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### Awareness of G2C services among rural farmers in Sagar, Madhya Pradesh: An analytical study

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#### Abstract

G2C (Government to Citizen) information services under the e-Governance programme have become a focal area because this reflects the development of our country at grass root level. The present study has been carried out to analyze the different information need of farmers and their awareness of ICT and G2C services. It also attempts to study use of different G2C services offered by government and the challenges faced by the farmers in using these services. A survey was carried out in district of Sagar, Madhya Pradesh and 5 villages were randomly selected. Convenience sampling method was used for data collection. The findings of the survey bring to light that 93.3% of farmers perceive a need for information related to agriculture with 90% farmers indicating a regular need for information on crop diseases, pesticides, and compost fertilizers. But, only 32% farmers are aware of ICT based Agri-services and are using G2C information service. It was found that most of the citizens surveyed are not familiar with the services and their accessibility to the same is poor.

**Keywords:** Information literacy, information need, G2C, farmers, E-governance, ICT, agriculture

#### Introduction

India is primarily an agriculture-based economy with GVA (Gross Value Added) of agriculture and allied sectors being 18.3% of the total economy of our country in year 2023 (Ministry of Agriculture & Farmers Welfare) [3]. According to Census of India 2011, 68.85% of Indian population live in rural areas and earn their livelihood from agriculture and allied activities (Govt. of India, 2011) [9]. According to FAO (2011), sharing information is critical for agricultural sectors in order to overcome disparities in expertise and communication inequities, thereby ending the cycle of deprivation. Furthermore, the relevance of ICTs in offering information accessibility in order to improve food availability and livelihoods for farmers was recognised and officially acknowledged at the World Summit on the Information Society (WSIS) 2003-2005 (IICD, 2007) [5]. Huge amount is being spent on agricultural education, research and development. Farming in India is being undertaken by a large section of population under extremely diverse conditions, who do not have access to relevant and timely information which adversely affect agricultural growth and productivity (Minten *et al*, 2011) [12]. All efforts in agricultural education, research and extension are directed towards the end-users, i.e farmers who are required to access right agricultural information and utilize it in their farm land. Relevant and reliable information can improve agriculture related factors, such as human resources, money, and management skills on farming.

The term "E-governance" refers to an ICT-enabled strategy for governing. It enables government to communicate with rural areas, allowing individuals to make inquiries about their concerns and monitor the progress of answers. World Bank and government-financed e-governance initiatives are currently active, including Meghdoot in Madhya Pradesh and Bhoomi in Karnataka. The NICNET network, supported by approximately 700 VSATs, enables countrywide data communication linkages linking areas and capitals of states for administrative preparation and other purposes (KP, 2019) [11].

E-Governance uses ICT to revolutionize government functions by improving interaction, providing services, and collaborating with residents, enterprises, and other agencies. This results in greater effectiveness, accountability, and availability. The National e-Governance Plan (NeGP) serves a critical role in this change by providing direct information accessibility via government-to-citizen (G2C) platforms (National e-governance-division) [13]. In the agriculture industry, G2C services give farmers an infinite amount of information, directly assisting them on the ground level. But, because farmers are generally illiterate they least understand the essence of information and it is also difficult for them to express their information needs. In present day situation, the farming system is going to be modernized and scientific methods are being applied in farming. In this situation, there is a greater need to ascertain the spectrum of information needs of the farmers.

The present study focuses on evaluating information literacy and awareness of G2C services among rural farmers in Sagar, Madhya Pradesh. It will help us to understand the challenges faced by the farmers in accessing and using G2C services and give recommendations to bridge the gaps and reap maximum benefits of government efforts. The study will be of significance and interest not only for the farming community but also for information intermediaries and policy makers.

### Literature survey

In India, E-governance is still developing in the ICT-driven information society even though many other countries already have well developed similar projects. There has been a lack of investigation on G2C information services under E-governance in India, despite a recent wave of studies on other facets of E-governance. The government has launched many programmes in the agriculture sector to give farmers G2C access to information.

Information intermediaries have been trying to find out how present systems can meet the research, education and extension needs of agricultural sector. According to Cun and Xu (2013) [4] most farmers have no formal schooling and poor comprehension of information. They have poor literacy skills and are unaware of the substantial advantages of agricultural information. Glendenning *et al.* (2012) [7] state that extension programmes should be tailored to meet the diverse information requirements of various farmer groups. They suggest developing strategies to fit the particular conditions of each farmer group for successful outreach and impact. Gohain (2017) [8] emphasizes on importance of information literacy (IL) to raise agricultural yield. Through IL initiatives like Krishimelas, live demonstrations, media broadcasts, and partnerships with local authorities and instructors, scientists and extension staff in agriculture may efficiently spread knowledge. Patil *et al.* (2008) [15] explored that Indian farmers have an immense need for forecast and market information. However, a number of obstacles, including a lack of education, the high price of information acquisition and an overall absence of awareness about the information resources, prevent them from accessing this crucial information. Yadav *et al.* (2011) [16] found that while both tribal and non-tribal populations acknowledge the value of mobile devices in obtaining information, they are unaware of certain crucial ICT resources. They highlighted how G2C efforts like IT-Kiosks, E-choupal, and Gyandoot may improve the development of agriculture and rural areas in India. In order to enhance agricultural procedures and information sharing, the study suggested a paradigm that integrated climate smart techniques with those of research, extension, farmers, ICT, markets, and end users (Behera, 2015) [1]. Patel (2016) [14] emphasised the necessity of ongoing innovation in realising the transformational potential of digital platforms in agricultural and rural contexts. Chandra (2016) [2] emphasised the importance of rural incubation centres in promoting GIS technology adoption. Study showed that collaboration with the Digital India initiative would equip farmers with crucial information to make educated decisions. It emphasises the need to use ICT to improve G2C governance and achieve SMART governance (Simple, Moral, Reliable, Flexible, and Transparent). Jena *et al.* (2023) [10] examined the Digital

India plan and identified critical hurdles for farmers employing digital technology in agriculture. The primary difficulties included a lack of government digital service centres (PFI 289), low quality of information (PFI 287), and a misunderstanding of the positive aspects of ICT (PFI 283). These impediments, which include restricted availability, access, knowledge, and interest, hamper growth. Increasing farmers' digital knowledge and expertise is crucial. Gautam *et al.* (2021) [6] investigated the influence of internet-based services on agriculture in Uttar Pradesh's Central Zone. The study found that 64.88% of farmers utilised Jansevakendra for their farming operations, 46.22% utilised the agriculture site, and 48.44% used message and chatting services. However, just 37.77% of farmers expressed a desire for agricultural applications. The study concluded that the lack of recognition of government portals and applications might be attributed to ineffective leadership and inadequate promotion.

### Objectives

The basic objectives of the study are,

1. To identify information needs of farmers related to farming.
2. To find how effectively farmers use ICT services.
3. To assess the awareness of G2C Agri-services among farmers and its role in agriculture production.
4. Give recommendations for better utilization of G2C services.

### Methodology

The present study is based on survey research with the primary goal to identify the key factors associated with the information needs and awareness of G2C information services of the farmers. A structured questionnaire/schedule was prepared for collecting primary data. The following five villages in the district of Sagar, Madhya Pradesh -1. Mohli; 2. Pipariya Karkat; 3. Bilehra; 4. Pathariya Jatt; and 5. Bamhori Bika, were selected for collection of data from the farmers. Total 75 questionnaires were distributed, 15 questionnaires in each village. The data collected was analyzed and suggestions have been made based on findings.

The study is limited to only those farmers who are exclusively involved in crop production and do not have any other occupation.

### Results and Discussion

The study was primarily aimed at determining the information needs and assessment of digital literacy competency and awareness of G2C services of the farmers. A total of 75 questionnaires/schedules were distributed in the selected study area, with 15 questionnaires distributed in each village under study namely, 1. Mohli; 2. Pipariya Karkat; 3. Bilehra; 4. Pathariya Jatt; and 5. Bamhori Bika. Response rate was 100% (n=75).

The data collected from the respondents is presented in the tabular form. The analysis has been organized in three parts.

#### 1. Information Need and Search Capabilities of Farmers

This covers tables that detail the information needs of farmers, their search capabilities, and the types of information they most frequently require for agricultural operations.

**Table 1:** Agriculture Information Need of Farmers (n-75)

| Information Need | No. of Farmers | Percentage (%) |
|------------------|----------------|----------------|
| Perceived        | 70             | 93.3%          |
| Not Perceived    | 05             | 6.7%           |
| Total            | 75             | 100%           |

Table 1 shows that 70 (93.3%) farmers said they needed agricultural information, whereas just 05(6.7%) farmers said

they did not perceive a need for information.

**Table 2:** Priority of Agricultural Information Needs by the Farmers (n-70)

| Agricultural Information Needs                     | Very frequently | Frequently | Occasionally | Rarely     | Never      |
|----------------------------------------------------|-----------------|------------|--------------|------------|------------|
| Soil Testing / Preparation                         | 57(81.4%)       | 04(5.8%)   | 05(7.1%)     | 03 (4.2%)  | 01 (1.4%)  |
| Seed and Plant Selection                           | 56 ((80%)       | 10 (14.2%) | 02 (2.9%)    | 02 (2.9%)  | 00         |
| Weather Information                                | 50 (71.4%)      | 05 (7.1%)  | 11 (15.8%)   | 03 (4.2%)  | 01(1.4%)   |
| Agriculture Credit/Facility                        | 22 (31.4%)      | 07 (10%)   | 22 (31.4%)   | 12 (17.1%) | 07 (10%)   |
| Animal Husbandry                                   | 24 (34.2%)      | 10 (14.2%) | 29 (41.4%)   | 04 (5.8%)  | 03 (4.2%)  |
| Crop diseases and pesticide                        | 63 (90%)        | 02 (2.9%)  | 01(1.4%)     | 02 (2.9%)  | 02 (2.9%)  |
| Compost fertilizer                                 | 63 (90%)        | 04 (5.8%)  | 01 (1.4%)    | 01 (1.4%)  | 01 (1.4%)  |
| Pre- and Post-harvesting Information (Agriculture) | 33 (47.1%)      | 07 (10%)   | 18 (25.8%)   | 08 (11.4%) | 04 (5.8%)  |
| Market Information                                 | 61 (87.1%)      | 04 (5.8%)  | 04 (5.8%)    | 01 (1.4%)  | 00         |
| Storage Information                                | 47 (67.1%)      | 03 (4.2%)  | 13 (18.5%)   | 05 (7.1%)  | 02 (2.9%)  |
| Government Schemes/ Schedules                      | 58 (82.9%)      | 04 (5.8%)  | 03 (4.2%)    | 04 (5.8%)  | 01(1.4%)   |
| Grants                                             | 54 (77.1%)      | 03 (4.2%)  | 08 (11.4%)   | 01 (1.4%)  | 04 (5.8%)  |
| Technology/ Machinery/ New Technique               | 24 (34.2%)      | 08 (11.4%) | 30 (42.9%)   | 04 (5.8%)  | 04 (5.8%)  |
| Educational Training and Development               | 23 (32.9%)      | 07 (10%)   | 30 (42.9%)   | 08 (11.4%) | 02 (2.9%)  |
| Organic Farming                                    | 29 (41.4%)      | 08 (11.4%) | 25 (35.8%)   | 03 (4.2%)  | 05 (7.1%)  |
| Modern Farming System                              | 26 (37.1%)      | 07 (%)     | 24(41.4%)    | 08(14.2%)  | 05 (12.9%) |
| Soil and Water Conservation                        | 13 (18.5%)      | 09 (12.9%) | 29 (41.4%)   | 10 (14.2%) | 09 (12.9%) |

Table 2 indicates that information on crop diseases and pesticides and compost fertilisers are the top information needs for farmers in their day-to-day agricultural operations, with 63(90%) farmers indicating a regular need for this information. Following closely, 61 (87.1%) consistently need market information. For 58(82.9%) farmers, information on government programmes are essential, but for 57 (81.4%), soil preparation and testing come first. 56 (80%) believe that choosing seeds and plants is crucial, while 54 (77.1%) look for funding information. 47 (67.1%) require information on storage, while 50 (71.4%) deem weather updates to be critical. However, 33 (47.1%) indicate a lower need for pre- and post-harvest data. 75 farmers surveyed, 29 (41.4%) are interested in organic farming, 26 (37.1%) in contemporary agricultural techniques, and raising livestock, technology, machinery, and new techniques to 24 (34.2%). Educational training and development are important to 23 (32.9%), while soil and water conservation is less prioritized, needed by only 13 (18.5%).

**Table 3:** Information Searching Capability (n-75)

| Information Searching | No. of Farmers | Percentage (%) |
|-----------------------|----------------|----------------|
| Capable               | 51             | 68%            |
| Not Capable           | 24             | 32%            |
| Total                 | 75             | 100%           |

Table 3 show that 51 (68%) of farmers say that they are

capable to search information, and 24 (32%) said that they are not capable to search information.

**Table 4:** Overall digital competency level of Farmers' (n-75)

| Digital competency level | No. of Farmers | Percentage (%) |
|--------------------------|----------------|----------------|
| Completely Incapable     | 51             | 68%            |
| Somewhat Incapable       | 09             | 12%            |
| Moderately Capable       | 13             | 17.3%          |
| Very Capable             | 02             | 2.7%           |
| Completely Capable       | 00             | 00             |
| Total                    | 75             | 100%           |

Table 4 illustrates the digital competency levels of farmers in selected areas. According to the findings, 51 farmers (68%) are completely incapable, 13 (17.3%) are moderately capable, 09 (12%) consider themselves somewhat incapable, and just 02 (2.7%) claim to be very capable. Additionally, none of the farmers is classed as completely capable.

## 2. Exploring Farmers Awareness and Engagement with ICT-based Agri-services

This section provides statistics on farmer awareness and use of ICT-based Agri-services. It investigates how frequently farmers use these services, their ability to use them, and their attitudes on ICT's role in increasing agriculture productivity. It also investigates how farmers use ICT in their regular agricultural operations, notably the buying and selling of crops.

**Table 5:** Awareness of ICT based Agri-services of Farmers (n-75)

| Sl. No. | ICT based Agri-services                                                 | Yes       | No         |
|---------|-------------------------------------------------------------------------|-----------|------------|
| 1.      | Aware                                                                   | 24 (32%)  | 51 (68%)   |
| 2.      | Using ICT based services for Buying and Selling our agriculture product | 02 (8.3%) | 22 (91.7%) |

Table 5 shows that awareness and utilization level of ICT based information services of farmers in agricultural context. Furthermore, 24 (32%) are aware of ICT based Agri-services and 51 (68%) farmers are not aware of any kind services or only 02 (8.3%) are using ICT for buying and selling agricultural products, while 22 farmers (91.7%) do not use ICT for these purposes.

As revealed in Table 5 only 24 (32%) farmers are aware of ICT based Agri-services. To further analyze usefulness and satisfaction level of farmers regarding ICT based Agri-services analytical questions were framed and administered to these farmers (n=24).

**Table 6:** Utilization of ICT-based Agri-services by farmers(n-24)

| Scaling | No. of Farmers | Percentage (%) |
|---------|----------------|----------------|
| Daily   | 04             | 16.7%          |
| Weekly  | 07             | 29.1%          |
| Monthly | 05             | 20.9%          |
| Rarely  | 07             | 29.1%          |
| Never   | 01             | 4.16%          |

Table 6 shows that 04 (16.7%) farmers use them daily, 07 (29.1%) use them weekly, 05 (20.9%) use them monthly, 07 (29.1%) use them rarely, and just 01 (4.16%) never uses ICT based Agri-services.

**Table 7:** Farmers' Competence in Using ICT based Agri-services (n-24)

| Scaling              | No. of Farmers | Percentage (%) |
|----------------------|----------------|----------------|
| Absolutely incapable | 04             | 16.7%          |
| Somewhat capable     | 05             | 20.8           |
| Moderate capable     | 14             | 58.3           |
| Very capable         | 01             | 4.16           |
| Fully capable        | 00             | 00             |

Table 7 shows that almost half of the respondents (11, 45%) are using ICT-based Agri-services but Table 6 reveals that only 01 (4.16%) rates himself very capable, 14 (58.3%) as moderately capable, 5 (20.8%) as somewhat capable and 4

(16.7%) regarded themselves as absolutely incapable of using ICT for accessing Agri-service and none of the respondents regarded themselves as fully capable of utilising ICT for agriculture.

**Table 8:** Helpfulness of ICT based services in agriculture

| Scaling           | No. of Farmers | Percentage (%) |
|-------------------|----------------|----------------|
| Totally unhelpful | 04             | 16.7%          |
| Somewhat helpful  | 05             | 20.8%          |
| Moderate helpful  | 14             | 58.3%          |
| Very helpful      | 01             | 4.16%          |
| Totally helpful   | 00             | 00             |

Table 8 shows that according to responses on the basis of helpfulness 04 (16.7%) said that ICT-based services are totally unhelpful, 05 (20.8%) somewhat helpful, 14 (58.3%) moderately helpful and only 1(4.16%) found them to be very helpful and none found them to be totally helpful.

### 3. Leveraging G2C Services: Awareness and Utilization

Indian government has made many efforts to provide G2C services to farmers and hence it is imperative to find about the awareness and utilization of these services by farmers. The data collected from the respondents in this regard has been tabulated in the following tables.

**Table 9:** Awareness and Utilisation of G2C services (n-24)

| Sl. No. | Awareness and Utilisation                  | Yes        | No        |
|---------|--------------------------------------------|------------|-----------|
| 1.      | Awareness of G2C services                  | 22 (91.7%) | 02 (8.3%) |
| 2.      | Utilisation of G2C services in Agriculture | 22 (91.7%) | 02 (8.3%) |

Table 9 shows that, out of the 24 farmers who are aware of ICT based Agri-services, 22 (91.7%) farmers are also aware of G2C services and utilize these services without any barrier. Further attempt was made to understand which G2C services were being used by the respondents who are aware of these services. Hence, further analysis is based on (n-22) farmers.

**Table 10:** Usage of various G2C services (n-22)

| G2C Information Services                 | No. of Farmers | Percentage (%) |
|------------------------------------------|----------------|----------------|
| Agricultural subsidy registration        | 20             | 83.3%          |
| Registration of different schemes        | 14             | 58.3%          |
| Market information registration services | 09             | 36%            |
| Rent of machinery                        | 04             | 16.7%          |
| All kind of G2C services mentioned       | 02             | 8.3%           |

Table 10 shows that G2C services are being used by 20 (83.3%) respondents for agricultural subsidy registration, 14 (58.3%) for registration of different schemes, 09 (36%) for market information registration services, 04 (16.7%) for rent of machinery and only 02 (8.3%) are using all kind of G2C services like farm machineries, training and workshops registration etc offered by Government which is mentioned in the questionnaire.

**Table 11:** Access to the G2C services (n-22)

| Access to G2C services | No. of Farmers |
|------------------------|----------------|
| Without any mediator   | 22 (100%)      |
| With mediator          | 00             |

Table 11 shows that 22 (100%) farmers avail G2C services without any mediator.

**Table 12:** Benefits of G2C services for farmers(n-22)

| Scaling               | No. of Farmers | Percentage (%) |
|-----------------------|----------------|----------------|
| Not beneficial        | 02             | 09%            |
| Somewhat beneficial   | 08             | 36.3%          |
| Moderately beneficial | 12             | 54.5%          |
| Very beneficial       | 00             | 00             |
| Fully beneficial      | 00             | 00             |

Table 12 shows that on a scale of usefulness, data showed that 02 (9%) farmers found the services not helpful, 08 (36.3%) found them somewhat beneficial, and 12 (54.5%) found them moderately beneficial. According to the research, none of the farmers rated the services as very beneficial and fully beneficial.

**Table 13:** Satisfaction with G2C based services (n-22)

| Scaling              | No. of Farmers | Percentage (%) |
|----------------------|----------------|----------------|
| Totally unsatisfied  | 03             | 13.7%          |
| Unsatisfied          | 00             | 00             |
| Moderately satisfied | 17             | 77.2%          |
| Slightly satisfied   | 01             | 4.5%           |
| Totally satisfied    | 01             | 4.5%           |

Table 13 data shows that 17 (77.2%) are moderately satisfied, 03 (13.7%) are totally unsatisfied, 01 (4.5%) is slightly satisfied and 01 (4.5%) is totally satisfied with these services and unsatisfied scale is going to be nil.

**Table 14:** Major Challenges (n-75)

| Challenges related to the utilization of information and services | Strongly Agree | Agree      | Disagree   |
|-------------------------------------------------------------------|----------------|------------|------------|
| Lack of awareness and knowledge about latest development          | 68 (90.7%)     | 07 (9.3%)  | 00         |
| Lack of Available information                                     | 61 (81.3%)     | 12 (16%)   | 02 (2.7%)  |
| Lack of technical guidance by authorities and challenges          | 62 (82.7%)     | 07 (9.3%)  | 06 (8%)    |
| Access Problem                                                    | 05 (6.7%)      | 11 (14.7%) | 59 (78.7%) |
| Lack of Time                                                      | 07 (9.3%)      | 08 (10.7%) | 60 (80%)   |
| Lack of Guidance                                                  | 62 (82.7%)     | 07 (9.3%)  | 06 (8%)    |

Table 14 reveals several major challenges faced by farmers regarding their information needs, awareness, and utilization of ICT and G2C services. A significant majority of farmers, 68 (90.7%), report a lack of awareness of the latest developments in agriculture. Additionally, 62 (82.7%) cite a lack of technical guidance and specific topic guidance as significant barriers. Furthermore, 61(81.3%) indicate that there is a lack of available information, while 59 (78.7%) disagree about the access issue of these services. Interestingly, 60 (80%) disagree with the notion that a lack of time is a barrier to utilizing these services.

### Core Findings

1. Finding shows that 70 (93.3%) of farmers need information related to various operation regarding to the agricultural work. The majority of 63 farmers (90%) want information of diseases of crops and how to apply compost fertilisers or pesticides.
2. Concerning the difficulty of information searching, 51 farmers (68%) reported that they can readily find the information they require. Yet 51 of the 75 farmers (68%) realised a lack of digital abilities, indicating that they face difficulty in using internet tools and technologies.
3. Regarding awareness level of ICT based Agri-services, 24 (32%) farmers are aware of different ICT based services but large part of population is not aware of these services Among the 24 farmers who use ICT-based agricultural services, 22 (91.7%) farmers are familiar with the G2C services offered by government.
4. In terms of ICT proficiency, only 14 (58.3%) farmers said that they use these services to a moderate level which is highest rank on given scale.
5. In terms of G2C information services, 20 (83.3%) farmers utilise them mostly to register for agricultural subsidies.
6. Out of the responses, 18 (24%) farmers emphasised the necessity for modifications or enhancements in

agricultural services, whereas 57 (76%) farmers stated that no changes are required.

7. In the context of challenges, 68 (90.7%) strongly agree that lack of awareness about latest tools and techniques are major barriers to utilizing those resources.

Study reveals that farmers need different types of information to practice agriculture effectively but lack of skills to use ICT also hinders use of ICT based services and G2C services by the farmers. Study's findings also shows that adopting new technology and methods in farming is significantly hampered by farmers' attitudes, age and education level and desire for more conventional practices.

### Suggestions & Conclusion

1. Government should conduct mobile based training programmes in rural areas to give hands-on instruction and make farmers aware of different ICT technologies and G2C services.
2. Collaborative awareness programmes combining several organisations and institutions would be useful.
3. Enhancing connectivity to the internet is a crucial priority for boosting the use of resources at the local level and for individuals.
4. In the chosen study location, the researcher discovered that the lack of libraries and information centres is a significant disadvantage. As a result, the government should create these facilities, since they would be extremely beneficial.
5. Establish neighborhood assistance desks and call centres to assist farmers in using internet services and apps.
6. Utilise virtual meetings and remote consulting services to link farmers to agricultural professionals for assistance and problems.
7. There is need to appoint government officers who mainly work in ground level and aware those resources in villages areas.

The study conclude that central as well as the state governments have developed strategies to disseminate information to the farmer community. Despite a wide range of reform initiatives in agricultural extension in India in the past decades, the coverage of, access to, and quality of information provided to marginalized and poor farmers is uneven. It is the time to know why farmers are not accessing information and where information gaps exist, despite the variety of extension approaches in India. As a major area of study, the G2C information services under the e-Governance initiatives is expected to enhance the active participation of the general public in governance. However, the present study reveals that farmers lack ICT skills and awareness about latest agricultural tools and techniques and this acts as a barrier in utilizing the ICT based Agri-services and G2C information service. Government should focus on imparting ICT skills to farmers. In order to fully address these challenges, a more in-depth analysis is required to understand It seeks to bridge the gap between farmers' assumptions and the actual assistance they receive by shedding light on how G2C information offerings are offered to farmers.

## References

1. Behera BS, Das TK, Jishnu KJ, Behera RA, Behera AC, Jena S. E-Governance mediated agriculture for sustainable life in India. In: International conference on Intelligent Computing, Communication & Convergence; c2015. Bhubaneswar, Odisha. Bhubaneswar: Inter Science Institute of Management and Technology; c2015.
2. Chandra Ch S. Linking digital India as a tool for curbing farmers suicides - A case study of Telangana state. Scholedge Int J Management Dev. 2016;3(3):74-88. DOI: 10.19085/journal.sijmd030302.
3. Contribution of Agricultural Sector in GDP. Ministry of Agriculture & Farmers Welfare. Available from: <https://pib.gov.in/PressReleasePage.aspx?PRID=1909213> [Visited on 05/06/24].
4. Cun J, Xu X. Analysis of Chongqing agricultural informatization promoting urban-rural integration. In: International Academic Workshop on Social Science (IAW-SC-13); 2013. Atlantis Press; c2013. p. 647-651.
5. Food and Agriculture Organisation (WSIS); c2003-2005. IICD. Available from: <https://www.fao.org/4/ap851e/ap851e.pdf> [Visited on 06/06/24].
6. Gautam NK, Singh VK, Mishra M, Rathaur A. Role of digital services in capacity building of farmers in the central zone of Uttar-Pradesh. Int. J Curr. Microbiol. Appl Sci. 2021;10(2):2679-2684. DOI: 10.20546/ijcmas.2021.1002.294.
7. Glendenning CJ, Babu SC, Asenso-Okyer K. Information search behaviors of Indian farmers: Implications for extension services. J Agric. Educ. Ext. 2012;18(5):493-507. DOI: 10.1080/1389224X.2012.707064.
8. Gohain HK. Importance of information literacy in agricultural productivity: A case study of farmers of Jorhat district of Assam. TRANS Asian J Mark Manag Res. 2017;6(8):71-82. Available from: <https://tarj.in/wp-content/uploads/paper/TAJMMR/2017/TAJMMR-AUGUST-2017.pdf#page=71>.
9. Govt. of India. Census of India 2011. Population Tables. Available from: <https://censusindia.gov.in/census.website/data/census-tables>.
10. Jena P, Chauhan AS, Tigga AS, Kumar S, Kumari M, Behera SK, *et al.* Problems faced by farmers using digital tools in agriculture in central zone of India. Asian J Agric Ext Econ Sociol. 2023;41(10):311-316.
11. KP S. Digital India towards development of agriculture and rural development: An overview. Int J Economics Manag. 2019;1(1):1-7. Available from: <https://dergipark.org.tr/en/download/article-file/837671>.
12. Minten B, Vandeplas A, Swinnen J. Market regulation and inter linkages of markets in India: Brokers and agricultural wholesale markets in Uttarakhand. IFPRI discussion paper; c2011.
13. National e-Governance Division. Available from: <https://negd.gov.in/about-national-e-governance-division/> [Visited on 13/06/24].
14. Patel A. Digital India reaching to small, marginal & women farmers. Int. J Sci. Res. Comput. Sci. Eng. Inform Technol. 2016;1(2):46-53. Available from: <https://www.academia.edu/download/53206483/CSEIT16126.pdf>.
15. Patil VC, Gelb E, Maru A, Yadaraju NT, Moni M, Misra H, *et al.* Adoption of information and communication technology (ICT) for agriculture: An Indian case study. In: IAALD AFITA WCCA World Conference on Agricultural Information and IT; c2008. p. 685-692. Available from: <https://d1wqtxts1xzle7.cloudfront.net/64433000>.
16. Yadav C, Punjabi NK, Sharma FL, Samota SD. Awareness of farmers about modern communication media in Udaipur district of Rajasthan. Raj J Ext. Edu. 2011;19:90-93. Available from: <http://www.rseeudaipur.org/wp-content/uploads/2013/02/202.pdf>.