60 \_\_decibels

# Digital Green FarmerChat User Experience Report



60 \_ decibels

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#### **About This Report**

Access to reliable, easy-to-use digital information is essential for smallholder farmers to make better decisions and improve their livelihoods. Al-powered solutions can support this by providing timely, relevant, and personalized advice. However, these benefits are only realized when the solutions truly meet the needs of their end-users: the farmers themselves.

Digital Green and Gooey.AI, as part of the Agricultural Information Exchange Program (AIEP), is developing an Al-driven, gender-sensitive platform to improve farmers' access to essential information.

The AIEP initiative leverages advanced digital tools, responsible AI, and language technology to enhance access to essential information and facilitate large-scale, two-way communication with smallholder farmers in Kenya and Bihar. It overcomes challenges like low literacy and limited digital skills by providing personalized, interactive content. AIEP also creates open Digital Public Goods, enabling anyone to build and share similar platforms to support farmers globally.

In partnership with the FAIR Forward team at Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, CLEAR Global, and funded by the Gates Foundation, 60 Decibels conducted research to evaluate how effectively these AI solutions serve farmers in their early stages.

This report is based on the voices of 353 farmers in Bihar. The report covers insights on farmers' profile, user experience and effectiveness of solutions, and early impact. Respondents were selected randomly for phone interviews from a database of farmers provided by Digital Green. The surveys were conducted by 60 Decibels trained researchers. Farmers had a lot to share!

To learn more about our methodology, head to the <u>Appendix</u>. We encourage you to use these results to set targets and identify ways you can further improve farmers' wellbeing with time.

353 farmers interviewed 29% are female.

#### **Study Dimensions**

Dimensions		Indicators	
25	User Engagement	<ul> <li>Information received</li> <li>Value chain where applied</li> <li>Facilitated by extension agent or accessed directly</li> </ul>	
	User Experience with Overall Service	<ul><li>Convenience</li><li>Net Promoter Score (NPS)</li><li>Challenges</li></ul>	
	User Experience with Asking Questions	<ul> <li>Comfort asking questions</li> <li>Perceived relevance</li> <li>Perceived completeness</li> <li>Perceived responsiveness</li> <li>Ease of understanding</li> </ul>	
[+]	Early Impact & Scalability	<ul><li>Practical implementation</li><li>Confidence in decision-making</li></ul>	

#### **60dB Perspective**

#### Top Insights

### 1 Digital engagement is high among farmers using FarmerChat.

Nearly all farmers we spoke to own a smartphone, and 96% use their phones for internet-enabled services. Mobile applications are the most preferred way to access farm advisory. Compared to the 60dB national average in Bihar, FarmerChat users have higher digital access.

3 in 10 farmers we spoke to are female and 36% have graduated university. Farming makes up 42% of household income on average, and the median land size is 1.9 acres.

See pages: <u>5</u>, <u>8</u>, <u>9</u>, <u>21</u>.

### 3 FarmerChat is helping farmers access tailored, timely, and easily accessible information for their farming.

Nearly 3 in 4 farmers find the information on FarmerChat 'very relevant'. Younger farmers (under 30) are more likely to find all the information relevant (79%) compared to older farmers (68%).

Half of the farmers we spoke to say accessing information is now 'much easier' thanks to FarmerChat. In addition, most users (83%) say they can 'always' get the information they need right when they need it. This is much higher than the Bihar benchmark, where only 11% say the same. This shows that the chatbot provides more timely advice throughout the season.

See pages: 5, 17, 20.

### Over 4 in 5 farmers have access to other information sources, but most say FarmerChat is better.

They say FarmerChat is better because of its convenience, detailed advice, and reliable information.

34% use FarmerChat as their only source of farm information, while another 57% consider it their primary source, but use others too. Additionally, nearly all plan to continue using FarmerChat. This shows that despite a competitive market, strong demand exists to support FarmerChat's growth.

See pages: <u>11</u>, <u>19</u>, <u>20</u>.

#### 2 Users widely recognize FarmerChat and express high satisfaction, making it well positioned for future growth and impact.

The Net Promoter Score®, a common measure of satisfaction is 72, which is significantly higher than 60dB benchmarks (46). The main drivers of their satisfaction are reliable, comprehensive advice and convenient access to information. Female farmers report higher satisfaction than men, with an NPS of 87 compared to 66.

In addition, 4 in 5 farmers say FarmerChat provides all the farm information they need for farming.

See pages: 13, 16.

### 4 More than half of farmers say they did not apply all the information they receive from FarmerChat because the necessary inputs are not available.

Other reasons farmers didn't apply all the information include finding it irrelevant, facing personal challenges, or waiting for the right time in the season. To increase adoption, Digital Green can collaborate with input providers to offer recommended inputs to farmers at affordable prices.

Farmers facing challenges with FarmerChat also say they need more precise, practical information delivered in their local language to help them adopt new practices.

See page: 14, 19.

#### **Performance Snapshot**

The performance column presents how you compare to 60 Decibels Benchmarks in the Agriculture sector globally. This is comprised of 26 companies, 11 countries, and 6,599 beneficiaries.

We also compare FarmerChat's results with our national pilot in Bihar, where we collected profile and user engagement data from users of digital farmer information services (DFS).

You can find additional insights of your results, in the context of the 60 Decibels Benchmarks, in the <u>Appendix</u>.

Performance vs 60dB Benchmarks

O O O O O Bottom 20%
 O O O Bottom 40%
 O O Middle
 Top 40%

Top 20%

Who are you reaching?	FarmerChat Performance	60dB Information DFS Bihar Benchmark	60dB Global Agriculture Benchmark	Performance Relative to 60dB Agriculture Benchmark
Female	29%	28%	31%	• • • 0 0
Average land size (acres)	3.5	3.0	-	-
% smartphone ownership	97%	68%	-	-
% using internet-enabled services	96%	47%		-
% could not easily find an alternative	16%		83%	• 0 0 0 0
[+] What impact are you having? % saying accessing information is 'much easier'	50%	26%	_	-
How satisfied are your alumni?				
Net Promoter Score	72	40	46	• • • •
% experiencing challenges	8%	6%	20%	• • • •
% receiving information 'always' when they need it	83%	11%	-	-



### 01:

### Profile & User Engagement

This section helps you understand farmers' profiles to help contextualize the results.

The key indicators in this section are:

- **Demographics:** Who are the customers we spoke with?
- **Digital Profile:** Do your farmers have access to smart phones? How they are using their phones?
- **Service Usage:** Why did they decided to use FarmerChat's service? What type of information did you access?



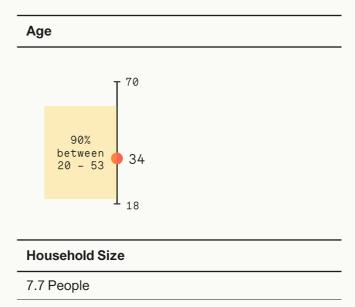
### A typical farmer we spoke to is a 34-year-old male, living in a household of 8, in Patna or Gaya.

#### **Demographics**

Gender Breakdown	
Male	71%
Female	29%
••••	

TOP 20% - 60dB Benchmark

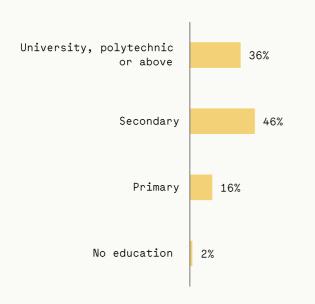
District*	
Patna	34%
Gaya	34%
Vaishali	10%
Saran	7%



### 16% of farmers report their highest level of education as primary or lower secondary school.

#### **Highest Level of Education**

Q: What is the highest level of education you have completed? (n = 347)



#### Insight

Male farmers are more likely to have completed a university degree (39%) compared to female farmers (27%). In addition, male farmers tend to be older and manage larger farms (see next page).

<sup>\*</sup>Data collected by Digital Green



### 37% of farmers share a mobile phone, and 97% have smartphone access. They mainly use their phones for phone calls and SMS.

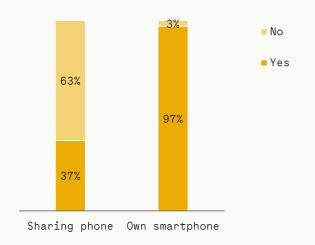
#### **Phone Access**

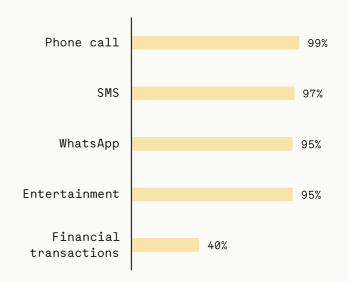
Q: Do you share your mobile phone with anyone else? (n = 353)

Q: Do you have a smartphone? (n = 353)

#### Phone use

Q: Which of the following do you use your phone for? (n = 352)





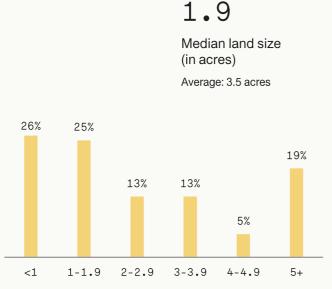
#### Insight

Female farmers are more likely to share their phones (50%) compared to male farmers (32%).

### On average, farmers have 3.5 acres of land in the past year, and farming accounts for 42% of their household income.

#### Land Size (Acres)

Q: How much total land did you use for farming in the last 12 months? (n = 338)



#### Insight

Farming makes up 42% of household income on average, which means most farmers also earn money from other sources.

Male farmers typically have larger farms, averaging 4.3 acres, while female farmers manage smaller farms, averaging 1.3 acres. Men also earn a greater share of their income from farming: 48%, compared to 27% for women.

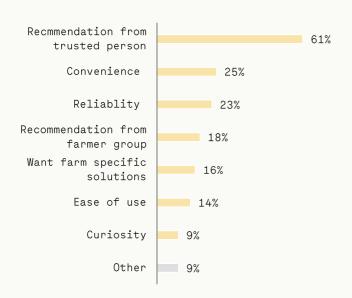
Compared to the 60dB national benchmark for farmers in Bihar, a much higher share of these farmers own smartphones (97% of farmers here vs. 55% nationally) and use internet-enabled services on their phones (96% vs. 68%). Additionally, their average land size is slightly larger (3.5 vs. 3.0 acres). This suggests these users may be better off than the national average.



### 3 in 5 farmers we spoke to use FarmerChat based on recommendations from trusted individuals.

#### **Motivation for Use**

Q: Why did you decide to use FarmerChat? (n = 353). Open-ended, coded by 60 Decibels.



#### Insight

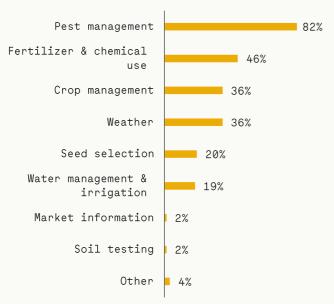
Male farmers are more likely to be motivated by recommendations from trusted individuals (64%) than female farmers (54%). Female farmers are more influenced by recommendations from farmer groups (30%) than male farmers (14%). This highlights a chance to improve gender inclusion by focusing on female farmer groups.

In addition, most farmers (89%) access FarmerChat with support from an extension agent, while the remaining get assistance from others.

### Farmers mainly use FarmerChat to access information on pest management and fertilizer. Nearly half apply it to their wheat crop.

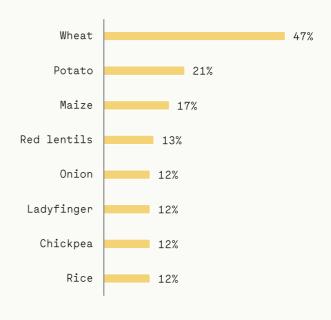
#### Type of Information Accessed

Q: What type of information did you access from the FarmerChat? (n = 353)



#### **Crops Information was Applied To**

Q: Which crops/livestock did you apply this information to? Openended, coded by 60 Decibels. (n = 353)

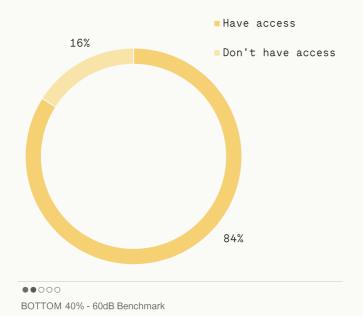




### 16% of farmers say they would not have access to farm-related information without FarmerChat.

#### **Access to Alternatives**

Q: If you did not have access to FarmerChat, where would you get this information? (n = 353).



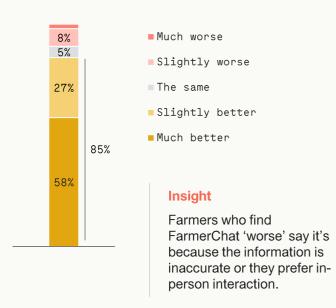
#### Main alternatives are:

- Local pesticide and seed retailers (34%)
- Fellow farmers (15%)
- Internet (15%)
- Government agencies (14%)
- JEEViKA (9%)

### Most farmers with alternatives consider FarmerChat better, mainly because of its remote access and detailed, reliable information.

#### **Comparison to Alternatives**

Q: How does FarmerChat compare to this other information provider? (n = 297)



#### **Reasons Why FarmerChat is Better**

Q: Why is the FarmerChat better? (n = 253) Open-ended, coded by 60 Decibels.

53%

talk about remote accessibility

(14% of all respondents)

40%

say information is reliable and accurate

(7% of all respondents)

mention detailed information

43%

(11% of all respondents)



### 02:

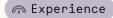
### User Experience

If your farmers are unhappy, it's unlikely they will continue to choose your service or recommend to others.

This section uses the popular Net Promoter Score® to understand the level and drivers of customer satisfaction and loyalty. Additional insights on challenges and suggestions for improvement highlight areas you can improve.

The key indicators in this section are:

- Service KPIs: Are farmers getting complete answers from FarmerChat's service? Is the information timely and relevant?
- Net Promoter Score: How likely are your farmers to recommend your company to a friend?
- % Experiencing Challenges: What proportion of farmers experience challenges with your service?



### FarmerChat has an NPS of 72, which is excellent and higher than the 60dB Benchmark.

#### Net Promoter Score® (NPS)

Q: On a scale of 0-10, how likely are you to recommend FarmerChat to a friend or family member, where 0 is not at all likely and 10 is extremely likely? (n = 353)



The Net Promoter Score® (NPS) is a gauge of respondent satisfaction and loyalty. The NPS is the percent of farmers rating 9 or 10 ('Promoters') minus the percent of farmers rating 0 to 6 ('Detractors'). Those rating 7 or 8 are 'Passives'.

The score can range from -100 to 100. FarmerChat in Bihar has an NPS of 72, which is excellent.

Segments	NPS
Female	87
Male	66

TOD 000/ 00 II

TOP 20% - 60dB Benchmark

### Promoters value reliable and comprehensive information. Detractors want more accurate information or support accessing inputs.

Follow up from NPS question: We ask respondents to explain their rating to provide an insight into what they value and what creates dissatisfaction.

75%

are Promoters

#### They love:

- 1. Reliable information (77% of Promoters/ 58% of all respondents)
- 2. Comprehensive advisory (74% of Promoters / 56% of all respondents)
- 3. Convenient access (38% of Promoters/ 29% of all respondents)

22%

are Passives

#### They like:

1. Detailed advisory (44% of Passives/10% of all respondents)

#### They complain about:

- 2. Incomplete information (45% of Passives/10% of all respondents)
- 3. Language barriers (23% of Passives / 5% of all respondents)

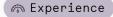
3%



#### are Detractors

#### They want to see:

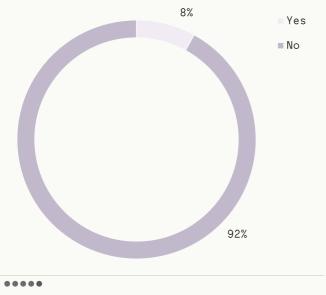
- 1. More accurate information (80% of Detractors / 8 respondents)
- 2. Support accessing inputs (30% of Detractors / 3 respondents)



### Only 8% of farmers report experiencing a challenge with FarmerChat.

#### **Proportion of Farmers Reporting Challenges**

Q: Have you experienced any challenges with FarmerChat? (n = 353)



TOP 20% - 60dB Benchmark

### The most common challenges are inaccurate information and the unavailability of recommended products.

#### **Most Common Challenges**

Q: Please explain these challenges. (n = 30). Open-ended, coded by 60 Decibels.

33%

talk about inaccurate information

(10 respondents)

17%

mention delayed responses

(5 respondents)

30%

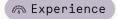
highlight the unavailability of products

(9 respondents)

66

When I go to purchase the organic pesticides and fertilizer suggested by the chatbot, they are not available in the market.

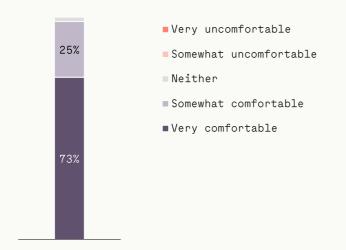
- Male, 54



### 73% of farmers we spoke to feel 'very comfortable' asking questions on FarmerChat. Most say this is because it is easy to use.

#### **Comfort with Asking Questions**

Q: To what extent do you feel comfortable asking questions to FarmerChat? (n = 353).



#### Insight

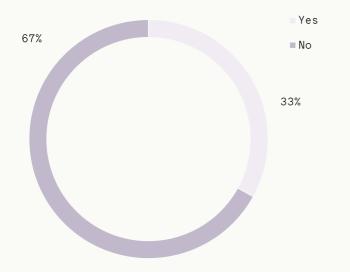
Most farmers (83%) feel comfortable asking questions because FarmerChat is easy to

Farmers with a university degree are more likely to feel 'very comfortable' asking questions (81%) compared to those without (69%).

### 2 in 3 farmers verify the information they receive from FarmerChat with another source.

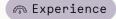
#### **Information Verification**

Q: Did you have to verify the information from FamerChat with another source? (n = 353).



#### Insight

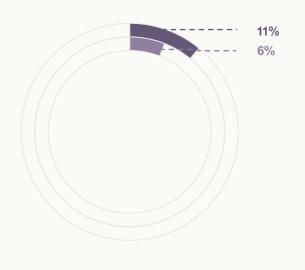
Higher-educated farmers are more likely to cross-verify the advice or data they receive: 40% of those with a university degree verify information from FarmerChat with another source, compared to 28% of farmers with less education.



### 11% of farmers say the responses they received were 'incomplete' on average. 6% sought additional information from other sources.

#### **Completeness of Responses**

- Q: Think about the question(s) you asked FarmerChat, did it provide a complete answer to your question(s)? (n = 353)
- Q: Did you have to get additional information or advice from another source? (n = 353)



- Received an 'incomplete' answer
- Sought supplemental information

#### Insight

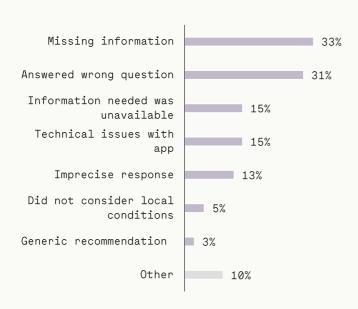
This means that most farmers feel the responses they received from FarmerChat were 'complete' on average.

We also observe gender differences. Male farmers are more likely to say the information they received is incomplete (15%) compared to female farmers (5%).

### One third of farmers who received incomplete responses say it was due to missing information or answering the wrong question.

#### Why Response is Incomplete

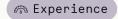
Q: Why were the answer(s) not complete? (n = 39)



66

Sometimes, the app suggests medicine that isn't available, which frustrates me. It should also include the local names of the medicine it suggests.

- Male, 45



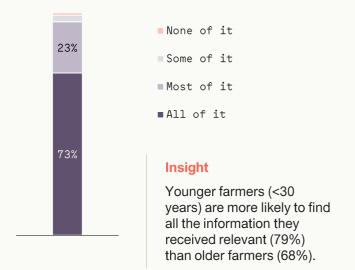
### 73% of farmers find the information on FarmerChat 'very relevant,' and 83% say they always get answers when needed.

#### Relevance

Q: How much of the information you received from FarmerChat was relevant to the question(s) you asked? (n = 353).

#### **Timeliness**

Q: How often did the FarmerChat provide an answer to your question(s) within the time you needed? (n = 353).





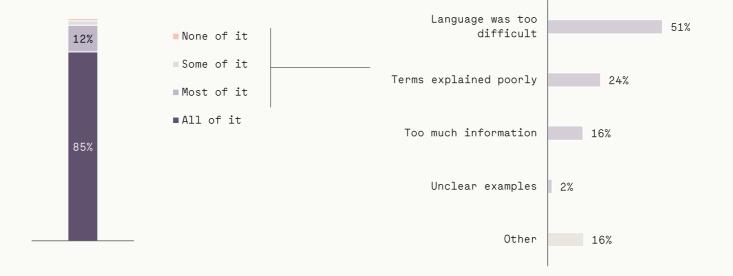
### 85% say all the information received is easy to understand. Those who don't mainly struggle with difficult language.

#### **Ease of Understanding**

Q: How much of the information]you received from FarmerChat was easy to understand? (n = 353)

#### Reason for Lack of Understanding

Q: Why was some of the information 'not easy' to understand? (n = 51)





### 03:

## Early Impact & Scalability

This section shows you the extent to which you are influencing farmers' farming knowledge and their ease of using digital tools.

We also explore scalability, future usage ,and preferences. Also providing additional insights into suggestions for expanding services and identifying clear opportunities for improvement and growth.

The key indicators in this section are:

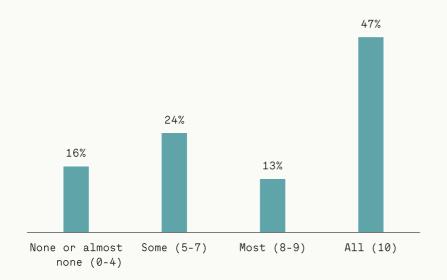
- Application: To what extent are your farmers applying the information they received from FarmerChat?
- Confidence: Did FarmerChat change farmers' confidence in making decisions about their farming practices?
- **Preferences:** Which language and mode do farmers prefer to receive information in?
- Future Use: Do farmers rely on FarmerChat as their sole source of information? Do they plan to continue using it



### Nearly half of farmers say they applied 'all' the information they received from FarmerChat on their farms.

#### **Application to Farming**

Q: On a scale of 0-10, how much of the information you received from FarmerChat did you apply to your farming, with 0 being none of the information and 10 being all of it? (n = 353)



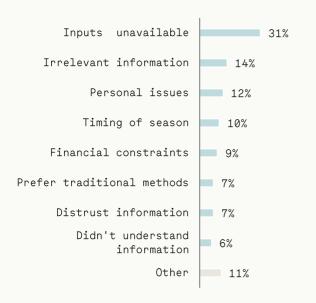
#### Insight

Farmers with the smallest farms (under 1 acre) were most likely to apply all the information to their land (56%), while those with the largest farms (4 acres or more) were least likely (38%).

### For farmers who don't apply all the information, the main reason is that recommended inputs are unavailable.

#### **Reasons for Non-Application**

Q: What was the main reason you did not apply all the information to your farming? (n = 187).



#### Insight

More men (31%) than women (18%) say they don't apply advisory information because the recommended inputs are unavailable.

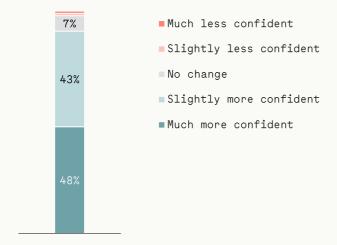
Farmers who chose 'other' report missing information and technical problems as barriers to adopting practices.



### 48% of farmers we spoke to feel 'much more confident' making farming decisions because of FarmerChat.

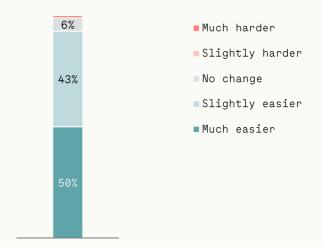
#### **Change in Confidence**

Q: After using FarmerChat, has your confidence in making decisions about your farming practices changed? (n = 353)



#### Convenience

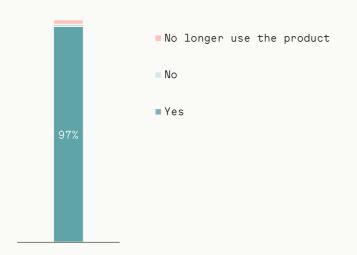
Q: Has your ability to access reliable information or advice for your farming changed because of FarmerChat? Has it become: (n = 352)



### Nearly all farmers say they will continue using FarmerChat, and a third say it is their only source of information.

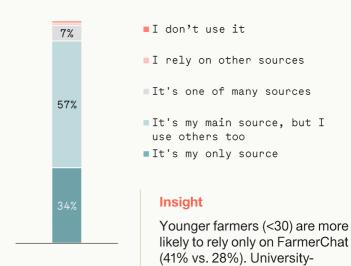
#### **Future Use**

Q: Do you plan to continue using the FarmerChat for your farming? (n = 353)



#### **Primary Source of Information**

Q: Is the FarmerChat your primary source of farming information? (n = 353).



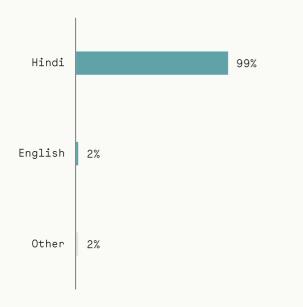
educated farmers tend to use multiple information sources.



### Farmers prefer receiving farm-related information in Hindi. They also prefer receiving this information via mobile application.

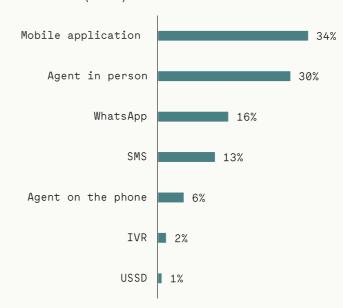
#### **Preferred Language**

Q: What language(s) are you most comfortable receiving farm related information in. Select all that apply. (n = 353)



#### **Preferred Mode**

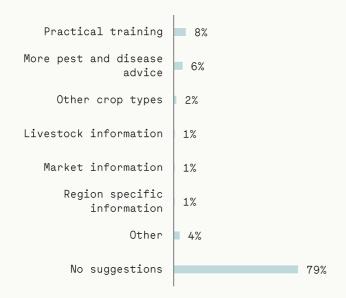
Q: Which channel would you most prefer to use for accessing FarmerChat? (n = 352)



### 79% of farmers report there is no further information they need from FarmerChat.

#### **Suggestions from Farmers**

Q: What type of information do you need that is not provided by FarmerChat? (n = 353). Open-ended question, responses coded by 60dB





### Appendix

#### Methodology

#### About the 60 Decibels Methodology

In March and April 2025, 60 Decibels' trained researchers conducted 353 phone interviews with farmers using Digital Green's Service, FarmerChat. The farmers were randomly selected from a random sample of Digital Green's contact database. Here is the breakdown of how we collected this data:

Country	Bihar
Contacts Shared	1172
Interviews Completed	353
Response Rate	49%
Languages	Hindi
Average Survey Length	16 mins
Confidence Level	95%
Margin of Error	4%

#### **Calculations and Definitions**

For those who like to geek out, here's a summary of some of the calculations we used in this report.

Metric	Calculation
Net Promoter Score®	The Net Promoter Score (NPS) is a common gauge of client satisfaction and loyalty. It is measured by asking clients to rate their likelihood to recommend a product/service to a friend of family member on a scale of 0 to 10, where 0 is least likely and 10 is most likely. The NPS is the % of clients rating 9 or 10 out of 10 ('Promoters') minus the % of clients rating 0 to 6 out of 10 ('Detractors'). Those rating 7 or 8 are considered 'Passives'.

#### **Ideas for How to Use these Results**

Here are ideas for ways to engage your team and use these results to fuel discussion and inform decisions.

Review Your Results	Review your results and qualitative customer responses. There's a lot of interesting feedback in there!
Engage Your Team	<ul> <li>Send the report to your team &amp; invite feedback, questions and ideas. Sometimes the best ideas come from unexpected places!</li> <li>Set up a team meeting &amp; discuss what's most important, celebrate the positives, and identify next steps.</li> </ul>
Spread The Word	Reach a wider audience on social media & show you're invested in your farmers.
Close The Loop	We recommend posting on social media/website/blasting an SMS saying a 'thank you to everyone who took part in the recent survey with our research partner 60 Decibels, your feedback is valued, and as a result, we'll be working on XYZ'.
	After reading this report, don't forget to let us know what you thought: [Click Here]!
Take Action!	<ul> <li>Collate ideas from team into an action plan including responsibilities.</li> <li>Keep us updated, we'd love to know what changes you make based on these insights.</li> </ul>
	Set up the next Lean Data project – we recommend checking in again in 6 to 12 months.

#### **About 60 Decibels**

60 Decibels is a global, tech-enabled impact measurement company that brings speed and repeatability to social impact measurement and customer insights. We provide genuine benchmarks of impact performance, enabling organizations to understand impact relative to peers and set performance targets. We have a network of 1000+researchers in 70+ countries and have worked with more than 800 of the world's leading impact investors, companies, foundations, corporations, NGOs, and public sector organizations. 60 Decibels makes it easy to listen to the people who matter most.

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#### **Thank You For Working With Us!**

#### Let's do it again sometime.

We'd love to hear your feedback on working with 60dB; take 5 minutes to fill out our feedback survey here!

#### **Stay In Touch**

Please sign up for <u>The Volume</u>, our monthly collection of things worth reading.

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