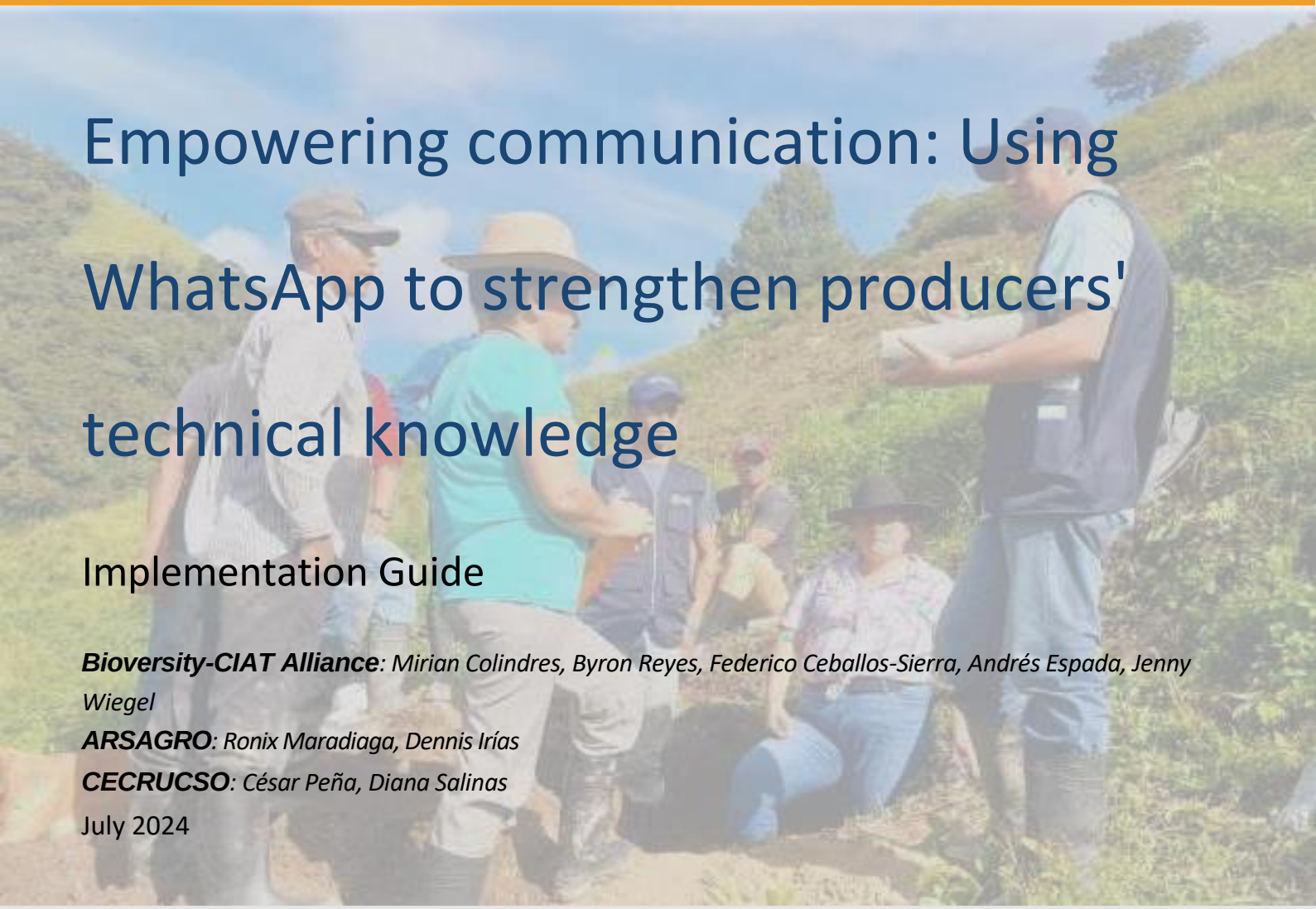

Empowering communication: Using WhatsApp to strengthen producers' technical knowledge

Implementation Guide

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Context

The CGIAR Initiative "Transforming Markets and Value Chains for Inclusion and Sustainability" (Transformando Mercados), the Asociación Regional de Servicios Agropecuarios de Oriente (ARSAGRO), and the Central de Cajas Rurales de Ahorro y Crédito Comunidades Solidarias de Oriente (CECRUCSO) are evaluating the impact of sending technical messages via WhatsApp to associated bean producers on the adoption of practices aimed at improving the quality of the grain they produce, and the quality of the grain produced. This innovation is part of a pilot study evaluating other innovations, the design of which is detailed in Reyes et al. (2023), which is being implemented in the department of El Paraíso, Honduras. Bean producers supported by ARSAGRO and CECRUCSO receive technical assistance through group training, where they learn about various topics related to bean management and marketing. Sending technical messages via WhatsApp was identified as a strategy to reinforce this knowledge, especially those related to practices that can have a positive effect on the quality of the bean produced. This strategy was identified from a two-stage consultative process, where in the first stage, actors in the sector identified various challenges in the crop value chain, among them, the difficulty faced producers in complying with established quality standards to access various markets; and in the second stage, the two groups of producers mentioned determined that WhatsApp was the most appropriate (and complementary) tool to help solve this challenge.

The context in which WhatsApp was used to send technical messages to producers has two dimensions. The first is related to the profile of the associations that were responsible for preparing and sending the messages. ARSAGRO, is a second-tier organization, with about 600 active members (in 2023) in five municipalities in the department of El Paraíso. ARSAGRO has offices and a bean processing plant located in the city of Danlí, with a monthly bean processing capacity of 9,600 quintals. This association has experience in selling beans to differentiated markets through public-private partnerships, exporting beans, and carrying out research and development projects. The main commercial activity of this association is the purchase and sale of grains (beans and corn), although it has other sources of income. Among the services provided to its members are technical assistance and credit (in cash or in kind). In 2023, this association had 25 para-technicians, who are lead farmers who receive training from the association to be able to provide some of their services (mainly technical assistance the farmer field school methodology) to their associates.

CECRUCSO was founded to establish a single organization that could consolidate different legally established groups, including the *Cajas Rurales de Ahorro y Crédito (CRACs*). As of 2023, it had 31 affiliated CRACs, which together have a membership of more than 360 farmers in three municipalities in the department of El Paraíso. CECRUCSO has infrastructure and equipment used for coffee and beans (wet milling, solar dryers, processing and drying plant, threshing and roasting equipment, and a grinder), and has experience in supplying coffee to local and international markets, selling beans to differentiated markets in the country, and implementing development projects. CECRUCSO's main activity is to allocate credit to different CRACs so that they can support their members in the production of coffee, beans and, to a lesser extent, livestock. CECRUCSO provides drying (for coffee and beans); threshing and roasting (for coffee only); and technical assistance to the farmers they work with, focusing on good agricultural and processing practices. In 2023, CECRUCSO had three field technicians providing technical assistance to farmers.

The second dimension relates to the characteristics of the farmers who received the messages. Seventy-six percent of the farmers were male, 49 years old, with 23 years of experience growing beans, a little more than 5 years of formal education completed, and with a household of 4.4 members. The majority (92%) owned their home and 67% of the households had electricity. In addition, 94% of producers had a cell phone, 74% had a smartphone, and 64% reported using WhatsApp to communicate. Producers grew 1.7 mz 1 mz=7,000 m^2) of beans, 89% of them used fertilizer, and 61% sold beans; and all were members of the association.

This note was prepared to manage the knowledge generated from the experience of preparing and sending messages with technical content to associated bean producers through WhatsApp. The purpose of this note is to provide detailed information on how to implement this activity so that stakeholders interested in replicating this activity with producers in other regions of the country or in other countries in a similar context can have access to detailed information.

Preparation and sending of technical messages

Sending technical messages via WhatsApp was possible because producer associations provide technical assistance to bean producers in a group setting. The messages were designed to complement these efforts by reinforcing the knowledge that producers acquire during these trainings. The messages were sent as follows.

Step 1: Designing the structure of the messages

The first step was to determine the structure that each message should have, as illustrated in the figure. For this, aspects related to content, use of simple language, inclusion (or not) audiovisual materials, font size, and structure were taken into consideration. The messages had to be simple (but with technical content), not include links or videos (although photos were considered if necessary), and with legible text size. Each message contained five sections: a greeting (which included 3 words); a sentence referring to the group training received from the association (10-15 words); a sentence with the technical message we wanted to convey, which included a description of the problem and its solution (30-40 words); a closing sentence (6 words); and the farewell (9 words).

Características de los mensajes:

- Mensajes sencillos, en tono amistoso
- Sin links, ni vídeos
- Fotos se pueden enviar para ilustrar problemas o soluciones, si son adecuadas
- Texto en tamaño 12, tipo de letra muy legible y estándar
- Los mensajes siguen la estructura definida

Estructura con número de palabras

Saludo, **(3)**

Oración que hace referencia a la temática del entrenamiento recibido en la fecha específica : **(10-15)**

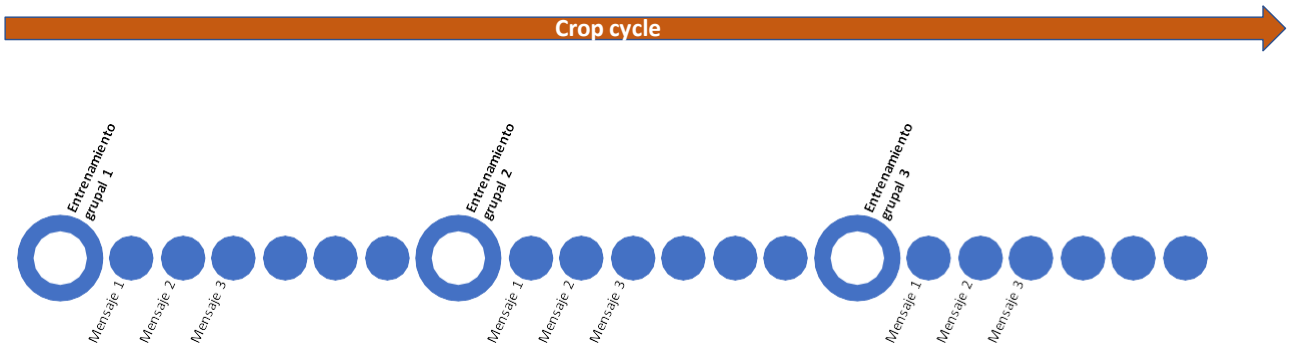
Oración con mensaje técnico que se quiere enfatizar en el marco del estudio piloto, describiendo el problema y la solución. FOTO **(30-40)**

Oración de cierre. **(6)**

Despedida. **(9)**

Step 2: Determine quantity and frequency of message delivery

With the structure of the messages defined, the next step was to determine the number of messages to send and the frequency of sending. When defining the number of messages we took into consideration (i) the possible rejection (by the producers) that sending many messages may generate and (ii) avoiding saturating the producers with information. With this in , and to keep the number of messages to an acceptable minimum, we determined to send three messages (with different content) each group training (see figure). Since our interest was to reinforce knowledge learned in group training, it was decided to send a daily message, at the same time (end of the day) each day, for three consecutive days, starting the day after the group training. The producer associations were in charge of sending the messages. This structure allowed the quantity and frequency of messages to be the same, and to be adjusted according to the number of group trainings carried out.



Step 3: Selecting a platform for message delivery

To identify the most appropriate platform for sending messages, we conducted an analysis of advantages and disadvantages for two options: use of short message service (SMS) and WhatsApp. The main advantages of using SMS include the possibility of sending good quality photos and that the messages reach producers even in areas with limited cellular network access (because these types of messages can be received without internet access). Among the disadvantages are that, although group messages could be sent, the provider can block the phone number from which the messages are sent if it detects a high volume of messages, each message has a cost, and it does not allow interaction between producers and associations (except bilaterally, which means that other producers would not be aware of these interactions).

Among the advantages of using WhatsApp are that it allows the creation of groups to send messages, it allows interaction between group participants (both producers with associations and between producers), and the interaction that happens in the groups can be monitored. Disadvantages include that messages are not

received if the farmers do not have a smart phone, or if they do not have access to the cellular network, that both the sender and the receiver must pay for cellular internet service, and that interactions in the groups can deviate from technical topics to other topics (such as religious, political, etc.). Association representatives mentioned that most producers, if they do not have a cellular network in their villages, or if they do not pay regularly for this service, generally connect to the internet at least once a week. Because of this, and the ease of using WhatsApp, we determined that this was the most appropriate platform to send messages.

Step 4: Creating WhatsApp groups

With the structure, quantity and frequency of messages, and sending platform defined, the next step was to determine how WhatsApp would be used to send messages. For this we considered two options: individual messages to each producer or creating groups to send messages. Since this activity was conducted as part of an experimental evaluation, we opted to create one WhatsApp group per village (or community). The figure below illustrates the steps to be followed to create a WhatsApp group. All producers served by the association in a village were included in the corresponding WhatsApp group. Regardless of this, we believe that the creation of small groups can facilitate interaction between members of the groups (as opposed to creating a single group with many participants) and reduces the effort of sending messages individually (i.e., to each farmer). To prevent farmers from ignoring groups, they were named in an eye-catching way, referring to the crop, the association and the village (figure on the right).

Creación de grupos de WhatsApp:

- Nombre: Proyecto Frijol [Asociación] Aldea [Nombre Aldea]
- Nombre: Proyecto Frijol [Asociación] [Nombre Caja Rural]

ARSAGRO

Transformando los Mercados y Cadenas de Valor Alimentarios para la Inclusión y la Sostenibilidad

CGIAR

Asociación Regional de Servicios Agropecuarios de oriente

Proyecto Transformando Mercados wp2

Manejo sostenible de los sistemas productivos, suelo, agua y bosque

Recursos Naturales

Son todos los recursos naturales que se producen en el planeta y que de una manera o otra sirven al hombre para mejorar su nivel de vida

Recursos renovables, son los recursos que podemos reproducir, plantas y animales

Recursos no renovables, son los que no podemos producir, pero si conservar como el agua, el aire y el suelo.

Central de cajas Rurales de Ahorro y crédito comunidades Solidarias de Oriente CECRUCSO

CECRUCSO

Temario de capacitación Ciclo de cultivo de Frijol

Temas y Sub temas de manejo de cultivo de frijol

1. **SELECCIÓN YPREPARACIÓN DELSUELO**
1. Selección del lote o terreno
2. Calicata (análisis Visual del Suelo)
3. Preparación del suelo

2. **SELECCIÓN DE LA VARIEDAD A SEMBRAR**
1. Uso de semilla
2. Elección de la variedad
3. Características agronómicas de las principales variedades de frijol

3. **SIEMBRA DEL CULTIVO**
1. Épocas de siembra

Step 5: Identification of topics of interest for developing message content

Since the sending of technical messages via WhatsApp was used as a complementary strategy to the group trainings that ARSAGRO and CECRUCSO carry out, the content of the messages was taken from the training curriculum that the associations prepared for the production cycle in question. Each association determined, prior to the production cycle, which topics would be included in the training to be given, and scheduled these trainings. For each village, ARSAGRO scheduled three group trainings during the production cycle, focusing on sustainable management of production systems (soil, water, forest), fertilization, integrated pest management, harvesting, post-harvest management, and good manufacturing practices. Similarly, CECRUCSO scheduled two group training courses per village, focusing on land preparation, planting, fertilization, weed control, integrated pest and disease management, harvesting, and recording production costs. The topics for the messages were extracted once the training was completed. group finalized (to be certain of the topics taught). The topics were selected to emphasize the adoption of practices that can contribute to improving the quality of the grain produced (e.g., planting), because that was our interest. However, this can be adapted according to specific interests that any association, organization, or other type of actor with an interest in supporting producers may have. In addition, if you do not have a training curriculum, you could prepare messages according to the technical information you want to convey to producers.

Step 6: Elaboration of the technical content of messages

With the topics identified, we develop the content of each message, following the defined structure (illustration). This activity was carried out jointly by the Alliance and the Associations. Each draft message was reviewed and approved by both parties, and then sent by the Associations' staff in charge of managing the WhatsApp groups. In the image we illustrate the content of one of the messages sent, which focused the pH of the plot, and how to balance it.

Estructura con número de palabras

Saludo, **(3)**

Oración que hace referencia a la temática del entrenamiento recibido en la fecha específica : **(10-15)**

Oración con mensaje técnico que se quiere enfatizar en el marco del estudio piloto, describiendo el problema y la solución. FOTO **(30-40)**

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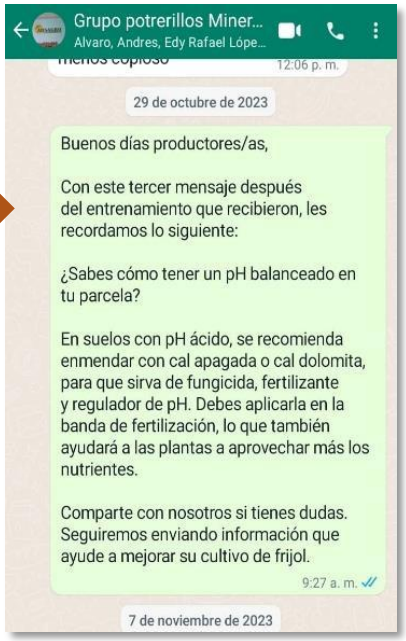
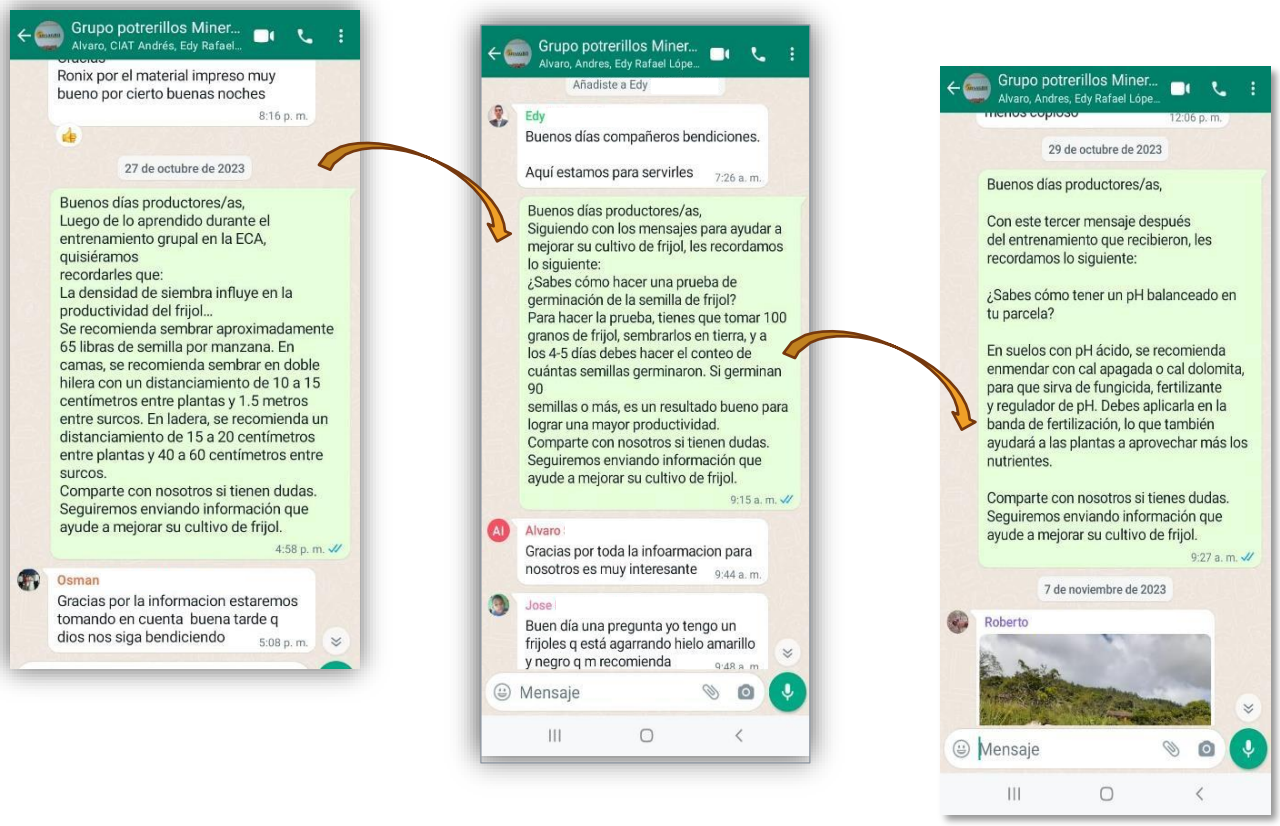


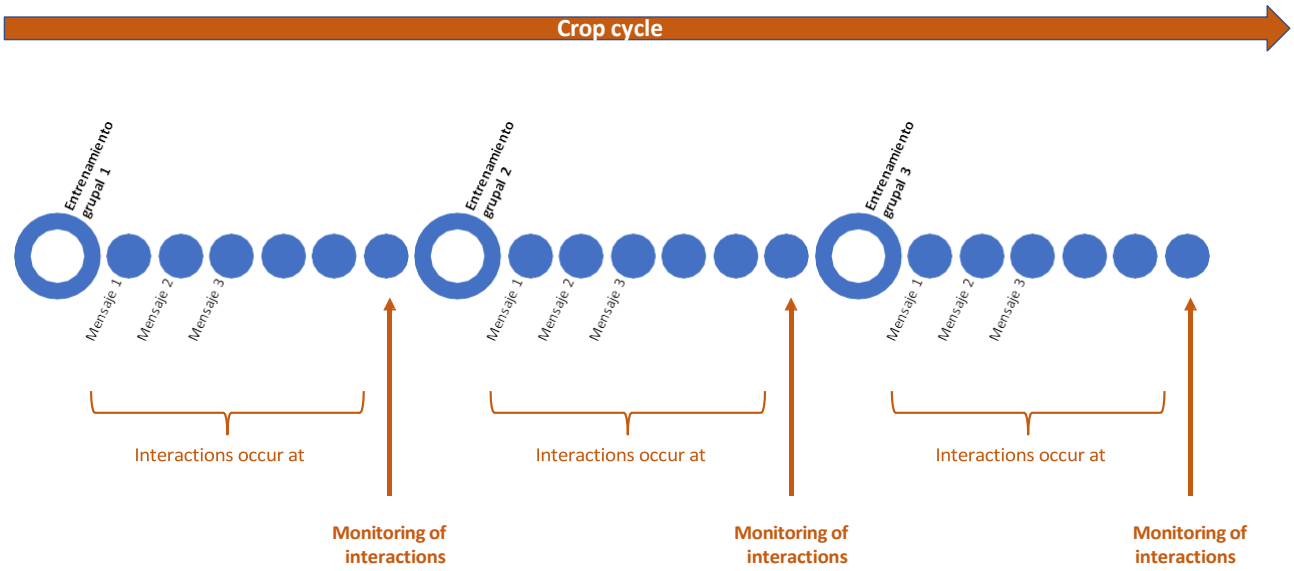
Step 7: Sending technical messages via WhatsApp

The first message was sent one day after the end of the group training. The second was sent on the second day, and the last message was sent three days after the end of the group training (in the illustration, the first message was sent on October 27, 2023, the second on October 28, and the third on October 29). This process was repeated after each group training session (3 for ARSAGRO, 2 for CECRUCSO). Since there were several days (up to weeks) group sessions, once the first round of messages had been sent, there was a period of inactivity where producers could interact with each other and with the associations' technicians (the person who administered the groups).



Step 8: Monitoring producer interactions in WhatsApp groups.

In the interest of the study in which this activity was implemented, the interaction that occurred after the messages were sent was monitored, although this can be done by stakeholders interested in replicating it, to determine if adjustments to the process are needed (e.g., if not spark interest from producers, how could this be changed). The main objective of this monitoring was to determine if the messages fostered technical interest and discussion (or if non-technical topics were shared), if producers exchanged experiences on the technical topics shared, and if the dynamics were influenced by few group members. For this, we used a register (Excel), which was completed by the person managing the group (on behalf of the association). This monitoring was done one or two days before the next round of messages was sent (see illustration).



Lessons learned and recommendations

Positive aspects

- The groups created are being used to send technical messages (and not other types of messages), which has allowed for member interest in the information shared.
- Having a defined structure for the messages has allowed us to prepare them in a short time after the end of the group training (generally one day), which has been key to be able to send the messages as planned.
- Having one person responsible in each association for sending messages has allowed messages to be sent on time, since there is no uncertainty as to who should send the messages.
- Communication via WhatsApp has allowed associations to communicate with producers quickly and at a low cost.

Opportunities for improvement

- Define a strategy so that producers who do not have access to WhatsApp (mainly because they do not have smartphones) can receive messages. One option would be to register another home phone number in the groups, where they have access to WhatsApp.
- Identify mechanisms to encourage greater interaction among group members and with association technicians. For example, producers can be encouraged to use the groups to make technical consultations using images (photos), because in this way the association technicians can make better recommendations.
- Better synchronize training topics (and thus the sending of messages) with the phenological stage of the crop, to avoid imparting topics and sending messages that cannot be implemented because the window for their implementation has passed.

Recommendations for implementers

- Obtain or generate a map of mobile network coverage in the implementation area, to identify areas without signal and the impact this could have on the success of sharing information with producers through communication and information technologies.
- Analyze which platform would be more suitable for sending messages in the action area of organizations interested in implementing this activity, as WhatsApp might not be the most suitable option.

- Depending on the complexity of the information to be shared, we recommend considering sending images (or animations) to complement the technical text. This would facilitate understanding by the producers.
- Determine, according to needs, what would be the appropriate number of messages to send, without saturating the producers.
- In addition to technical information on crop management, share climatic information during the production cycle (e.g. rainfall forecasts).

Quote:

Bioversity-CIAT Alliance; ARSAGRO; CECRUCSO. 2024. Empowering communication: Using WhatsApp to strengthen producers' technical knowledge. Implementation guide. 8p.

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