. क्या आप अपने गांव के अन्य किसानों या समूहों को इसका उपयोग करने की सलाह देंगे?

Mark only one oval.

- ☐ हाँ
- ☐ नहीं
- ☐ फिलहाल नहीं
- ☐ कभी नहीं

10. Ekta AI और बेहतर हो सकता है अगर

Mark only one oval.


- ☐ वह हमारी भाषा और बोली समझे
- ☐ खेतीबाड़ी की स्थानीयता का ज्ञान हो
- ☐ सरकारी विभागों और योजनाओं से जुड़े
- ☐ किसानों को तकनीकी रूप से संबल बनाया जाए
- ☐ उपयुक्त सभी सुझाव शामिल किए जाएँ

This content is neither created nor endorsed by Google.

Google Forms

Questionnaire for Survey

Annexure-3

ब्रजेश ठाकुर मुखिया ग्राम पंचायत - अतिया, बोधगया, गया।		निवास स्थान :- ग्राम - कोशिला, टोला - कुशहा, पोस्ट - कोशिला, थाना - मण्डिवी बोधगया, गया (बिहार), पिन - 824231 मो - 9199209106
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क्रमांक - 772

दिनांक - 11.06.2023

महोदय -

मैं मुखिया ब्रजेश ठाकुर ग्राम पंचायत अतिया गाँव कुशहा में इस पत्र के माध्यम से आपको सूचित करना चाहता हूँ कि पालक्या जौन्डैमन और अश्वीन जौन्डैमन नैराज किसानों को पकता H-I का डेटे माला करने की हेनोड दी। Ekam H-I खैरो वारो को पेशा में प्रेकान्तीकारी परिवर्तन लाने के ह्मता रहता है। हमारे पंचायत में वडी सोल्य में खिता मीटो की अनुवती जे अगाथ और कापी। मुल्य की कमी के कारण प्याहे का सामना करने है। यह तर्कनाक उन्हें खरीद जानकारी से का कहता। उपर प्राप्त करने में मदद करेगी।

अतः आपने निर्णय हेतु को पकता H-I का किसानों को अपवांग के लिए परिस्थिति को समायत।

धन्यवाद।

ब्रजेश ठाकुर
मुखिया
ग्राम पंचायत अतिया
प्रो - बोधगया, गया

**Endorsement Letter from Mukhiya, Atiya Panchayat,
Bodhgaya (Bihar)**

Annexure-4



गयाजी भास्कर 12-06-2025

कार्यशाला • किसानों ने एआई चैटबॉट से जानी कीट प्रबंधन की तकनीक, सहजन व अरबी की खेती के लाभ अब एआई के सहयोग से खेती करेंगे किसान

भास्करन्यूज़ | बोगरा

कृत्रिम बुद्धिमत्ता अर्थात् आर्टिफिशियल इंटेलिजेंस का उपयोग अब खेती में होगा। किसान खेती के लिए चैटबॉट का इस्तेमाल करेंगे और फसलों के उत्पादन की जानकारी लेंगे। इसकी जानकारी देने के लिए बोगरा की अतिथि और बसाड़ी पंचायतों में बुधवार को किसानों के लिए खेती की बात: एकता एआई के साथ नामक विशेष कार्यशाला का आयोजन किया गया। अर्थ ऑन और फलकिया फ़ाउंडेशन के संयुक्त प्रयास से एकता एआई (आर्टिफिशियल इंटेलिजेंस) के जरिए किसानों को कृषि संबंधी तकनीकी जानकारी, सरकारी योजनाओं तथा प्रशासन से संवाद की सुविधा स्थानीय भाषा में एआई तकनीक के माध्यम से मुहैया कराई



एआई तकनीक से खेती की जानकारी लेते किसान।

गई।

किसानों ने किया संवाद कार्यक्रम में बड़ी संख्या में मौजूद किसानों ने एकता एआई चैटबॉट से सीधे संवाद किया।

किसानों ने कीट प्रबंधन की तकनीक, सहजन और अरबी की खेती के लाभ, तथा फसल बीमा योजना के प्रावधानों जैसे विषयों पर सवाल पूछे। कार्यक्रम के दौरान

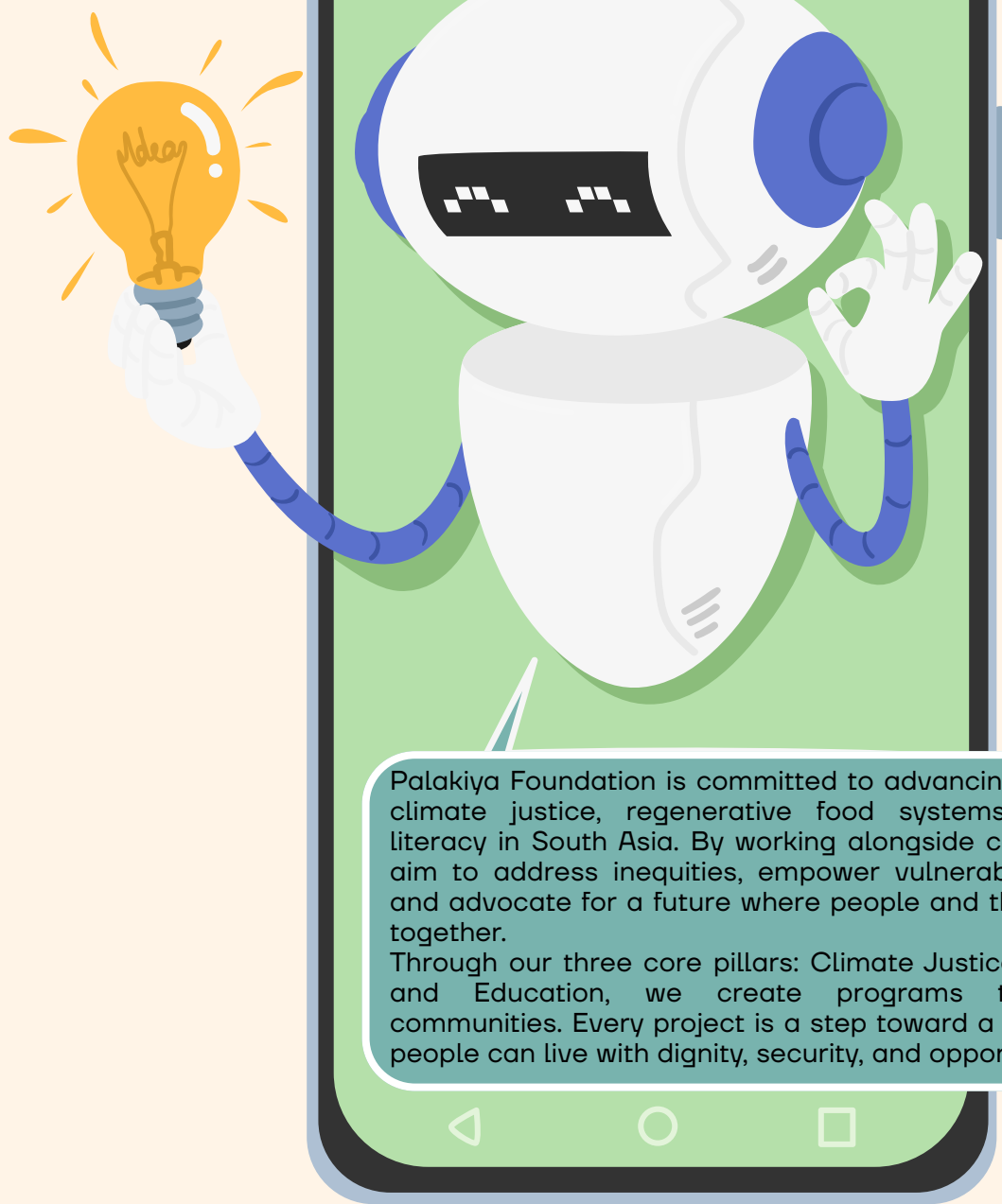
अतिथि पंचायत के मुखिया ब्रजेश ठाकुर ने 'एकता एआई' को खेती-किसानी में क्रांतिकारी बदलाव लाने वाला माध्यम बताया। उन्होंने कहा, अब किसान

तकनीक से डरने के बजाय उसका लाभ उठा सकेंगे। कार्यक्रम ने यह स्पष्ट कर दिया कि कृत्रिम बुद्धिमत्ता (एआई) केवल शहरों की तकनीक नहीं, बल्कि गांव और खेतों की भी शक्ति बन सकती है।

स्थानीयता का रखा है ख्याल फलकिया फ़ाउंडेशन की निदेशक महिमा बंसल ने बताया कि एकता एआई को लगातार बेहतर बनाने का प्रयास किया जा रहा है। उनका सपना है कि एआई किसानों से उनकी अपनी भाषा में बात करे, उनकी स्थानीयता और जरूरतों को समझकर समाधान प्रेषित करे। संस्था प्रतिनिधियों ने जानकारी दी कि एकता एआई भविष्य में और अधिक पंचायतों में पहुंचाया जाएगा ताकि तकनीक की मदद से खेती को अधिक लाभकारी बनाया जा सके।



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Palakiya Foundation is committed to advancing intersectional climate justice, regenerative food systems, and climate literacy in South Asia. By working alongside communities, we aim to address inequities, empower vulnerable populations, and advocate for a future where people and the planet thrive together.

Through our three core pillars: Climate Justice, Food Justice, and Education, we create programs that empower communities. Every project is a step toward a world where all people can live with dignity, security, and opportunity.

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