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# Collaborative Teaching Program : Sharing Industrial Practice and Expertise

*Kuan Woei Keong*

On 23 October 2023, Mr. Muhammad Haniff bin Ahmad, a research officer from the Engineering Research Center at the Malaysian Agricultural Research and Development Institute (MARDI) was invited as a speaker for a collaborative teaching program. This program is aimed at enhancing the knowledge of students in the industrial sector. The topic of presentation was **“Water Recycling System in Sustainable Water Management Approach for Paddy Production.”** The primary objective of the talk was to shed light on the critical role of water recycling systems in promoting sustainable water management practices within the context of paddy cultivation.

Mr. Muhammad Haniff began by emphasizing the importance of water as a vital resource in agriculture, particularly in paddy production, which is highly water-intensive. He pointed out that with the increasing global demand for rice and the growing concerns over water scarcity, it is imperative to adopt innovative water management strategies to ensure the sustainability of paddy farming.

The presentation also covered the annual rainfall distribution and its impact on irrigation events for paddy cultivation during the main and off-seasons in Malaysia. Mr. Muhammad Haniff explained that paddy requires substantial water throughout its growing cycle, with peak demand occurring during the transplanting and early growth stages. He emphasized the importance of aligning irrigation schedules with rainfall patterns to optimize water use.

Mr. Muhammad Haniff also shared insights from his research on developing a water recycling system that reuses water from the irrigation system by directing excess surface runoff flow into a storage pond for future irrigation use. This innovative approach not only captures and reuses irrigation water but also collects rainwater runoff, significantly improving the efficiency of the existing irrigation system.

In conclusion, the presentation underscored the significance of water recycling systems in achieving sustainable water management in paddy production. He highlighted that the developed recycling system effectively captures and reuses irrigation water and rainwater runoff, resulting in water savings of 20-32%. This system reduces dependency on external water supplies and promotes positive behavior among stakeholders and farmers, particularly emphasizing the importance of conserving water for dry periods. The presentation left the audience with a deeper understanding of the potential of water recycling systems to address water scarcity challenges and enhance agricultural sustainability.

