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Managing land and water resources for climate change adaptation and mitigation in arid agriculture

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Climate change is one of the greatest global challenges of the 21st century for developed and developing countries. Response to climate change in developed and developing countries varies widely and its impacts cannot be felt in isolation. It has a considerable impact on agriculture because of its dependability on weather and climate conditions. In resource-scarce conditions such as arid and semi-arid areas, climate change has severe implications on land and water that the base of agriculture sector. The present study highlights that various land and water management options are followed by the farming community to deal with the environmental challenges. These options are dictated by prevailing institutional arrangement include water and land rights, water sharing and trading, public policies, and technological innovations such as adoption of water saving technologies and input use at farm level. The prevailing arrangement and innovations work either ways i.e. positive and negative in dealing with the emerging environmental challenges. In such situation, the role of state becomes crucial in framing institutional mechanism, which can be helpful in resources management efficiently. The study suggests there is a need of effective institutional arrangement and adoption of environment friendly technology for land and water resources management in arid agriculture. Only, a healthy coordination among different stakeholders can ensure sustainability in resource management that can be useful in climate change adaptation and mitigation in agriculture sector.

Biography

Dalbir Singh completed his Doctoral Degree in Economics from Himachal Pradesh University, Shimla in 1993. His areas of specialization are Natural Resource Management & Environment and Agricultural Economics. Presently, he is Senior Fellow at the Institute of Development Studies, Jaipur, India. He has served as consultant in national and international agencies such as Sir Ratan Tata Trust, The World Bank, KfW Germany, and International Water Management Institute (IWMI). He has published more than 35 research papers in reputed journals, periodicals and edited books.

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