

1. Current position and contact details

Cluster lead: Soil, Climate and Water
Sustainable Impact Platform
International Rice Research Institute (IRRI)
Los Baños, Laguna 4030, Philippines
Email: s.yadav@irri.org

2. QUALIFICATIONS

(a) Degree and Diplomas

2011. PhD Water management, The University of Adelaide, South Australia

- Researched on water balance, drainage pattern, crop performance, and simulating different irrigation scheduling for dry seeded rice.

2005. MSc Agronomy, Punjab Agricultural University, India

- Researched on soil physical properties on crop performance and soil water dynamics.

2002. Agricultural Sciences (BSc Honours). CCS, Haryana Agricultural University, India

3. EMPLOYMENT/PROFESSIONAL APPOINTMENTS

Fifteen years of international experience in landscape-scale water management, water governance, IoT-based tools, people and project management, funds raising and representing the institute.

- *2019-present. Cluster leader for Soil, Climate and Water, IRRI* - The role involves leading one of the clusters "Soil, Climate and Water" under Sustainable Impact Platform. As cluster leader, I strategies IRRI's research vision for climate change, sustainable soil and water management for Asia and Africa. Currently, there is 35 staff located in five countries under my administrative unit. The role involves promoting a healthy, safe and inspiring workplace; attracting and sustaining world-class talent; creating team environment; career development and succession plans and representing IRRI at the various global platform.
- *2018-present. Senior Scientist-Water management, IRRI.* The role involves leading IRRI's research with a strategic vision for the efficient and sustainable water management across the scale with the full spectrum of basic, strategic and applied research to unravel insights and develop water-smart technologies using digital tools, water governance framework, and policy dialogues to help in addressing challenges of food-energy-water nexus in South and South-east Asia. I also coordinate closely with project partners and build relationships with other stakeholders to ensure research outputs are transferred effectively.
- *2018-2019. Outcome theme leader for Environmental Sustainability, IRRI* - The role involves leading one of the IRRI's outcome themes on "developing environmentally sustainable solutions for the rice-based system". The research program focuses on climate, water, energy, soil health, and biodiversity. As theme leader, I focus on identifying new investment in opportunities, developing impact pathway, delivery of outcomes through different research projects; assures multi-disciplinary contributions along the impact pathways, communicates IRRI's value proposition externally, creating and sustaining the R&D pipeline aligned with IRRI's mission of innovation, catalyzing and transformation; and management of research operational budgets.

- 2015-2018. *Scientist II-Water management, IRRI*. This role involves leading water science group of IRRI for research and development on water and crop management in irrigated and rainfed lowland rice environments of South and Southeast Asia with a focus on improving water productivity, water governance, improved resource-use efficiency.
- 2013-2015. *Scientist I-Irrigated Systems Agronomist, IRRI*. Led the research focused on improving the system-level land and water productivity of rice-based system in South Asia. It includes exploring alternate field designing approaches, appropriate land gradient, irrigation scheduling, fallow management, designing cropping calendar, and simulation on the performance of different cropping system in the region. I was also leading one of IRRI's hub in Odisha, and that involves coordination with national partners, government, and other CG centres involved in various projects
- 2011-2013. *Postdoctoral Fellow- Irrigated Systems Agronomist IRRI*. Led the research focused on dry seeded rice, irrigation scheduling and rice-based production system management.
- 2005-2007. *Research Fellow-Agronomist*. Contribute to the research on water budgeting and crop management in the permanent bed rice-wheat system.

Additional appointments

- June 2018-Till date Adjunct Faculty, University of Peradeniya, Sri Lanka
- Nov 2017-Till date Adjunct Faculty, Bangladesh Agricultural University
- Aug 2015- Till date Adjunct Associate Professor – University of Philippines, Los Baños
- Nov 2016- Mar 2018 Adjunct Faculty– University of Arkansas, USA.

4. CERTIFICATION AND TRAINING

- Licensed Unmanned Aerial Vehicle certified by Civil Aviation Authority Philippines
- Defining Leadership by Growing Edge, Hong Kong 2016
- PRINCE II- Project Management. By HiLogic (www.hilogic.net). 2014
- Global Young Leadership Programme. By Global Institute for Tomorrow (www.global-inst.com). 2013.
- Gender and Diversity Training. Global Diversity Practice, UK. 2013.
- Personal Skills for Professional development. By Learning Tree (<https://www.learningtree.com>). 2012.

5. PROJECTS AND COMPETITIVE GRANTS (as a Scientist)

- Realized in my personal capacity a grant income of more than 13.5 million USD since 2015 (as PI, co-PI), and contributed to one mega project of 32 million (as an investigator). The main investors includes United States Agency for International Development (USAID), Sustainable Intensification Innovation Lab (SIIL) Deutsche Gesellschaft für Internationale Zusammenarbeit (giz), Swiss Agency for Development and Cooperation (SDC), CGIAR Collaborative Research Program (CRP), United Nations Environment Programme (UNEP), U.K Space Agency, Bill and Melinda Gates Foundation (BMGF), Indian Government through Indian Council of Agricultural Research (ICAR), Philippines Government through Department of Agriculture, Myanmar government through Ministry of Agriculture, Livestock and Irrigation and private sector.
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| Year | USD | Role | Country | Investor/Topic |
|-----------|--------------|---------------------------|---|--|
| 2020-23 | 750k | Principal Investigator | Bangladesh | USAID/SIIL – Pathways of scaling agricultural innovations for sustainable intensification in the polders of coastal Bangladesh (commissioned grant; final approval pending) |
| 2019 | 25k | Principal Investigator | Nigeria | GIZ– Building capacity on Sustainable Rice Production indicators and standards |
| 2019-21 | 750k | Principal Investigator | Myanmar | SDC – Co-designing Myanmar’s Pathways for Agroecological transition towards Sustainable food System. |
| 2019-21 | 450k | Co-Principal Investigator | Myanmar | CGIAR/WLE – Transformation of rural landscapes for sustainable and nutritious food systems in Myanmar |
| 2018-20 | 1.2 million | Co-Principal Investigator | Philippines, Cambodia, India | Public-Private Partnership Consortium – Improving economic and environmental sustainability of direct-seeded rice-based systems. |
| 2018-2019 | 163k | Principal Investigator | Global | UNEP – Development of Sustainable Rice Production indicators and standards |
| 2017-21 | ~3.0 million | Principal Investigator | Philippines | Philippines Government/Department of Agriculture – Water-efficient and risk mitigation technologies for enhancing rice production in irrigated and rainfed environments |
| 2017-20 | 4.5 million | Co-Principal Investigator | Sri Lanka, Myanmar, Indonesia, Thailand, Vietnam, China | SDC – Closing rice yield gaps and reducing environmental footprints in Asia |
| 2017-20 | 1.5 million | Co-Principal Investigator | Myanmar | World Bank/Myanmar government – Agricultural Development Support Project |
| 2017 | 60 k | Principal Investigator | Bangladesh | CGIAR-RICE CRP– "Establish a knowledge-sharing platform for improved sharing, networking, complementarities and synergies across the many R4D projects on production systems and water management in the Ganges coastal zone." |
| 2017 | 60k | Co-Principal Investigator | Philippines | U.K. Space Agency – Rice Irrigation Management using Earth Observation in the Philippines. |
| 2016-2020 | 32 million | Investigator | India, Bangladesh, Nepal | BMGF/USAID – Cereal System Initiatives for South Asia |
| 2015-19 | 1.0 million | Co-Principal Investigator | Bangladesh | USAID/SIIL – Unlocking the production potential of “polder communities” in coastal Bangladesh through improved |

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|---------|------|------------------------|-------|---|
| | | | | resource use efficiency and diversified cropping systems |
| 2015-16 | 172k | Principal Investigator | India | Indian Council of Agricultural Research – Improving water management in irrigated cereal system |

6. PROJECTS AND GRANTS (as outcome theme leader)

- As a program leader, I am managing 38 projects implemented in over 12 countries, working with 27 investors and for a worth ~20 million (as of Dec 31, 2019). These projects are mainly under climate, water, energy, soil health, pest ecology and biodiversity domains. The main investors are United States Agency for International Development (USAID), Sustainable Intensification Innovation Lab (SIIL) Deutsche Gesellschaft für Internationale Zusammenarbeit (giz), Swiss Agency for Development and Cooperation (SDC), Tufts University, Food and Agriculture Organization (FAO), CGIAR Collaborative Research Program (CRP), United Nations Environment Programme (UNEP), United Nations Development Programme (UNDP), U.K Space Agency, Bill and Melinda Gates Foundation (BMGF), Indian Government through Indian Council of Agricultural Research (ICAR), Philippines Government through Department of Agriculture, Myanmar government through Ministry of Agriculture, Livestock and Irrigation and private sector, Thailand Ministry of Agriculture and Cooperatives.

7. MAJOR RESEARCH PROJECTS (as a scientist)

Leading the research and development of water management and environmental sustainability in South and South-East Asia.

- Leading “Co-designing Myanmar’s Pathways for Agroecological transition towards Sustainable food System” funded by SDC. The project is focused on designing pathways for agroecological transition towards sustainable food systems in Myanmar by assessing the production systems' interventions, institutional policies, and incentives that can be promoted to create synergies between livelihoods and the environment.
- Leading Food Self Sufficiency Program (FSSP) funded by the Philippines Government for "Water-efficient and risk mitigation technologies for enhancing rice production in irrigated and rainfed environments" (WateRice). 2016-2021. The project is focused on improving decision making with ICT tools to improve the resource use efficiency (especially water).
- Leading “Unlocking the production potential of “polder communities” in coastal Bangladesh through improved resource use efficiency and diversified cropping systems. Funded by USAID Feed the Future Innovation Lab for Sustainable (2016 to 2019). The focus of the project is on increasing farm income and nutrition security by intensifying polder arming systems through implementation of sustainable and economically viable practices.
- Leading technology targeting and water management activities of SDC funded project "Closing Yield Gaps in Asia (CORIGAP) in Myanmar and Sri Lanka. 2017-2020. The project is focusing on reducing yield gaps and environmental footprints from rice landscape.
- Leading Agricultural Development Support Project (ADSP) financed by World Bank through the Ministry of Agriculture, Livestock and Irrigation (2017-2020). The project is focused on improving the productivity and cropping intensity in the central plain by improving irrigation infrastructure and crop management practices.

- Contributing to The Sustainable Rice Platform (SRP) is a multi-stakeholder platform established in December 2011. The SRP is co-convened by UN Environment and the International Rice Research Institute (IRRI) to promote resource efficiency and sustainability in trade flows, production and consumption operations, and supply chains in the global rice sector. The SRP pursues public policy development and voluntary market transformation initiatives to provide private, non-profit and public actors in the global rice sector with sustainable production standards and outreach mechanisms that contribute to increasing the global supply of affordable rice, improved livelihoods for rice producers and reduced environmental impact of rice production.
- Contributing to Rice+Fish System research project in Myanmar funded by ACIAR (2018-2021). The project is focused on improving productivity and profitability of rice-fish systems in Myanmar, with a focus on favourable agro-ecological zones in the Ayeyarwady delta.
- Co-leading direct-seeded rice consortium- a public-private partnership initiative. The overall goal of the consortium is to improve the environmental and economic sustainability of rice production systems in Asia by developing, refining and catalyzing widespread adoption of improved mechanized and precise DSR practices through a public-private partnership
- Led crop and water management research and development work Cereal Systems Initiative for South Asia (CSISA) phase III (2015-2020); to close the knowledge gaps and mobilize the technologies in Bangladesh and India.
- Research objective Leader and Hub Coordinator for the CSISA project (phase II; 2012-2015) with a focus to pursue an interlinked set of technology development, refinement, and scaling objectives to catalyse durable change at scale in South Asia's cereal systems by accelerating adoption of sustainable intensification technologies (SI). It includes strategic decisions on the introduction of new innovation for increasing system productivity. SI technologies for rice include dry seeded rice, mechanical transplanting (under puddled and non-puddled conditions), improved water, weed and nutrient management, and reducing post-harvest losses.
- Research Lead for IFAD funded project "Accelerating resource-conserving technology adoption to improve food security and rural livelihoods while reducing adverse environmental impacts in the Indo-Gangetic Plains (India, Bangladesh and Nepal)". This project (2011-2013) was targeted towards developing the guidelines for dry seeded rice across the different agro-climatic environment and also focused on evaluating the impacts of dry seeded rice.

8. SUPERVISION OF RESEARCH STUDENTS

- 4 PhD and 6 MSc completed, and 2 PhD and 1 MSc ongoing, University of Arkansas (USA), Orissa University of Agriculture and Technology (India), Tamil Nadu Agricultural University (India), University of Agricultural Science, Raichur (India), University of Peradeniya (Sri Lanka), Bangladesh Agricultural University, Sher-e-Bangla Agricultural University (Bangladesh), Khulna University (Bangladesh) University of Philippines, Los Baños. Mentored and supported the career of researchers and senior researchers at IRRI.

In progress

1. PhD (Environmental Science) Assessing environmental sustainability with improved irrigation system and crop management practices in Sri Lanka, Nishanka Jayasiri, University of Peradeniya, Sri Lanka 2018-

2. PhD (Water management), Water Governance Assessment to Improve the Production Potential in Polder 30 of Coastal Bangladesh, Deb Kumar Nath, Bangladesh Agricultural University, Bangladesh. 2016-
3. MS (Water management) Analysis of the effect of geophysical controls on the spatio-temporal variability of soil moisture, Allan T. Tajada, University of Philippines, Los Baños, 2019-

Completed

4. PhD (Environmental Science). Sustainable Intensification of Agriculture: Opportunities and Challenges for Food Security and Agrarian Adaptation to Environmental Change in Bangladesh. Aaron Shew, 2018. University of Arkansas, USA.
5. PhD (Agronomy), Evaluation of rice (*Oryza sativa* L.) cultivars under different water regimes and establishment methods, Kar Ipsita, 2018. Orissa University of Agriculture and Technology, India
6. PhD (Water management), Options of water saving/improving water use efficiency and drought avoidance in rice in Cauvery delta zone, Chelladurai K, 2017. Tamil Nadu Agricultural University, India
7. PhD (Agronomy) Effect of tillage, establishment method and water management practices on performance of rice, Santosh U.N. 2016. University of Agricultural Science, Raichur, India
8. MS (Agronomy) Land gradient: A field design approach to improve irrigation water productivity in rice production. Gio Karlo Evangelista, 2019. University of Philippines, Los Baños.
9. MS (Water management) Water Recession Dynamics and Economics of Gravity-led and Energy-fed Drainage in Polder 30 of the Coastal Zone of Bangladesh. Bishwajit Baidya, 2019. Khulna University, Bangladesh
10. MS (Social science) Trade-off among different cropping patterns in coastal Bangladesh: A Case Study on Polder 30 in Batiaghata Upazila of Khulna District. Priyanka Saha, 2018. Khulna University, Bangladesh
11. MS (Agronomy) Yield performance of maize as influenced by variety and sowing date in polder 30 under Khulna district. Tapati Roy, 2018. Bangladesh Agricultural University, Bangladesh
12. MS (Agronomy) Fertilizer management of HYV rice in the polder ecosystem of the coastal zone of Bangladesh Shakhawat Hossain 2016. Sher-e-Bangla Agricultural University, Bangladesh.
13. MS (Extension Edu) A Study on the Adoption Behaviour of Rice Farmers towards Alternate Wetting and Drying (AWD) technology in Puri District of Odisha. Bibhu Prasad Dutta, 2015. Orissa University of Agriculture and Technology, India

9. AWARDS AND SCHOLARSHIPS

1. Doctoral Fellowship (John Allwright Fellowship), Australian Centre for International Agricultural Research 2007-2011
2. Master degree Fellowship (Junior Research Fellowship), Indian Council of Agricultural Research 2003-2005

10. CULTURAL AND INTERNATIONAL EXPERIENCE

(a) Languages

1. Hindi mother tongue
2. English fluently spoken, read, and written
3. Punjabi moderate spoken, read, and written

(b) International Experiences

Developed sound capacity to operate and work in multi-cultural environments through 15 years of work and life experiences in seven countries

- South Asia: India, Bangladesh, Nepal, Sri Lanka
- South-East Asia: Myanmar, Thailand, Indonesia, Philippines, Cambodia
- East Asia: China,
- Australasia: Australia
- International travel: Australia, Bangladesh, Cambodia, China, Indonesia, Madagascar, Malaysia, Myanmar, Nepal, Philippines, Qatar, Senegal, Singapore, South Korea, Sri Lanka, Tanzania, Thailand, United States of America, Vietnam.

11. ACADEMIC, SCIENTIFIC, AND PROFESSIONAL SERVICES

(a) Positions Held within Organizations

1. IRRI's focal person for Science: Sustainable Rice Platform 2019-present
2. Member, Technical Committee, Direct Seeded Rice Consortium, IRRI 2018-2020
3. Member, Scientific Committee, International Rice Congress 2018.
4. Member, Change Initiative Committee, IRRI. 2016
5. Hub manager, IRRI Odisha Office, India 2014-15
6. Member, Scientific Committee, International Rice Congress 2014.

(b) Membership of Professional Societies

1. Soil Science Society of America
2. Crop Science Society of America
3. American Society of Agronomy
4. Crop Science Society of the Philippines
5. World Association of Soil and Water Conservation (WASWC)

(c) Contribution to scientific/professional/community events and activities

Invited talk

- Plenary panel member to discuss "A New Rice Revolution: Combating poverty and climate change through rice" at 2nd Global Sustainable Rice Conference, Bangkok on 1-2 October 2019

- Invited speaker to talk on “Irrigation advisory service using IoT-based AutoMon^{PH} tool for sustainable water management in the Philippines” at Third Global ODA Forum for Sustainable Agricultural Development, South Korea, 13-15 May 2019
- Using Digital Technologies to Improve Water Management and Irrigation Governance in the Tropics. Brown Bag Series of USAID-D2F, March 2, 2018.
- Plenary Speaker- Bridging gaps between technologies and stakeholders need- what digital tools can offer? At CSSP 48th Scientific Conference in the City of Legazpi, Philippines on 2-7 July 2018
- Invited as a panel member to discuss “Managing Climate Uncertainties and Water Scarcity” at Regional Experts Consultation Forum on Reshaping Agriculture and Development in Southeast Asia, SEARCA, Philippines. Aug 2, 2018.
- Invited speaker to present “Blinded by technologies- refocusing on stakeholders’ needs to improve water management in irrigated rice systems” at Asia Water Forum, ADB, Oct 2-5, 2018.
- “Challenges and opportunities to increase water use efficiency of rice in Asia” organized by University of Arkansas, USA on Jan 30, 2017.
- “ICT tools to accelerate the adoption of water saving technologies” organized by Agritechnica Asia on March 17, 2017, at Bangkok
- “Rice-fallow systems in Asia: challenges and opportunities – perspectives from NRRI, BARI and IRRI” organized by RICE CRP on March 28-29 at Bangkok
- “Water for life- collective action to meet competing demands for scarce water” at “Workshop on Efficient Management of Irrigation Water in Rice Cultivation” organized by RRD, Sri Lanka on August 8-9, 2017 at Batalagoda, Sri Lanka
- Invited speaker at Yazin Agricultural University. Presented importance of water management: Water: Human right & responsibility”. Aug 12, 2016

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Media interview

- Interview for "Food security" episode, of the mini-series Climate Impact Asia, airing on Curiosity Channel USA. Nov 2019
- Business mirror: PHL farms to take flight in the future as government supports drone use. Feb 13, 2019
- GMA News, Philippines: Use of ICT tools for water management. Saksi Special report, March 3, 2018.
- Straits Times Newspaper: Climate change pushing the world into hunger. Nov 11, 2018
- Straits Times Newspaper: Singapore works to tackle threats to food supply. Nov 11, 2018

12. PUBLICATIONS

31 peer-reviewed articles, >50 conference papers/abstracts or posters, and technical reports.

(a) *Book chapters*

1. **Sudhir-Yadav**, V. Kumar, S. Singh, R.M. Kumar, S. Sharma, R. Tripathi, A.K. Nayak and J.K. Ladha. 2016. Growing rice in eastern India: new paradigms of risk reduction and improving productivity. In: S. Mohanty, P.G. Chengappa, M. Hegde, J.K. Ladha, E. Kannan, A.V. Manjunatha, S. Baruah (Eds). *The Future Rice Strategy for India*, Elsevier, London, U.K. pp. 221-258
2. **Sudhir-Yadav**, Balwinder-Singh, E. Humphreys, S.S. Kukal. 2012. Effective management of scarce water resources in North West India. In: Bhullar, G.S., Bhullar, N.K. (Eds.), *Agricultural Sustainability, Progress and Prospects in Crop Research*. Elsevier, London, U.K., pp. 103-126.
3. Romeo Cabangon, **Sudhir-Yadav**, and Ruben Lampayan 2016. Water-saving technologies for rice production under water scarce conditions. In: Banta, S. J (Ed), *Water in Agriculture*. The Asia Rice Foundation College, Laguna 4031, Philippines. pp 103-126.

(b) *Peer-Reviewed Publications*

4. Pandey, S.; **Sudhir-Yadav**.; Hellin, J.; Balié, J.; Bhandari, H.; Kumar, A.; Mondal, M.K. Why Technologies Often Fail to Scale: Policy and Market Failures behind Limited Scaling of Alternate Wetting and Drying in Rice in Bangladesh. *Water* 2020, 12, 1510. <https://doi.org/10.3390/w12051510>
5. **Sudhir-Yadav**, Mondal, M.K., Shew, A. et al. Community water management to intensify agricultural productivity in the polders of the coastal zone of Bangladesh. *Paddy Water Environ* (2020) doi:10.1007/s10333-019-00785-4
6. Devkota, K.P., **Sudhir-Yadav**, C.M. Khanda, Sarah J. Beebout, Bidhan K. Mohapatra, Grant R. Singleton, Ranjitha Puskur, (2020) Assessing alternative crop establishment methods with a sustainability lens in rice production systems of Eastern India, *Journal of Cleaner Production*, Volume 244, 118835, doi.org/10.1016/j.jclepro.2019.118835.
7. Hellin, J, Jean Balié, Eleanor Fisher, Ajay Kohli, Melanie Connor, **Sudhir Yadav**, Virender Kumar, Timothy J. Krupnik, Bjoern Ole Sander, Joshua Cobb, Katherine Nelson, Tri Setiyono, Ranjitha Puskur, Pauline Chivenge and Martin Gummert (2020) Trans-Disciplinary Responses to Climate Change: Lessons from Rice-Based Systems in Asia. *Climate*, 8, 35; doi:10.3390/cli8020035
8. Regalado, M.J.C, **Sudhir Yadav**, Kristine Samoy-Pascual, Jovino L de Dios, Gio Karlo Evangelista, Marvelin L Rafael, Jade Dorado, Romeo J Cabangon (2019). Irrigation Advisory Service: A comprehensive solution toward sustainable water management for rice production in the Philippines. American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting. DOI: 10.13031/aim.201900677

9. Naveen-Gupta, P.L. Eberbach, Balwinder-Singh, E. Humphreys, S.S. Kukal, **Sudhir-Yadav**, 2019. Estimating soil evaporation in rice and wheat fields after wetting events. *Agricultural Water Management* 217, 98-106
10. Wassmann, R, Sander, O., **Sudhir-Yadav**.....(2019).New records of very high nitrous oxide fluxes from rice cannot be generalized for water management and climate impacts. Response letter to PNAS
11. Kar, I., **Sudhir-Yadav**, Mishra, M., Behera, B., Khanda, C., Kumar, V., Kumar, A., 2018. Productivity trade-off with different water regimes and genotypes of rice under non-puddled conditions in Eastern India. *Field Crops Research* 222, 218-229.
12. Alam, M., Humphreys, E., Sarkar, M., **Sudhir-Yadav**, 2018. Comparison of dry seeded and puddled transplanted rainy season rice on the High Ganges River Floodplain of Bangladesh. *European Journal of Agronomy* 96, 120-130.
13. Chakraborty, D., Ladha, J.K., Rana, D.S., Jat, M.L., Gathala, M.K., **Sudhir-Yadav**, Rao, A.N., Ramesha, M.S., Raman, A, 2017. A global analysis of alternative tillage and crop establishment practices for economically and environmentally efficient rice production. *Scientific Reports* 7, 1-11.
14. Quinones, C., Mattes, N., Faronilo, J., Sudhir-Yadav, Jagadish, S.V., 2017. Drought stress reduces grain yield by altering floral meristem development and sink size under dry-seeded rice cultivation. *Crop Science* 57, 2098-2108.
15. Alam, M., Humphreys, E., Sarkar, M., **Sudhir-Yadav**, 2017. Intensification and diversification increase land and water productivity and profitability of rice-based cropping systems on the High Ganges River Floodplain of Bangladesh. *Field Crops Research* 209, 10-26.
16. Naveen-Gupta, **Sudhir-Yadav**, E. Humphreys, S.S. Kukal, Balwinder-Singh and P.L. Eberbach (2016) Effects of tillage and mulch on the growth, yield and irrigation water productivity of a dry seeded rice-wheat cropping system in north-west India. *Field Crops Res.* 196, 219-236.
17. Balwinder-Singh, E. Humphreys, **Sudhir-Yadav** and D.S. Gaydon. 2015. Options for increasing the productivity of the rice–wheat system of north-west India while reducing groundwater depletion. Part 1. Rice variety duration, sowing date and inclusion of mungbean. *Field Crops Res.* 173, 68-80.
18. Balwinder-Singh, E. Humphreys, D.S. Gaydon and **Sudhir-Yadav**. 2015. Options for increasing the productivity of the rice-wheat system of north-west India while reducing groundwater depletion. Part 2. Is conservation agriculture the answer? *Field Crops Res.*173, 81-94.
19. Chauhan, B.S., T.H. Awan, S.B. Abugho, G. Evangelista and **Sudhir-Yadav**. 2015. Effect of crop establishment methods and weed control treatments on weed management and rice yield. *Field Crops Res.* 172, 72-84.
20. **Sudhir-Yadav**, G. Evangelista, J. Faronilo, E. Humphreys, A. Henry, and L. Fernandez. 2014. Establishment method effects on crop performance and water productivity of irrigated rice in the tropics. *Field Crops Res.* 166, 112-127.
21. **Sudhir-Yadav**, E. Humphreys, Tao Li, Gurjeet Gill and S.S. Kukal (2012) Evaluation of tradeoffs in land and water productivity of dry seeded rice as affected by irrigation schedule. *Field Crops Research* 128, 180-190.
22. **Sudhir-Yadav**, Gurjeet Gill, E. Humphreys, S.S.Kukal and U.S.Walia (2011). Effect of water management on dry seeded and puddled transplanted rice Part 1: Crop performance. *Field Crops Research* 120, 112-122

23. **Sudhir-Yadav**, E. Humphreys, S.S. Kukal, Gurjeet Gill, and R. Rangarajan (2011). Effect of water management on dry seeded and puddled transplanted rice Part 2: Water balance and water productivity. *Field Crops Research* 120, 123-132.
24. **Sudhir-Yadav**, Tao Li, E. Humphreys, Gurjeet Gill and S.S. Kukal (2011) Evaluation and application of ORYZA2000 for irrigation scheduling of puddled transplanted rice in north west India. *Field Crops Research* 122, 104-117.
25. Chauhan, S.K., Gupta, N., Walia, R., **Yadav, S.**, Chauhan, R., Mangat, P.S. (2011) Biomass and Carbon Sequestration Potential of Poplar-Wheat Inter-cropping System in Irrigated Agro-ecosystem in India. *Journal of Agricultural Science and Technology A* 1 (4) 575-586.
26. Humphreys, E., Kukal, S.S., Christen, E.W., Balwinder-Singh, **Sudhir-Yadav**, Sharma, R.K., 2010. Halting the ground water decline in north-west India - which crop technologies will be winners? *Advances in Agronomy* 109, 155-217.
27. Kukal S.S, **Sudhir-Yadav**, E. Humphreys, Amanpreet-Kaur, Yadvinder-Singh and S. Thaman, B. Singh, J. Timsina (2010). Factor affecting irrigation water savings in raised beds in rice and wheat. *Field Crops Research* 118, 43-50.
28. Chauhan, S.K., Sharma, S.C., Beri, V., Ritu, **Yadav, S.**, Gupta, N., (2010). Yield and carbon sequestration potential of wheat (*Triticum aestivum*)-poplar (*Populus deltoides*) based agri-silviculture system. *Indian J Agri. Sci.* 80(2): 129-135.
29. Chauhan, S.K., Gupta, N., Ritu, **Sudhir-Yadav** and Chauhan, R. 2009. Biomass and carbon allocation in different parts of Agroforestry tree species. *Ind. Forester.* 135 (7): 981-993.
30. Yadvinder-Singh, E. Humphreys, S.S. Kukal, Balwinder-Singh, Amanpreet-Kaur, Sudhir Thaman, Anil Prashar, **Sudhir-Yadav**, J. Timsina, S.S. Dhillon, Navneet-Kaur, David J. Smith, and P.R. Gajri (2009). Crop performance in permanent raised bed rice-wheat cropping system in Punjab, India. *Field Crops Research* 110:1-20.
31. **Sudhir-Yadav**, M.S. Gill and S.S.Kukal (2008). Growth and yield of direct seeded basmati rice as affected by seeding techniques, seed rates and cultivars. *Environment and Ecology* 26 (4): 1565-1572.
32. **Sudhir-Yadav**, M.S. Gill and S.S. Kukal (2007). Performance of direct-seeded basmati rice in loamy sand in semi-arid sub-tropical India. *Soil Tillage Research* 97(2): 229-238.
33. Kukal S.S, Yadvinder-Singh, **Sudhir-Yadav**, E. Humphreys and Amanpreet-Kaur (2007). Why did Grain yield of rice decline on permanent raised beds in Punjab, India? *Soil Tillage Research* 99: 261-267.

c) Strategic Communication articles/Blogs/Perspective

1. **Sudhir Yadav** (2018). Why sustainable water management needs more than technologies? *Rice Today* Vol 17 (1) 5-7.
2. James Quilty, Arvind Kumar, Crisanta Bueno, and **Sudhir Yadav** (2018). Research to improve water-use efficiency in rice. *Rice Today* Vol 17(1) 12-14
3. Manoranjan Mondal and **Sudhir Yadav** (2018) The food-water-energy nexus: Using gravity drainage to intensify production systems in the coastal zone of Bangladesh. *Rice Today* Vol 17(1) 28-29.
4. Bhattacharya, Jayanta, & **Sudhir-Yadav** (2017). Making more from a diversified cropping system: A farmer's experience. *Polder Tidings*, 2 (1), 14-15.

5. **Sudhir-Yadav**, Mondal, Manoranjan, & Jagadish, Krishna S.V. (2017). Foregoing fallow: Improving productivity of polders in Bangladesh. *Polder Tidings*, 2 (1), 4-5.
6. Bhandari, Humnath, **Sudhir-Yadav**, & Mondal, Manoranjan (2017). Rice self-sufficiency in Bangladesh: what it means in a scenario of climate change. *Polder Tidings*, 2 (2), 4-5.
7. Jagadish, Krishna, S.V., & **Sudhir-Yadav** (2017). Sustainable intensification indicators and the need to account for potential trade-offs. *Polder Tidings*, 2 (2), 16-17.
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