Rice Crop Manager

An app to boost the yields and incomes of rice farmers in Bangladesh

**Background**

In the 1990s, the International Rice Research Institute (IRRI), in collaboration with partners across Asia, developed the Site-Specific Nutrient Management (SSNM) approach. SSNM gives rice farmers guidelines for applying the right amount of essential nutrients for their crops at the right time.

Using the principles of SSNM, IRRI released Rice Crop Manager (RCM), an application that provides farmers with crop management recommendations tailored to their fields and rice-growing conditions through the internet and text messages. In addition to nutrients, RCM also addresses other constraints that limit rice yield and farmers’ profit.

Endorsed and released by the Bangladesh Rice Research Institute (BRRI), RCM was disseminated by the Department of Agricultural Extension (DAE) through Digital Centres wherein IRRI was responsible for continuous maintenance and capacity building of various stakeholders.

BRRI recommended using RCM for rice cultivation in Bangladesh. In November 2013, BRRI’s Director General formally announced that RCM was released for public use.

**How does it work?**

The RCM application can be operated using a variety of technology devices, including laptops, mobile phones and tablets.

1. Extension workers are trained to operate the RCM application.
2. Farmers are interviewed using the RCM application and their responses are captured to generate unique recommendation for their specific plot.
3. Interviews are conducted in either online or offline mode, but the internet is still required to generate the recommendation.
4. The recommendation is printed on an A4 size paper and is provided to the farmers to be used throughout the season.
5. The recommendation provides advisories on nursery management and seedling age, fertilizer management; weed control; and double transplanting.

As a web-based tool, RCM is available online at [http://webapps.irri.org/bd/rcm/](http://webapps.irri.org/bd/rcm/)

**Results**

- Over 24,000 recommendations have been generated for rice farmers of Bangladesh since RCM’s released in November 2013.
- Use of RCM recommendations resulted in an average rice yield increase of **0.4t per ha with an added net benefit of USD79/ha/cropping season**.
- Over 400 village level and 12 upazila level DAE officers, 105 digital center operators, 20 BRRI scientists and 5 private entrepreneurs were trained on RCM and were responsible for the dissemination of RCM recommendations to the rice growing farmers of their area.
- **Digital Centres** were established across Bangladesh to function as one-stop information hubs for nearby farming communities. These centres are equipped with ICT devices used by trained extension staff to provide RCM recommendations to the farmers.
Lessons Learned and Recommendations

- **Dissemination is easy; adoption takes time:** A new technology takes time to get adopted by the farmers. Farmers are used to practicing rice cultivation in traditional ways and it takes time to change their mindset. Continuous efforts are required to create awareness on the economic benefits as well as soil health improvement through demonstrations, trials and field days.

- **Need for continuous engagement from dissemination partners:** The success of RCM as a platform for receiving crop management recommendations requires multi-stakeholder collaboration and input. Maintaining engagement, ownership and inputs requires a coordinating organization that can effectively engage all parties.

- **Continued research for improving the effectiveness and preciseness of recommendation:** Research forms the backbone of the application. IRRI, in collaboration with the research partners, is continuously working to validate the existing content and also to improve it further. New findings are being added to make it more robust, dynamic and effective.

Next Steps

The next few years will be critical in the overall success, sustainability, scale and impact of RCM in Bangladesh.

- **Testing dissemination models through the public sector:** In addition to dissemination through public sector (DAE) and Digital Centres, IRRI will test new dissemination models through various digital channels and groups.

- **New innovative partnerships:** IRRI will explore new pathways of dissemination by building new partnerships with various stakeholders such as social enterprises, private sector and civil society organizations for scalability and faster dissemination.

- **Focus on sustainability:** Need to move from push to pull strategy to ensure sustainability of the application.

- **New data inputs:** To make RCM recommendations more robust, IRRI will incorporate new data into our algorithm, including data on weather forecast, disease, pests, remote sensing and irrigation. An RCM business model is being developed by involving agri-input dealers and private entrepreneurs.

Our Partners

For more information, visit [http://webapps.irri.org/bd/rcm/](http://webapps.irri.org/bd/rcm/)

Contact: Carolyn Florey (c.florey@irri.org), M. Murshedul Alam (m.alam@irri.org) and Sheetal Sharma (sheetal.sharma@irri.org)