

"Agroclimatic similarity" variable developed to improve the measurement of the spatial spillover potential of agricultural R&D investments

Project Title: P665 - 2.1.2 Mechanization and Policies for Labor Saving Technology

Description of the innovation: A novel variable, the agroclimatic similarity between the locations of plant breeding institutes and the locations of the farms that adopt the improved technologies developed in these institutes, is introduced. This variable provides a useful indicator of spatial variations in spillover potentials of agricultural technologies developed through public investments. In 2020, this methodology was further applied and improved to capture a more complex, multi-faceted concept of "agroclimatic similarity".

New Innovation: No

Stage of innovation: Stage 2: successful piloting (PIL - end of piloting phase)

Innovation type: Biophysical Research

Geographic Scope: Multi-national

Number of individual improved lines/varieties: <Not Applicable>

Country(ies):

- Nigeria
- Nepal
- Ghana

Description of Stage reached: In 2019-2020, this methodology was further applied in Ghana and Nepal and improved to capture multidimensional "agroclimatic similarity".

Name of lead organization/entity to take innovation to this stage: IFPRI - International Food Policy Research Institute

Names of top five contributing organizations/entities to this stage:

- ARC - Agricultural Research Council of Nigeria
- NARC - Nepal Agricultural Research Council
- FMARD - Federal Ministry of Agriculture and Rural Development (Nigeria)
- MOLCPA - Ministry of Land Management, Cooperatives and Poverty Alleviation

Milestones:

- Public sector agencies in 1 country adapt their institutional and organizational mechanisms to improve public resource allocation for service delivery

Sub-IDs:

- 11 - Adoption of CGIAR materials with enhanced genetic gains
- 10 - Closed yield gaps through improved agronomic and animal husbandry practices

Contributing Centers/PPA partners:

- IFPRI - International Food Policy Research Institute

Evidence link:

- <https://www.sciencedirect.com/science/article/pii/S0308521X20307757?via%3Dihub>

Deliverables associated:

- D18721 - Smallholder mechanization induced by yield-enhancing biological technologies: Evidence from Nepal and Ghana
(<http://cdm15738.contentdm.oclc.org/cdm/ref/collection/p15738coll5/id/7370>)
- D11719 - The role of plant-breeding R&D in tractor adoptions among smallholders in Asia: Insights from Nepal Terai (<http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/132416>)
- D13279 - Geography of plant breeding systems, agroclimatic similarity, and agricultural productivity: Evidence from Nigeria (<http://ebrary.ifpri.org/cdm/ref/collection/p15738coll5/id/6385>)

Contributing CRPs/Platforms:

- PIM - Policies, Institutions, and Markets