

Category	: International Rice Research Conference
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Keyword 1	: Precision agriculture
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Title of Entry	: EasyHarvest: optimized combine harvester scheduling using ICT and geo-locations
Presenting author	: Nguyen Van Hung
Presenting author email	: hung.nguyen@irri.org
Co author 1	: Martin Gummert
Co author 2	: Richard Pasco
Affiliation presenting author	: Scientist, Sustainable Impact Platform, International Rice Research Institute
Affiliation 1	: Senior Scientist, Sustainable Impact Platform, International Rice Research Institute
Affiliation 2	: Assistant Scientist, Sustainable Impact Platform, International Rice Research Institute
Select only one type of presentation	: 15 minute oral presentation
Abstract	<p>: Agricultural mechanization can increase productivity by reducing drudgery, reducing losses from grain spillage during harvest, and ensuring timeliness of production and postharvest activities. However, the inappropriate use of machines as well as poor scheduling of harvesting operations between farmers and service providers could lessen, if not cancel out, the potential benefits of mechanization. In the rice industry, poor management of postharvest machines leads to high losses, low efficiency and effectiveness, and high costs. An efficient management system is hampered by constraints such as lack of information and poor coordination between service providers and farmers; poor matching of field conditions with types of machineries that result in low field efficiency of operations and high losses; and lack of anticipation of the service schedules and poor management, resulting in poor planning for the contractors and low machinery utilization rates, and eventually, low effectiveness. Aiming to address these issues, this research resulted in a pilot of an Information and Communications Technology (ICT)-enabled actor geo-location and optimized scheduling for combine harvesters called EasyHarvest. This web-based tool provides smart links between the farmers and combine harvester service providers. It is designed to optimize the scheduling of combine harvester services corresponding to the actual needs of farmers and availability of the machines. It uses algorithms for predicting farm conditions, anticipated harvesting times, and available infrastructures based on data available in the cloud. This presentation demonstrates the operations and functions of the EasyHarvest and the next steps required to further develop it into an ICT platform for rice production actors including farmers, machine manufacturers, service providers, rice producers, traders, research institutions, and policy makers to support sustainable rice production.</p>

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