

Policy for Safeguarding Good Research Practices

Version 1.0
Nov 2020

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1. Version Control

Policy Formulation:

Policy Category:	Governance
Policy Formulation date:	September 2020
Policy Approved by:	Governing Board
Policy Approval date:	1 October 2020
Policy Roll-out date:	1 Nov 2020
Policy Version:	1.0
Policy Owner:	Deputy Director General - Research

Policy Amendments:

Date	Version	Changes made by	Changes approved by	Description of change

The Institute reserves the right to amend, suspend or rescind this policy at any time. While, the Institute has made best efforts to define detailed procedures for implementation of this policy, there may be occasions when certain matters are not addressed or there may be lack of clarity in the procedures. Such difficulties or lack of clarity will be resolved in line with the broad intent of the policy, by the Director General or Governing Board Chair (on case to case basis). The Institute may also establish further rules and procedures, from time to time, to give effect to the intent of this policy and further the objective of good corporate governance.

2. Introduction

ICRISAT (“Institute”) recognizes that research forms the cornerstone of its strategic vision and operational model. The Institute is committed to promote the highest ethical standards across its research activities. This “Policy for Safeguarding Good Research Practices” (“Policy”) has been formulated to provide members of the ICRISAT workforce with clarity on the ethical principles for conducting research activities. This Policy forms part of the overarching Ethics Framework of the Institute as outlined in the “Ethics Policy”.

2.1. Objectives

The objectives of this Policy are as follows:

- a) To outline the ethical principles for good scientific practices at the Institute
- b) To establish standards of good scientific practices to be adhered to by all members of the workforce involved in research related activities
- c) To promote a culture of integrity, fairness and accountability across all research activities undertaken at the Institute
- d) To define the key roles and responsibilities for preserving the integrity of research activities at the Institute and to ensure compliance with the principles outlined in this Policy

2.2. Scope & Applicability

This policy is applicable to members of ICRISAT’s workforce who are engaged directly or indirectly with research related activities undertaken at the Institute

2.3. Roles & Responsibilities

- a) **Governing Board:** The Governing Board shall be responsible for providing oversight for implementation of the overarching Ethics Framework of the Institute, of which this Policy forms an integral component.
- b) **Ethics Committee:** It shall be responsible for providing guidance and consultation to the Research Committee for matters/decisions with potential ethical repercussions. It shall facilitate the Research Committee to effectively implement this Policy.
- c) **Research Committee:** It shall be responsible for ensuring adherence to the principles and standards of good scientific practices outlined in this Policy and for working in collaboration with the Ethics Committee for all research related matters/ decisions which have an ethical component to them. The Committee is chaired by the Deputy Director General – Research.
- d) **Researchers:** The Researchers at the Institute shall be responsible for ensuring the conduct of research activities in accordance with the principles and standards of good scientific practices as outlined in this Policy.
- e) **Workforce:** It is the responsibility of every member of the ICRISAT workforce to acquaint himself/herself with the principles outlined in this document, seek clarity when in doubt and actively contribute to maintaining research quality at the Institute.

2.4. Exceptions to the Policy

Any exception to this Policy shall require an approval from Director General of the Institute and a post facto ratification shall also be obtained from the Governing Board at the next Board meeting. Any exceptions involving the Director General shall be approved by the Governing Board. The Policy Owner shall be informed of these exceptions and he/ she shall maintain a record of these for monitoring purpose.

2.5. Frequency of review

This Policy shall be reviewed by the Policy Owner at least once in every 36-month period from the implementation date or from the date of last review or as directed by the Policy Council.

3. Policy Statement

- a) For a research organization, there are several measures to be taken for maintaining the quality of scientific research conducted by scientists. Some are preventive (e.g. enhance the knowledge about scientific methods, proper handling of scientific data, adequate documentation of scientific procedures) and can be overseen by research supervisors. Other measures respond to science quality problems, including the detection of data fraud, avoiding the favorable interpretation of data to please funders, recognizing plagiarism and honorary authorship on publications.
- b) Contemporary science is divided into two broad streams — natural sciences and social sciences. Natural sciences include physics, chemistry, biology and related fields. At the Institute, natural sciences are the basis for crop improvement, crop physiology and many other disciplines that feed into the modern crop improvement agenda. Social sciences encompass fields such as anthropology, sociology, psychology, gender and economics and combinations of these build effective approaches to natural resource management and systems research. These disciplines also provide the basis for understanding the generation of knowledge and the delivery of science - technology adoption, diffusion, scaling and impact. Social science insights help to target crop improvement and natural resource management.
- c) Although epistemologies, research paradigms and discipline-specific research management differ in these two scientific streams, the general principles of good scientific practices apply to all. Therefore, the Institute has formulated **eight principles of good scientific practices**. These principles apply to the entire science lifecycle and encompass the science of discovery, proof of concept, piloting and the scaling of impact:
 - i. Protection of a science quality culture
 - ii. Reproducibility of research and methodological rigor
 - iii. Acceptance of scientific findings irrespective of personal views and preferences
 - iv. Openness to peer reviews, criticism and dialogue
 - v. Publication of research findings relevant to agricultural development in recognized and legitimate journals and media
 - vi. Transparency
 - vii. Integrity and honesty as critical values of actors involved in the research
 - viii. Ensure the authenticity of marketing claims made in the research communications
- d) Although compliance with basic principles of good scientific practice primarily resides with scientists, the Institute recognizes the impact support services have on science quality. These include units dealing with farm and engineering services, corporate services, finance, marketing and communication, human resources and recruitment. These units create an enabling environment for science quality and the ability of researchers to maintain the highest possible credibility of a research organization. The Institute, therefore, fosters the collaboration between these essential support units and scientists in support of reputable accounting, mindful marketing, communication and human resource standards.

- e) The following section describes standards of good scientific practices to be adhered to during conduct of any research related activities at the Institute.

3.1. Research Qualification

- a) Given the commitment of the Institute to the highest ethical standards across the research lifecycle, all research activities and the publication of scientific findings will be carried out by competent principal investigators and researchers with an appropriate track record in science. Researchers who submit research proposals, conduct scientific investigations, and/or supervise and mentor interns, students and other scientific staff must have adequate science training in the respective research field. The qualification requirements should at a minimum include the following:
- i. **Principal Scientists** represent the highest-ranked researchers. They must hold a doctoral degree and have a top-level scientific record of international standards, experience in the supervision and mentorship of scientific staff and have the ability to conceive and write high-standard publications; they have extensive practical experience and develop and oversee research strategies for larger research fields.
 - ii. **Senior Scientists** must hold a doctoral degree and have a top-level scientific record. They work on one or several research projects
 - iii. **Scientists** must hold a doctoral degree in the relevant research field and have an appropriate publication record in the research field. They contribute to the research projects and studies, and they lead specific components.
- b) Both Principal and Senior Scientists can mentor their independent research teams. In cooperation with Research Directors and the Senior Management, they are responsible for sourcing external research funding. Scientists and junior staff without the necessary scientific records may be encouraged and mentored by their supervisors for submitting research proposals to donors and manuscripts to peer-reviewed journals.
- c) ICRISAT researchers should refrain from opportunistic project proposal submissions (e.g. upon donor requests) without adequate qualification in the respective field. In situations where critical expertise is not available in the proposal submission team, researchers may seek relevant expertise from within and/or outside the Institute.

3.2. Scientific freedom

Freedom of science or scientific freedom is the greatest asset of a research organisation. The Institute, therefore, protects its researchers from political, social and economic pressure by public and private agents, including donors, attempting to reduce scientific freedom and freedom of expression. However, such freedom will be contextual; aligned to ICRISAT's vision, mission, and research strategy and deliverables; and subject to any restrictions placed by the Institute. Such freedom shall not be exercised in any manner that is contrary to or against the principles outlined in the "Ethics Policy" or any other institutional policy.

3.3. Methodological soundness

- a) At the Institute, researchers are aware that a sound scientific methodology is the foundation of high-quality science. Quality criteria include, but are not limited to, the following:
- i. The rigor of research design
 - ii. A clear description of the research methodology
 - iii. Enabling the reproduction of data collection and analysis

- iv. Publicly available research protocols
 - v. Documentation and storage of the research process (e.g. lab protocols and records, field books etc.)
- b) The deliberate or unintended manipulation of research data (i.e. from collection to analysis) and the intentional misinterpretation of data is considered as a serious scientific misconduct.

3.4. Data management and protection of research participants

- a) Researchers and administration must ensure that all scientific data is kept safe and protected from misuse by third parties. The Institute has also developed “Data Management Procedures” (for research data) which is aligned to the “CGIAR Good Practice Note on Research Data Management.” Through these procedures, the Institute strives to ensure that research data is managed in accordance with best-in-class standards and practices.
- b) The Institute also strives to observe compliance with national data protection acts.
- c) Data collected with public funds is anonymized and is made available to the public through databases or appropriate web-based applications according to ICRISAT Data Management Guidelines.
- d) At ICRISAT, researchers deal with confidential information about research questions, finding opportunities and emerging insights gained through novel research. Researchers working at the Institute are obliged to comply with basic confidentiality principles. These include:
 - i. Refrain from sharing research ideas and information when asked not to do so
 - ii. Do not share criticism by peers and reviewers expressed to authors during the process of publication
 - iii. Refrain from sharing classified information about and from donors if so requested
 - iv. Refrain from publishing research ideas gained through peer discussion without the agreement of the third parties involved.
 - v. Refrain from misusing confidential information during mentoring with superiors
- e) The Institute is committed to protecting research participants throughout the research process, during the publication and dissemination of research results. This includes:
 - i. The right to privacy and anonymity;
 - ii. Informed consent;
 - iii. The right to leave the research process;
 - iv. Human safety during and after the research
- f) The Institute has developed “Guidelines for Research on Human Participants” which include principles and procedures for the protection of human research participants at the Institute. Ethical approval through the Institutional Review Board, and the necessary approvals through national authorities, is a standard practice for researchers to protect participants. Confidentiality and protection of research participants does not prohibit whistleblowing and the reporting of scientific fraud. In cases of ‘serious academic misconduct’, researchers must report dishonesty to the Ethics Committee irrespective of the above confidentiality criteria.

3.5. Publications

- a) Researchers make available scientific findings to the public through publications (in most cases as global public goods). Researchers (and notably principal investigators,

senior scientists and scientists) are obliged to publish research results. Publications must comply with basic principles of good scientific practices. All working papers should undergo an internal review before their release. Single or double-blind reviews are standard for publishing scientific results. The Institute encourages researchers to publish their findings in ISI listed journals with a good reputation and a significant impact factor.

- b) Quality criteria for publications include:
 - i. Originality
 - ii. Relevance
 - iii. Accuracy
 - iv. Innovation
 - v. Impact orientation
 - vi. Peer review
 - vii. Substance (refrain from least-publishable units)
 - viii. Language proficiency
- c) The format of manuscripts depends on the type of research (literature review, survey, on-farm experiment, etc.), the discipline and the type of journals to which they are submitted. Scientific presentations in public fora (such as policy dialogues, conferences, workshops, etc.) are versions of publications (e.g. through posters or talks). ICRISAT researchers and research managers must apply the same quality standards as described in this document to such public presentations. Supervisors, theme leaders and research directors have oversight function.
- d) ICRISAT researchers must refrain from publishing research findings in journals of dubious quality or journals classified as predatory. Each discipline organised in a research theme or a research program is obliged to develop a positive list of journals and publishers to be approved by the Deputy Director General - Research. Scientists must recognise, identify and exclude predatory journals. Any exception to this must be approved by the Deputy Director General - Research.

3.6. Plagiarism and ghostwriting

- a) Improper citation or deliberate plagiarism is a severe breach of the principles of good scientific practice. The Institute follows a zero-tolerance approach towards plagiarism. Plagiarism also includes the duplication of a publication (in full or part).
- b) Publishing researchers must acquaint themselves with ways to avoid plagiarism. Before submitting for publication, the first and communicating authors are obliged to conduct a test for plagiarism using software available for the purpose. Authors are required to withdraw published articles in which plagiarism is detected.
- c) Getting articles written by ghostwriters is inappropriate and incompatible with principles of good scientific practices. The Institute strongly discourages any form of ghostwriting of its publications.

3.7. Authorship

- a) The contribution of individuals dictates authorship and publications to the manuscript. Being of administrative, logistical or managerial importance during the write-up of the manuscript does not justify authorship. To qualify as an author or a co-author, the following criteria shall apply:

- i. Being instrumental in defining research questions, research design and data collection, or
 - ii. Significant written intellectual contribution to the research argument and the manuscript, and
 - iii. Significant written contributions to different chapters or sections
- b) Researchers who do not meet the above criteria for authorship but have contributed or facilitated to development of the manuscript may be mentioned in the acknowledgement. The following circumstances, while contributing to the publication, do not necessarily qualify an individual for authorship:
- i. Fundraising for the research
 - ii. Reviewing and/or editing the manuscript
 - iii. Leading a research unit
 - iv. Supervising one of the authors
 - v. Providing a service for the research project/publication.
 - vi. Participating in meeting for discussions on a research project
- c) The above list of circumstances is illustrative, not exhaustive. The order of authors on the manuscript is discipline-specific and should be decided by the Principal Investigator of the study/corresponding author in consultation with all contributing authors.
- d) As a general rule, the Institute recommends that the first author/ corresponding author takes responsibility for coordinating the write-up and quality assurance of the article together with co-authors.
- e) In some cases, the corresponding author and the first author are different; the corresponding author is then responsible for the communication with the journal during submission. The corresponding author must get a written consent of all co-authors before submitting the manuscript to the journal.
- f) The same guidelines should adhere to papers or posters presented in any conference and book chapters/conference papers submitted for publication. For journal articles that emerge from the supervision of Masters' and doctoral students, the concerned student will typically be the first author.
- g) All authors are accountable for all aspects and circumstances related to the manuscript and the final publication.
- h) While honorary authorship is unethical, in most cases, breaching authorship rules translate into breach of copyright agreements.
- i) As a good scientific practice, every author must identify her/ his respective contributions in all aspects of the research paper during the internal review process. While this is optional for some journals, it's a prerequisite and compulsory for publications arising from doctoral studies supervised by ICRISAT and third parties

3.8. Research communication

- a) The communication of research findings and sharing them with the broader public through policy briefs, newsletters, media statements and press releases and public presentations are central to attract a non-academic audience. Researchers work with the strategic communication and marketing unit to deliver research findings in an accessible and understandable format.
- b) Policy messages and general recommendations to the public, development partners and donors must meet the following criteria:
 - i. Present a balanced picture of research findings

- ii. Avoid oversimplification of complex circumstances
- iii. Avoid using manipulative language, misleading and suggestive messages
- iv. Provide scientific evidence and substance to underpin marketing claims

3.9. Conflict of interest

- a) A conflict of interest exists when competing interests collide, such as financial benefits and the neutrality of data. Handling conflict of interest transparently is a critical requirement in science and technology development. The Institute calls upon its workforce to be aware of a potential conflict of interest and declare it publicly. Conflicts of interest hamper professional, neutral and objective judgement of evidence and scientific work in general.
- b) A conflict of interest exists in the following conditions:
 - i. Personal relationships between workforce members
 - ii. Financial relationships between sponsors
 - iii. Hidden or open rivalry and competition between workforce members
- c) Researchers are obliged to declare the source of support for research in publications and public presentations. For making declarations and/or disclosing conflict of interest to the Institute, all workforce members involved in research activities shall refer to the “Conflict of Interest Policy” of the Institute.

3.10. Intellectual property

Researchers are originators of novel ideas and approaches. As such and independent of the contract, they create intellectual property that the Institute values and safeguards. ICRISAT has adopted the “CGIAR Intellectual Property Policy” which should be referred to for guidance on managing intellectual property of the Institute.

3.11. Organization of research

- a) The organisation of people around research themes has direct implications on the quality of research they produce. The Institute seeks to maintain and enhance research quality through appropriate organisational arrangements. Therefore, research at the Institute is organised in such a way that scientists achieve results within a specialised area. While cooperating with other disciplines, researchers work within coherent working groups or themes. Working groups or themes host researchers within a specific field to generate and contribute to a general body of scientific knowledge.
- b) The Institute refrains from diluting disciplinary and intellectual density through organisational fragmentation. The working group or team leader is responsible for organising a team or team members in an appropriate and equitable manner. This role and in particular quality assurance can be fulfilled with full access to information and tools relevant for managing coherent research groups.

3.12. Leadership

- a) Leadership is essential to organise people around operations to achieve agreed outputs, outcomes and impact. Scientists organise in homogeneous disciplinary or thematic teams, such as working groups, themes – and at a higher level – research programs. Science leaders of such units have direct responsibility for the research quality of team members. Leadership principles for research teams include:
 - i. Enabling cooperation within the working groups

- ii. Supporting partnerships between working groups or themes
 - iii. Safeguarding fairness in administrative and scientific processes
 - iv. Ensuring information exchange and learning through regular colloquia
 - v. Coordinating and encouraging continued education and training of workforce members
 - vi. Developing career plans and provide quality mentorship
 - vii. Refraining demanding honorary authorship in response to supervision/resourcing/ participating in the meeting
- b) To fulfil the leadership role, leaders overseeing working groups and research themes must have access to all relevant administrative and managerial information. As such, it is the responsibility of senior management and the Institute to provide such information.
- c) The Institute is committed to the highest level of scientific leadership through continuous training of workforce members in research management, human relations, conflict management, and research strategy development. Scientific leadership is a crucial competence of researchers and critical criteria during recruitment and promotions of senior and principal scientists.

3.13. Governance

- a) Workforce members, donors and partners must have confidence in ICRISAT's ability to implement and reinforce this Policy on ethical/good scientific practices. All workforce members have an ethical obligation to report misconduct (defined as violating the principles outlined above in Sections 3.1, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8 and 3.9) as soon as they become aware. The reporting should be to the Deputy Director General - Research and records will be maintained by the Office of the Deputy Director General – Research.
- b) If a paper or publication is found to have misrepresented data or contains factual errors in the data, analysis or conclusions, the author(s) should immediately notify the Deputy Director General - Research and be guided by him/her on the future course of action.
- c) When being an author on a publication emanating from a collaborating institute, if it is found, by an ICRISAT staff or external collaborators, that data has been misrepresented or there are factual errors in the data, analysis or conclusions, the author(s) should immediately notify the Deputy Director General - Research and be guided by him/her on the next steps.
- d) The Institute has the authority and the obligation to reinforce the scientific standards outlined above. The Institute will ensure compliance with the standards outlined in this Policy. An external, neutral agency in place implements a complaint handling mechanism. The “Whistle Blowing and Protection from Retaliation Policy” of ICRISAT protects whistle-blowers and those who draw attention to scientific misconduct.
- e) Any violation of this policy is considered as a breach of international science quality standards. The Institute pursues a zero-tolerance approach to scientific misconduct. The consequences of scientific misconduct depend on the severity of the circumstances. ICRISAT reserves the right to reprimand or enforce an early termination of the work contract of the concerned researcher, research manager and senior manager.
- f) Deputy Director General - Research shall settle disputes related to the inability to agree on authorship, science quality and suspicion of plagiarism or ghostwriting.
- g) Although the Institute has no mandate to regulate standards of good scientific practices with third parties, it encourages the dissemination and application of the same when working with research and development partners.

4. Appendix

4.1. Key Terms

Term	Definition
Double Blind Review	A review mechanism in which both the reviewer and author identities are concealed from the reviewers, and vice versa, throughout the review process
Institute	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
Ghostwriting	Ghostwriting is the process of writing a research paper or publication that will be credited to someone else.
Policy Council	A council consisting of nominated members from the ICRISAT Executive Team, constituted for ensuring compliance with the policy management framework of ICRISAT.
Plagiarism	The practice of taking someone else's work or ideas or copy-protected material and passing them off as one's own.
Serious Academic Misconduct	Any action which gains, attempts to gain, or assists others in gaining or attempting to gain unfair academic advantage. It includes plagiarism, collusion, contract cheating, and fabrication of data as well as the possession of unauthorized materials during research.
Workforce	Refers to particular individuals who have a contractual relationship with ICRISAT such as members of Regular Staff Cadres, members of the Non-Regular Special Assignments category, members of Short-term contracts, members of Job-contracts, Learner-Participants and Third-party contractors; regardless of their position, type of employment, or location.

4.2. Reference documents/ links

- A. Data Management Procedures (Research data)
- B. CGIAR Good Practice Note on Research Data Management
- C. Guidelines for Research on Human Participants
- D. CGIAR Responsible Data Guidelines
- E. Conflict of Interest Policy
- F. CGIAR Intellectual Property Policy
- G. ISI Listed Journals
- H. Whistle Blowing and Protection from Retaliation Policy
- I. Ethics Policy