

## Behavioural Change Communication (BCC) in Agricultural Extension

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### INTRODUCTION

Agriculture remains the backbone of rural livelihoods in many developing countries, including India. Despite the availability of advanced technologies, improved crop varieties, and scientific management practices, the adoption rate among farmers is often low. This gap between technology generation and adoption is largely attributed to behavioral, socio-economic, cultural, and psychological factors. Traditional extension approaches, which focus mainly on information transfer, have shown limited success in addressing these complexities.

Behavioural Change Communication (BCC) has emerged as an effective extension approach that goes beyond awareness creation to influence attitudes, motivations, decision-making processes, and actual practices of farmers. In the context of agricultural extension, BCC integrates communication, social science, and participatory methods to bring about sustained behavioral change necessary for agricultural development and rural transformation.

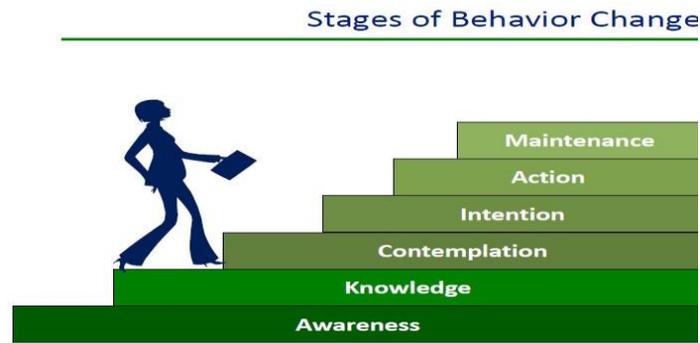
### 2. Concept and Definition of Behavioural Change Communication (BCC)

**Behavioural Change Communication (BCC)** is defined as: *“A research-based, participatory, and strategic communication process that uses a mix of interpersonal, group, and mass media channels to influence knowledge, attitudes, social norms, and behaviors of individuals and communities for positive and sustainable change.”*

In agricultural extension, BCC aims to:

- Encourage adoption of improved agricultural practices
- Promote sustainable use of natural resources
- Enhance farmers’ resilience to climate change
- Improve food security, nutrition, and income

BCC recognizes that behavior change is a gradual process influenced by multiple factors such as beliefs, traditions, risk perception, peer influence, access to resources, and institutional support.



Source: <https://publichealthnotes.com>

### 3. Importance of BCC in Agricultural Extension

The importance of Behavioural Change Communication (BCC) in agricultural extension lies in its ability to transform farmers' knowledge into actual practice by addressing psychological, social, and cultural barriers. BCC goes beyond mere information dissemination and focuses on influencing attitudes, perceptions, and decision-making processes, which are critical for sustainable agricultural development.

#### 3.1 Bridging the Adoption Gap

Although many farmers are aware of improved agricultural technologies, their adoption often remains low due to fear of economic risk, lack of self-confidence, uncertainty about results, and social influence. BCC helps bridge this adoption gap by building trust through continuous interaction, interpersonal communication, demonstrations, and success stories. It motivates farmers to move from awareness to action by reducing perceived risks and strengthening confidence.

#### 3.2 Promoting Sustainable Agriculture

Sustainable agricultural practices such as integrated pest management, organic farming, soil conservation, and water-saving technologies require changes in long-established farming habits. BCC facilitates this transition by encouraging gradual learning, repeated messaging, and community participation, helping farmers internalize sustainable practices as part of their routine farming behavior.

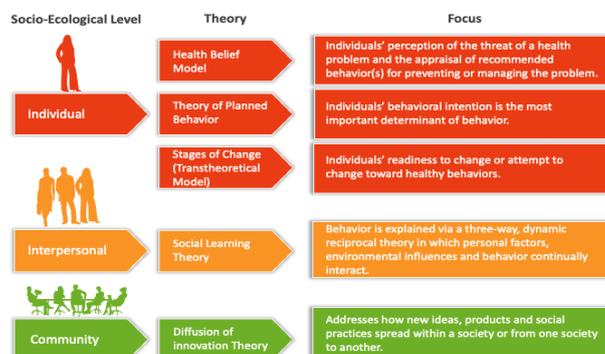
#### 3.3 Climate Change Adaptation and Mitigation

Climate change poses serious challenges to agriculture, demanding adaptive and resilient practices. BCC plays a vital role in shaping farmers' perceptions and attitudes towards climate-resilient crops, crop diversification, and resource-efficient technologies, enabling informed and timely decision-making.

#### 3.4 Enhancing Farmer Empowerment

BCC promotes participatory learning, collective decision-making, and social mobilization, thereby empowering farmers to take ownership of agricultural innovations and development processes.

### BEHAVIOR CHANGE COMMUNICATION



Sources: <https://www.collidu.com>

#### **4. Principles of Behavioural Change Communication**

Effective implementation of BCC in agricultural extension is guided by the following principles:

1. **Audience-Centered Approach** – Focus on farmers’ needs, perceptions, and socio-cultural context
2. **Participation and Dialogue** – Encourage two-way communication rather than top-down messaging
3. **Evidence-Based Planning** – Use research, baseline surveys, and behavioral analysis
4. **Cultural Sensitivity** – Respect local traditions, beliefs, and norms
5. **Repetition and Reinforcement** – Behavior change requires consistent messaging over time
6. **Use of Multiple Communication Channels** – Interpersonal, group, and mass media integration
7. **Sustainability** – Aim for long-term behavior change rather than short-term compliance

#### **5. Components of BCC in Agricultural Extension**

Behavioural Change Communication (BCC) in agricultural extension consists of several interrelated components that together ensure effective and sustainable behavior change among farming communities.

##### **5.1 Situation Analysis**

Situation analysis is the foundation of BCC, involving a thorough understanding of existing farming practices, knowledge gaps, attitudes, beliefs, and the constraints and motivators influencing farmers’ decisions. Tools such as Participatory Rural Appraisal (PRA), focus group discussions, and baseline surveys are commonly used to collect reliable field-level information and identify priority issues.

##### **5.2 Audience Segmentation**

Farmers are not a homogeneous group; therefore, BCC strategies must be tailored to different categories such as small and marginal farmers, women farmers, rural youth, and progressive or traditional farmers. Audience segmentation helps in designing targeted communication interventions that address specific needs, resources, and capacities.

#### **5.3 Message Design**

Effective BCC messages should be simple, clear, and locally relevant. They must focus on problem-solving, highlight tangible benefits, and encourage specific actions rather than providing purely theoretical information. Well-designed messages enhance understanding and motivation for behavior change.

#### **5.4 Channel Selection**

Appropriate communication channels include interpersonal methods such as extension visits and farmer-to-farmer learning, group approaches like demonstrations and farmer field schools, mass media including radio, television, and mobile advisory services, and digital media platforms such as social media, mobile apps, and WhatsApp groups.

#### **5.5 Monitoring and Evaluation**

Monitoring and evaluation are essential to assess changes in farmers’ knowledge, attitudes, practices, and adoption levels, ensuring continuous improvement of BCC strategies.

#### **6. Models and Theories Supporting BCC**

Behavioural Change Communication (BCC) in agriculture is strongly supported by several well-established behavioral and communication theories that explain how and why farmers adopt new practices. These models help extension professionals design effective communication strategies tailored to farmers’ decision-making processes.

##### **6.1 Diffusion of Innovations Theory**

This theory explains how new agricultural technologies and practices spread within a farming community over time. Farmers are categorized as innovators, early adopters, early majority, late majority, and laggards. BCC uses this framework to target influential farmers, promote success stories, and accelerate the diffusion of innovations through social networks.

##### **6.2 Theory of Planned Behavior**

The Theory of Planned Behavior emphasizes that farmers’ actions are influenced by their attitudes toward a practice, subjective norms (social pressure), and perceived behavioral control (confidence in their ability to adopt). BCC interventions focus on shaping positive attitudes,

strengthening social acceptance, and improving farmers' confidence and skills.

### 6.3 Social Learning Theory

Social Learning Theory highlights that people learn by observing others. In agriculture, farmers often adopt practices after seeing successful peers or role models. BCC leverages demonstrations, farmer field schools, and lead farmers to encourage observational learning and peer influence.

### 6.4 Health Belief Model (Adapted for Agriculture)

Adapted for agricultural contexts, this model addresses farmers' risk perception related to pest outbreaks, pesticide misuse, climate hazards, and health impacts. BCC uses this model to increase awareness of risks and motivate preventive and adaptive behaviors.

### 7. Tools and Methods of BCC in Agricultural Extension

Behavioural Change Communication in agricultural extension employs a variety of participatory tools and methods to facilitate experiential learning and sustainable behavior change. Farmer Field Schools (FFS) promote learning-by-doing and collective problem-solving among farmers. On-farm demonstrations provide visual evidence of the effectiveness of improved practices, increasing farmers' confidence in adoption. Exposure visits and success stories motivate farmers by showcasing real-life examples of successful adopters. Folk media, including street plays, songs, and puppetry, effectively convey messages in a culturally acceptable and engaging manner. Information and Communication Technology (ICT) tools such as mobile advisories, videos, and community radio enhance timely information dissemination and wider outreach. Participatory videos and community meetings encourage dialogue, reflection, and peer-to-peer learning, which are essential for lasting behavioral change.

### 8. Applications of BCC in Agriculture

Behavioural Change Communication is widely applied across various domains of agriculture to promote sustainable and inclusive development. It plays a key role in Integrated Pest

Management (IPM) by reducing excessive pesticide use and encouraging eco-friendly practices. BCC supports soil and water conservation through improved awareness and adoption of resource-efficient technologies. It is instrumental in promoting organic and natural farming, balanced fertilizer use, and quality seed adoption. Additionally, BCC contributes to nutrition-sensitive agriculture by linking farming with household nutrition and strengthens gender mainstreaming by enhancing women's participation and decision-making in agricultural activities.

### 9. Challenges in Implementing BCC

Despite its significant potential, the implementation of Behavioural Change Communication (BCC) in agricultural extension faces several challenges. One major constraint is the limited capacity and inadequate training of extension personnel, which affects the effective design and delivery of BCC interventions. Resource and time constraints further restrict continuous engagement with farming communities. Low literacy levels among farmers often limit understanding of technical messages, necessitating more visual and participatory approaches. Additionally, resistance to change due to traditional beliefs, cultural norms, and risk aversion hampers the adoption of new practices. Inadequate coordination among extension agencies, research institutions, and development organizations also reduces the effectiveness of BCC programs. Addressing these challenges requires strong institutional support, policy backing, improved inter-agency coordination, and continuous capacity building of extension professionals.

### 10. Future Prospects of BCC in Agricultural Extension

The future of Behavioural Change Communication in agricultural extension is highly promising with the rapid advancement of communication technologies. Integration of BCC with digital extension platforms, mobile-based advisory services, and social media will enhance outreach and effectiveness. The use of artificial intelligence, big data analytics, and decision support systems will enable personalized and timely communication. Increasing emphasis on climate-smart and sustainable agriculture will

further strengthen the relevance of BCC. Moreover, community-led and farmer-centric extension models will ensure local ownership and sustainability. BCC is expected to play a pivotal role in achieving the Sustainable Development Goals, particularly those related to food security, poverty reduction, and climate resilience.

### CONCLUSION

Behavioural Change Communication is a powerful and transformative approach in agricultural extension. By addressing not only what farmers know but also how they think, feel, and decide, BCC ensures sustainable adoption of agricultural innovations. For effective agricultural development, extension systems must integrate BCC principles with modern technologies and participatory approaches. Strengthening BCC will lead to resilient farming communities, improved livelihoods, and sustainable agricultural systems.

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