

---

Oral sessions | Field Crop Production | O11: Direct-seeded Rice in Asia-Oceania Region

## [O11] Direct-seeded Rice in Asia-Oceania Region

Chair: Yoichiro Kato (The University of Tokyo, Japan)

Chair: Virender Kumar (International Rice Research Institute, Philippines)

2021年9月9日(木) 09:45 ~ 11:45 Room 1 (Oral) (Field Crop Production)

---

09:45 ~ 10:05

### [O11-01] Direct-Seeded Rice for Economic and Environmental Sustainability of Rice in Asia: Overview

(Invited Speaker)

○Virender Kumar<sup>1</sup>, Yoichiro Kato<sup>2</sup>, Sudhanshu Singh<sup>3</sup> (1.Sustainable Impact Platform, International Rice Research Institute, Philippines, 2.Graduate School of Agricultural and Life Sciences, The University of Tokyo, Japan, 3.Sustainable Impact Platform, International Rice Research Institute, India)

In Asia, there is increased interest to shift from puddled transplanted rice (PTR) to direct-seeded rice (DSR) to improve the economic and environmental sustainability of rice farmers as DSR saves labor and water, cultivation cost, and reduces greenhouse gas emissions. DSR is widely practiced in many Asian countries such as Malaysia, Sri Lanka, Vietnam, Thailand, Cambodia, etc. Many countries including South Asia are going through the transition from PTR to DSR. Despite multiple benefits, there are few risks associated with DSR which limit its wide-scale adoption and attainment of optimal grain yields in DSR. These risks include poor crop establishment, higher weed infestation leading to the risk of higher yield losses, limited knowledge on precision water and nutrient management, and lack of suitable cultivars bred for DSR conditions. Many current agronomic practices are very inefficient and large scope exists to improve efficiency and sustainability of DSR through precision crop and resource management practices. Moreover, many weed-related issues have emerged in countries where DSR is widely grown including shift in weed flora toward difficult-to-control weeds including evolution of weedy rice; and increased dependence on herbicides leading to a risk of evolution of herbicide resistance in weeds. To address these DSR issues and to develop and catalyze the wide-scale adoption of mechanized and precise sustainable DSR systems in Asia, IRRI established a new public-private multi-stakeholders R4D platform known as 'DSR Consortium (DSRC)' which will be discussed in details.