2018
NATIONAL RICE R&D HIGHLIGHTS

TECHNOLOGY MANAGEMENT AND SERVICES

DIVISION

PHILRICE

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TECHNOLOGY MANAGEMENT AND SERVICES

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EXECUTIVE SUMMARY

The Technology Management and Services Division (TMSD) is geared at helping raise the productivity and income of rice farmers by promoting high impact rice and rice-based technologies through science-based training and technology promotion models. The Division enhances the capacities of agricultural extension workers and other development catalysts from the government and private sectors through training courses and science and technology (S&T) updates. This is done through training design and development and training delivery and evaluation. The Division also helps assess the maturity of technologies developed by PhilRice to ensure its readiness for use of the target clients.

The Division increased the knowledge of 279 agricultural extension workers, farmer leaders, students, educators, and other professionals through seven different training programs conducted during the year. Four were customized after the training need analysis was conducted. Three new courseware were developed while an existing one was updated. Training materials and collaterals were also standardized to facilitate monitoring and evaluation (M&E). The training program of 15 former trainees to 88% of the respondents said that they were able to utilize the learning from the training in their present work and that the trainings have significant contribution in terms of personal growth disseminate/ adopt yield enhancing, cost reducing, & value-adding technologies.

To find out whether the training program had increased the capacity of the participants to disseminate/ adopt yield enhancing, cost reducing, and value-adding technologies, the Division traced the participants and document the changes in their lives and their knowledge sharing process in the community. Mass-based technology promotion strategies were also conducted to reach a wider group of rice stakeholders. The Division also assisted other government and non-government agencies and institutions in their capacity enhancement initiatives through technical dispatch.

These projects contribute to the Institute's four major final outputs: extension support, education and communication services, capacity enhancement, technology assessment, and technical dispatch.

TRAINING DESIGN AND DEVELOPMENT

The project designed and developed customized training modules with courseware for a particular training program for extension professionals and farmer-leaders. An online-based training needs assessment tool was developed as a basis for the development of courseware and was tested to the target participants. The Division's courseware for the S&T Updates was improved adopting the knowledge sharing and learning (KSL) framework. Three sets of courseware were developed by the project intended for the customized training course, namely: (a) pest and disease management, and damage assessment for rice extensionists; (b) pest management (emphasis on AESA) for farmer-leaders; and (c) production and exchange of inbred rice seeds for technical staff.

To have a localized monitoring and evaluation (M&E) framework for training courses, a standardized template of training materials/ collaterals and reports were developed and adopted by the division, and the disaggregation of gender data among training participants were implemented. The database of new and existing modules and courseware were also printed, filed, and stored properly using e-files (see Figure 1).

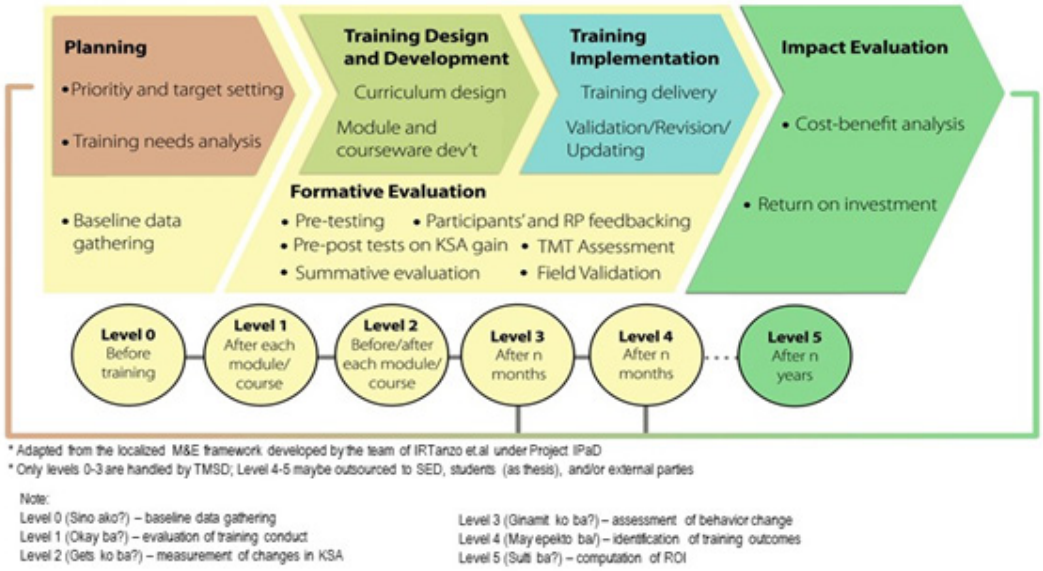

Figure 1. Localized M&E Framework

TRAINING DELIVERY AND EVALUATION

This project focused on the delivery of specialized/ customized training courses that are tailored to the needs of the requesting individual or organizations.

For 2018 implementation, eight trainings were conducted catering 249 participants composed of farmers, extension workers, students, educators, and other professionals across the country.

The participants of the non-regular trainings were pre-selected by the requesting agencies/ organizations while the type of training was initially organized by the TMSD's training management team (TMT) and reviewed by the requesting agency for finalization. Three of the trainings were requested by other government institutions such as the Agricultural Training Institute, Department of Agrarian Reform, and Department of Education. Private companies like the SinoChem Philippines also requested for a conduct of training to equip their field staff with effective farming practices. Through a partnership with JICA and IRRI, 20 extension agronomists from 10 African countries were also trained on seed production and extension methods together with 10 Filipino agricultural extension workers.

Positively, the project achieved its major goal with an average gain in knowledge (GIK) of 60.5% from the eight completed trainings. This is relatively high than the target standard of 25%. GIK was determined based on written and practical examinations. Pre-test was given to the participants prior to the training to initially assess what they already know before attending the course. Post-test was given at the end of the training and compare it to the results of the pre-test to know how much knowledge they have gained from the training.

Resource speakers also achieved a 'very good' to 'excellent' evaluation in terms of mastery of subject matter, effectiveness of learning method used, use and quality of audio visual aids, clarity of presentation and explanation, willingness and ability to answer questions, ability to adjust topic/ presentation to participant's level, rapport with participants, and ability to meet the session's learning objectives. Generally, the result of the training course evaluation showed that the participants have learned enormously and were satisfied with the training as they evaluated the course with an 'excellent' rating.

Table 1. List of trainings conducted for farmers and farmer-leaders.

Title	Venue	Total # of Pax	Male	Female	Date	Gain in Knowledge (%)	Training Evaluation
Training Course on Farm Machinery Operations and Safety cum PalayCheck System for Young Farmers	PhilRice CES	21	21	0	March 5-9	64	Excellent
Pest and Disease Identification, Damage Assessment, and Management: A Specialized Course for Local Farmers	PhilRice CES	30	25	5	June 4-8	48	Excellent
Training Course on the Production of High-Quality Inbred Rice Seeds and Farm Mechanization (Batch 1)	PhilRice CES/San Jose del Monte, Bulacan	31	26	5	July 20-31	54	Excellent
Training Course on the Production of High-quality Inbred Rice Seeds and Farm Mechanization (Batch 2)	PhilRice CES/ PhilMech/ San Jose del Monte, Bulacan	30	27	3	Nov. 7-17	48	Excellent
Climate-Smart Mechanized Rice Production Training	PhilRice CES	24	18	6	Oct 8-11	48	Excellent
Total		**136**	**117**	**19**			**Average GIK = 52.4**

Table 2. List of trainings conducted for other professionals.

Title	Venue	Total # of Pax	Male	Female	Date	Gain in Knowledge (%)	Training Evaluation
Specialized Training on Rice Production and Rice-related Technologies for Sinochem Philippines Field Staff	PhilRice CES	23	21	2	Feb 20-23	76	Excellent
Rice Production Training for DepEd Agriculture Teachers (Batch 1)	PhilRice CES	47	29	18	Nov 12-16	73	Excellent
Rice Production Training for DepEd Agriculture Teachers (Batch 2)	PhilRice CES	43	21	22	Nov 19-23	75	Excellent
Total		**113**	**71**	**42**		**Average GIK = 74.66**	

In support to the trainings handled by the Institute, a division-based learning farm was maintained and managed to enhance learning and awareness by providing experiential learning opportunities to learners or trainees (i.e., farmers, student-trainees, others) by showcasing holistic and comprehensive technology packages through the integrated and diversified rice-based production systems approach.

In 2018, various components were established in the farm showcasing technologies for high rice yields (hybrid cultivation), establishment of demonstration plots for F1 seed production and cultivation as well as maintenance of plots for practical applications and demonstrations of farm machines. Several training programs utilized the farms as training ground especially on the practicum side of the trainings conducted. It also served as a venue for demonstration of farm machinery developed by PhilRice during the Institute's Lakbay Palay.

In the performance trial/ demonstration of public hybrids, Mestiso 19 obtained the highest yield (7.88t/ha) during the DS, while Mestiso 20 got the highest yield (6.02t/ha) in WS. For inbred rice varieties, NSIC Rc 402 obtained the highest yield (5.57t/ha) in the WS trials. There were 40 participants during the training of prospective hybrid seed growers who utilized the farm as learning field.

The conduct of Lakbay Palay also served as regular event conducted by PhilRice Central Experiment Station and the branch stations. The activity reached out to 2,888 farmers and AEWs through the two-season field days. For the dry season, 1,520 participated from the different provinces of Central Luzon and Region 1. A new platform was tested in the 4-half days event wherein limited number of participants were invited per day allowing more time for experts' discussion and consultation. In the wet season, the event focused on the promotion of tips and technologies to help farmers minimize and manage crop losses during the wet season, and adaptation strategies to cope-up with the effect of climate change. With the theme, Sa tag-ulan, I am ready, the two-day activity was participated by 1,368 farmers from five provinces of Region 3, two provinces of Region 1, and other participants from Batangas, Metro Manila, Laguna, and Kalinga.

Rice Science and Technology (S&T) Updates is also a regular function of the Division, which aims to inform and promote technologies developed by PhilRice among farmers, extension workers and legislators, and establish strong linkages with the LGUs and other technology promotion partners. Two batches of S&T Updates for legislators were conducted in Nueva Ecija and Tarlac with 20 participants wherein the PhilRice programs and projects were presented. For the S&T Updates for AEWs and other rice stakeholders, two batches were conducted in Tarlac and Pangasinan with 60 participants. After the briefing, an open forum followed to answer queries of the participants and establish possible future collaboration.

Tracer study was also conducted to document the significant changes whether they are positive or negative, intended or not, and the causes of the identified changes in the lives of the rice stakeholders. Tracer questionnaire was designed for the respondents who attended #RiceUpPH: Help Transform our Rice Farming Communities, a modular course training showcasing three modules. Fifteen respondents were interviewed through social media (FB), email, and one-on-one interview.

TECHNOLOGY ASSESSMENT AND MATURE TECHNOLOGY IDENTIFICATION

The project assessed newly-developed PhilRice technologies to determine what products are suitable to the community and be able to recommend it for commercialization. For the year, the Rice Hull Gasifier Engine-Pump System was assessed through field and table validation and feedback from the direct-users.

Similarly, a field validation activity was conducted to assess the performance of PhilRice Weeds App (e-*Damuhan*), a digital-based technology that comes with an app and can be utilized through Android smartphones. The technology was classified both as information and partly a diagnostic tool. PR Weeds App features the major and minor weeds in irrigated and rainfed-lowland rice fields in the Philippines. The app was developed for farmers, students, professors, researchers, extension workers, and decision-makers as a tool for effective management of weeds in the country.

Table validation and coordination with the researchers were started for the establishment of on-farm trials of the Varietal Mixtures (VarMix technology) of rice to enhance yield and mitigate the effects of climate change in stress-prone areas. Workshop for the assessment of VarMix technology in Western Visayas was conducted and the on-farm trials will be established in three municipalities of Iloilo by 2019 WS.

We are a government corporate entity (Classification E) under the Department of Agriculture. We were created through Executive Order 1061 on 5 November 1985 (as amended) to help develop high-yielding and cost-reducing technologies so farmers can produce enough rice for all Filipinos.

With a "Rice-Secure Philippines" vision, we want the Filipino rice farmers and the Philippine rice industry to be competitive through research for development in our central and seven branch stations, coordinating with a network that comprises 59 agencies strategically located nationwide.

We have the following certifications: ISO 9001:2008 (Quality Management), ISO 14001:2004 (Environmental Management), and OHSAS 18001:2007 (Occupational Health and Safety Assessment Series).

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