ICAR Research Data Management Policy

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Concept and Guidance

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FOREWORD

Scientific research hinges on formulating pertinent questions, meticulous data collection, thorough analysis, and deriving insightful answers. To tackle increasingly complex issues like climate change and accelerate discoveries, scientists aim to integrate new data with historical records. Recognizing the importance of immense data being gathered by the ICAR system in agricultural research, ICAR formulated its Research Data Management Guidelines, adopted in March 2014 by the Governing Body. Subsequently, during its implementation, ICAR also developed its Data Use Licence and Quality Research Data Acquisition guidelines.

Recognizing the rapid evolution of technology, the emergence of data monetization, and the need to safeguard intellectual resources, a revised policy has now been formulated. This data policy has been adopted by ICAR Governing Body for implementation in its 264th meeting held on July 01, 2025. The updated policy provides a comprehensive framework for managing research data from its point of origin, clearly defining contributors, and establishing robust mechanisms for long-term storage, archival, and digital security.

Ownership of all research data is explicitly vested with the Council, ensuring legal protection. The policy also details permissible data usage across various scenarios. In line with the Government of India's open data access policy, the ICAR has introduced guidelines for making certain research data openly accessible, thereby fostering innovation by individuals, public and private agencies. Furthermore, the policy places strong emphasis on guidelines for improving and maintaining the quality of data acquisition and implementation processes throughout ICAR.

This policy is a critical step towards enhancing research quality, promoting collaboration, fostering/advancing artificial and machine learning and maximizing the societal benefit derived from ICAR's vast data assets. I urge all stakeholders to embrace these guidelines, contributing to *Viksit-Bharat* where agricultural data can serve as a powerful catalyst for sustainable and inclusive development and food security. It is anticipated that this comprehensive policy will serve as a model for other scientific research agencies and institutes across diverse domains in the country.

The Council acknowledges the valuable work carried out by the Committee and colleagues in the Council in formulation of the comprehensive research data management policy.

The support of ICAR's Governing Body is also duly acknowledged for adopting/endorsing this data policy in its 264th meeting held on july 1,2025.

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PREFACE

The Indian Council of Agricultural Research (ICAR) is at the forefront of agricultural innovation and research in India. In an era increasingly defined by data, the efficient and responsible management of research data has become paramount. The council had a research data management guideline, but was lacking a research data management policy. The competent authority felt its immediate need and responsibility was given to Dr. S. N. Jha, Deputy Director General (Agricultural Engineering) and a committee therefore was formed for the purpose. This ICAR-Comprehensive Research Data Management Policy document has been meticulously developed by the committee to provide a robust framework for all ICAR Institutes, ensuring the integrity, security, accessibility, and long-term value of the invaluable data generated through our research endeavours.

This policy builds upon and supersedes previous guidelines, integrating them into a unified and comprehensive approach to data stewardship. It outlines guiding principles for data definition, ownership, collection, recording, storage, security, access, sharing, retention, and disaster redundancy. Furthermore, it details the ICAR Data Use Licence and the ICAR Open Access Policy, ICAR Quality Research Data Acquisition procedures emphasizing ICAR's commitment to fostering a culture of data excellence while safeguarding intellectual property and ensuring ethical data practices.

Recognizing the dynamic nature of data management, this document also introduces Quality Research Data Acquisition plans and mandates continuous professional development for all personnel involved in data management. This ensures that Officer-in-Charge of Data Management and PME Cell staff are equipped with the latest competencies to implement these protocols effectively.

We express our sincere gratitude to Dr. M.L. Jat, Secretary, DARE and DG, ICAR, the head of ICAR/DARE Family for his vision and directions for preparing this policy document. We would also like to place on record the contributions of all SMDs of ICAR for their valuable inputs that have helped in finalizing the policy. We thank colleagues from ICAR HQ, ICAR-IASRI, ICAR-NBSSLUP, Dr. A. Dhandapani, ICAR-NAARM, Dr. J. Jayasankar, ICAR-CMFRI for their critical suggestions and inputs in preparation of this comprehensive policy document.

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Chapter 1
Research Data Management

1.1. Introduction

This chapter outlines the guiding principles to be followed in ICAR Institutes for efficient data management and other issues related or incidental thereto. It supersedes the Chapter 2 of *ICAR Guidelines for Internal Evaluation and Forwarding Research Papers to Scientific Journals* and *Data Management in ICAR Institutes* (http://www.icar.org.in/files/ICAR-Guidelines-Research-Papers-2014.pdf). Furthermore, the policy lays the foundation for developing a robust digital data infrastructure in agricultural research.

1.2. Definition of Data

1.2.1 Conventionally, *data* refers to factual information (such as measurements or statistics) used as a basis for recording, characterisation, reasoning, discussion or calculation. For the purpose of this policy, *data* shall include all those research products necessary to validate the integrity of published or reported work. Accordingly, it extends far beyond just information and observations recorded in laboratory notebooks as part of scientific inquiry, to also include the materials, methods and outcomes of such inquiry (such as variety, technology, equipment developed, software, information system, *etc.*).

Some indicative examples of types of data in ICAR institutes include:

- Laboratory and field measurements and observations;
- Germplasm related information;
- Information on products such as vaccines, primers, bio-pesticides, equipment, software, source code for software/information systems, both data as well as material, *etc.*;
- Novel microbes or virus isolates of scientific/commercial importance;
- Technologies, varieties, processes, methodologies;
- Information related to geo-referenced resource inventory/surveys, sample survey data, focussed group discussions, bio-prospecting, know-how, *etc.*;
- Publications, photographs, audio-visual materials, databases, drawings, *etc.*;
- Information related to Intellectual Property Rights (IPRs) applications, technology commercialisation, *etc.*;
- Information of service functions (*e.g.* training, consultancy, contract research, contract service, infrastructure facilities, liaison, other facilitation/partnerships);
- Data and information on compliance with guidelines and special regulations

applicable to project implementation, such as those involving exchange of genetic material, biosafety, handling of hazardous materials, *etc.*

1.2.2 The examples listed above are neither exhaustive nor mutually exclusive. There may be circumstances when many of them apply to a single project or activity. This policy establishes a comprehensive framework of standards for the effective management of data within ICAR institutes. These standards are intended to increase awareness regarding the importance of maintaining data integrity, as well as articulate ICAR's expectations for adherence to prescribed standards of work performance and ethical conduct by all individuals engaged in research within its institutes.

1.3. Data Ownership

1.3.1 All data collected/generated through research, educational or allied activities conducted at the institute using ICAR resources shall be deemed the property of ICAR. This includes data arising from student research work or from activities undertaken by consultants engaged by the Institute/ICAR. Ownership implies retaining such data beyond the completion of the project, as well as the right to transfer data to third parties, subject to applicable provision. Exceptions to this principle may apply where restrictions are stipulated in Institute/ICAR-approved agreements for collaborative research, sponsored research, contract research or contractual services rendered to external parties. The Priority-setting, Monitoring and Evaluation (PME) Cell of the institute shall be the nodal unit for managing research data generated under various projects. The Director of the institute shall be the Competent Authority to implement this policy and to take appropriate decisions in accordance with the guiding principles and prevailing procedures of ICAR.

1.4. Data Collection and Recording

1.4.1 The Head of Divisions and the PME Cell of the Institute shall ensure that data is collected in a consistent and systematic manner to maintain reliability. They shall also establish a mechanism for periodic evaluation, monitoring and flexibility for recording revisions/changes. The retention period for data in its original format would vary for each type of data. For example, it could be 12 years for field or laboratory experimental data of annual crops and for social survey data, and a longer period for germplasm-related data.

1.4.2 A designated nodal person (Officer-in-Charge, Data Management), shall be given primary responsibility for data collation, proper attribution, recording, storage, retention, and disposal or transfer to the archives, depending on the type of activity. For research projects, the Principal Investigator (PI) shall hold ultimate responsibility for the integrity of the data. However, given the central importance of data to all research, equal responsibility shall also extend to the Co-Principal Investigators (Co-PIs) and associates who contribute to planning the study, collecting the data,

analysing or interpreting the research findings, writing or publishing the results of the study, or maintaining or sharing the research records. The PI shall also be responsible to deposit the data with Nodal Unit/PME Cell within the stipulated timeframe. The data shall be entered or uploaded in the Centralized Data Repository, at regular intervals, preferably on a quarterly basis.

1.4.3 Data shall be collected scrupulously and records maintained in a durable, secure and accessible medium to ensure protection against tampering or manipulation. The mode of data collection may vary according to the activity or project, and the most suitable model for record-keeping shall be determined on a case-by-case basis. For example, in crop improvement programmes, to ensure traceability of the material and developmental process of the genetic material for pedigree management, each line shall be assigned a unique ID within a season. Similarly, appropriate procedures should be developed and implemented for other categories of data.

1.4.4 It is generally recommended that, wherever feasible, the data (both spatial and non-spatial) be recorded in suitable electronic formats following standardized guidelines. All the data files shall be so named that it clearly identifies the project, type of data collected, and other relevant details. Accordingly, online data entry, verification and analysis shall be given top priority.

1.4.5 Notebooks and registers typically provide a convenient way for data recording and tracking daily progress by all team members. These shall be supplemented, as needed, with specialized methods of record-keeping suitable for specific types of data (*e.g.* computer files, images, graphs, photographs, gels/gel scans, chromatograms, *etc.*). While maintaining written records, the minimum standards should include the following:

- Notebooks/registers shall be bound and accessioned (officially numbered and catalogued by the PME Cell/Institute) and issued by name to the concerned person, based on prior indent;
- Separate notebooks/registers shall be maintained for each project;
- Each page of the notebooks/registers shall be consecutively numbered;
- All entries shall be dated, legible, clear, written in ink, and maintained in a chronological and consistent manner (for instance, each new work day should begin on a new page);
- Blank lines between entries shall be avoided;
- Errors and deletions shall be struck through (never erased), dated, and initialled ensuring that all entries remain readable and provide a clear visual record of when and by whom the corrections were made. Each entry shall include sufficient information to permit future verification of what was done by whom, and be initialled by the person making the entry and verified by the supervisor;
- Any supporting materials or records should be properly catalogued and the

reference to location(s) duly included in the notebook;

- Photographs of plots/fields affected by unforeseen or unavoidable circumstances such as pest outbreaks, flooding, animal grazing the field, on any other calamities should be maintained;
- The data generator must sign the field notebook at the end of each set of observations recorded. The PI/Co-PI must countersign these entries, and HoD should periodically countersign the notebooks as well. In cases where data is collected electronically, a similar approval and countersign process should be followed.

1.4.6 Various electronic data capture programmes enable data entry, storage, analysis and need-based retrieval of information. The transfer of records from written to electronic format shall be carried out either through a double-entry system or by double-checking manually to prevent errors in data entry. The PI or the Co-PIs/Associates shall be responsible for cross-checking the records, as well as identify and rectify any inconsistencies in data entry. Preserving the integrity of electronic records is crucial, or, and implementing robust safeguards is essential to ensure their protection against unauthorized alterations or loss. In many cases, it may be difficult to migrate notebook data records to electronic files. In such cases, a combination of written and electronic record-keeping shall be adopted, carefully balancing the risks and benefits. The mechanisms for development of online data management system (at Institute Level and/or at Central level) with provisions of value-addition need to be taken up on priority. Adequate financial allocations/provisions shall be made covering both infrastructure and manpower, for the development, implementation and maintenance of such systems.

1.4.7 This policy applies to all data collected through automated systems owned by ICAR, as well as those operated by outsourced or hired agencies. These include, but not limited to, next-generation sequencing (NGS) platforms, Internet of Things (IoTs) devices, sensors, and drones. The original (raw) data must be obtained directly from the outsourced or hired agency, rather than relying solely on summarized or analyzed data.

1.4.8 Upon completion of the project, it is important to deposit all original laboratory and field notebooks with the PME Cell, with a copy submitted to the concerned division, section or laboratory.

1.4.9 All the Institutes shall transition fully from written to electronic data recording by 31 December, 2026. Necessary and adequate financial support should be earmarked for this activity.

1.5. Quality Research Data

- Improving the quality of research data within the National Agricultural Research and Education System (NARES) is a continuous process. The following points outline key measures in this regard.

- It is emphasized that all data collected should be georeferenced, wherever applicable, and should be verifiable, reusable and capable of producing repeatable results in scientific research.
- At present, records of field experiments are usually maintained in field or laboratory notebooks, while *ad-hoc* methods are often used for their storage. Digitally created data (such as sequencing, data obtained from sensors, *etc.*) are stored as electronic files. Typically, individual researchers retain the primary data with themselves. As a result, data remains in silos and is not easily accessible for reuse. Although reports or tables derived from the analysis are available, but the raw or primary data are often not clearly identified for future references. Rigorous efforts should be undertaken to devise an institutional mechanism to aggregate the data project-wise by the project team.
- Documentation of the recorded data needs further improvements to ensure its future reusability. Documentation must include all details of metadata such as location (with latitude and longitude, wherever applicable), measurement units, transformations used, expressions of derived parameters, and other relevant contextual information. Several critical parameters such as ambient temperature, laboratory conditions, experimental plot size, sampling procedures, experimental blocking, shall also be systematically recorded and reported, making practices contemporary and standardized.
- Calibration of machines, equipment, scales need to be carried out periodically, with proper records maintained.
- Measures that can significantly enhance the quality of research data acquisition include adoption of good research practices (GRPs), standard operating procedures (SOPs), peer review and data audits.
- Coordinated trials and network projects also generate similar data. However, documentation of protocols is often outdated and not generally maintained at a centralized repository (such as websites or databases).
- Certain procedures for ensuring quality research data acquisition are given in the subsequent sections. Researchers across NARES should be aware of and apply these procedures in practice but these are not appropriately documented. Sub-sections 1.5.1 to 1.5.3 are an effort to systematically document these procedures. It is also emphasized that GRPs and SOPs are subject-specific and must be developed accordingly. Where such procedures already exist, a copy should be kept at central place for reference.

1.5.1 Procedures for Quality Research Data Acquisition

1.5.1.1 Maintaining the health of research farms is important. Every year relevant soil, water, pollutants and other quality parameters should be assessed before and after every field experiment. For long-term experiments, such assessments should be collected at least once every 3-4 years. Environmental indicators relating to land, water, pollutants, *etc*. shall also be periodically monitored. This would be helpful for preserving

natural resources. Additionally, data on weather parameters during the experiment period should be systematically collated.

1.5.1.2 Geo-tagging of units/experimental plots shall be made compulsory for all field experiments. Wherever feasible, unique IDs or RFID tags should be used for animals.

1.5.1.3 Standard procedures for developing field maps, as well as barcode-based labels for assistance in planning and tracking, should be developed.

1.5.1.4 Standard experimental protocols covering all aspects, such as field preparation, data collection, experimental design, sampling schemes, minimum attributes for data collection, units of measurement, direction on how to record data on each character under investigation, decimal places to be retained, acronyms, documentation, statistical analysis guidelines, techniques to be used, *etc*. shall be developed and maintained. These protocols must clearly specify how data on each variable under investigation is to be recorded. Updated protocols shall be made available annually along with the technical programme every year, especially in All-India Coordinated Research Projects/Network Projects. These protocols shall be revisited periodically.

1.5.1.5 Detailed format should be developed at Institute level for recording background information relevant to data collection, tailored to the commodity under study. Such information shall include - field history, crop, variety, sowing date, latitude/longitude (in decimal degree), soil type (if possible, soil family), irrigated/rainfed conditions, harvest date, extreme events (if any), as well as animal-specific data such as health, age, lactation stage, initial body weight. Each format shall also capture project details such as project name, Principal Investigator (PI)/Co-PIs, years/ season, objectives, etc. as given in Section 1.7.4.

1.5.1.6 Laboratory equipment and instruments shall be calibrated periodically, with proper records and logbooks maintained and made available at all times.

1.5.1.7 Health records of all experimental animals should be maintained systematically.

1.5.1.8 Photographs should be taken alongside recorded observations for monitoring and other verification purposes.

1.5.1.9 The image/photograph data should be stored in raw format to enable re-analysis. For images (e.g. from microscopes, gels, *etc*.), storage space should be optimized without compromising resolution, wherever possible.

1.5.1.10 For experiments involving periodic data collection across multiple data points, hand-held devices or electronic notebooks shall be used for recording data in laboratories, fields, or during surveys. Protocols for uploading such data to Central repositories shall be established. Hand-held devices must have capability of functioning under diverse environmental conditions, able to produce spatial coordinates and operating in both offline and online modes. To minimize costs, provisions

should be made for device-sharing among scientists, with individual data access secured through fingerprint sensors or username/password, or equivalent authentication methods.

1.5.1.11 Proper record keeping is important for ensuring quality of the data. A unique identifier should be assigned to each experiment or survey, with details stored in a centralized or local repository. A Data Management Plan (DMP) at the project proposal stage should be included as part of peer-review. Each data set or/experiment should be assigned a citable accession number.

1.5.1.12 Uniform user-friendly data recording formats should be devised in consultation with representative of institutes across all SMDs of ICAR. Data recording shall be in a standardized formats (such as units, number of decimal places, etc.) and shall mandatorily use SI units. Minimum information on experiment/data required for third party use or validation shall also be included

1.5.1.13 A quick data verification system should be devised to identify and correct errors during uploading or/and posting stage.

1.5.1.14 Data types, formats, naming conventions, and tagging practices should be synchronized with standardized vocabulary. Mechanisms for archiving, retrieval and data sharing (exclusive use versus third party access) and data security should be incorporated.

1.5.1.15 A metadata framework based on ontology should be developed to ensure long-term storage and data reuse.

1.5.1.16 Data curation and verification shall be the responsibility of the Principal Investigator (PI). All primary/raw, derived, simulated, and compiled data and meta-data (protocols, algorithms, etc.) shall be sufficient to validate research findings. Each PI and Co-PI/Associate(s) shall be assigned login credentials, with role-based authentication. Only the PI shall have authority to approve additions or deletions of saved data. Unique IDs should be created for all submitted data.

1.5.1.17 Central data repositories or Research Data Management System should be developed at the subject/research theme level. Data in these repositories shall follow the FAIR principle, i.e. data shall be findable, accessible, interoperable and reusable. For ensuring interoperability, a master vocabulary shall be prepared and made available through APIs for use across digital applications and repositories.

1.5.2 General Points of Quality Data

1.5.2.1 Sensitization and confidence building of scientists about data protection, IPR and data access rights shall be a continuous process across all ICAR Institutes and AICRPs. Awareness of the need for, and benefits of, third-party research data acquisition and storage should also be emphasized.

1.5.2.2 Procedures for quality research data acquisition and maintenance should be included as a module in Foundation Course for Agricultural Research Service (FOCARS) training conducted by the National Academy of

Agricultural Research Management (NAARM), Hyderabad. This would ensure uniform adoption of standards by scientists joining various ICAR institutes. These procedures also be introduced as part of their one-month attachment in the Institute and in three-month subject matter training. PME cell of individual institutions should oversee this activity. Additionally, short duration refresher courses should be introduced for middle level scientists/researchers those are associated in ICAR research projects from SAUs. To build awareness from the outset, new course(s) on Digital Data Management should be designed and made compulsory in PG programmes.

1.5.2.3 Every scientist shall be trained in data acquisition, quality maintenance and proper record-keeping. They shall also be sensitized about the importance of data quality, data integrity and long-term storage. The rights, retention periods, sensitivity, accessibility of data shall be made clear to all scientists. The PME Cell should be strengthened and its staff should be trained on priority on data acquisition and storage by the Lead Implementing Institute. Orientation of staff of PME cell on data verification, storage, data sensitivity limit, accessibility, data retention period needs attention. Data accessibility and retention shall be determined by Head of Division (HoDs) or the Institute Technology Management Committee/Unit. PME Cell should also monitor whether data for each project or product is submitted within the stipulated timeframe.

1.5.2.4 There is an imperative need to strengthen the PME Cell in each institute, by deploying additional scientific (multidisciplinary) and senior technical officers to ensure data is collected, verified and organized in a consistent and systematic manner.

1.5.2.5 Nodal Officers, Officers-in-Charge (Data Management) and PME Cell staff shall be encouraged to undertake exposure visits to institutions recognized for their advanced digital data and information management systems.

1.5.2.6 At the end of every project, the project completion report should be accompanied by a, status report of data, indicating submission of data files to the repository. This requirement may be integrated into the checklist of RPP III. During transfers/superannuation of PI/Co-PI/ Associate, a data hand over/take over status report shall be submitted to PME Cell, ensuring continuity. This process shall form an integral part of institutional workflow. All data shall ultimately be deposited in the ICAR Data Inventory Repository. Project reports shall additionally provide information on the scientific, technical manpower engaged, their time allocations, and the thematic emphasis of the project. Such data will help derive insights for resource allocation and future planning.

1.5.2.7 Raw data collected through surveys (exploration, surveillance, socio-economic studies, cost of cultivation, *etc.*) shall be securely saved. In social sciences, it shall be mandatory to seek informed consent from survey participants during surveys or focused group discussions (FGDs),

interviewer must endorse this consent and all signed consent forms shall be archived along with the data. Agricultural Data Protection measures shall also include necessary approvals to safeguard data related to or accessed from farmers, particularly when such data are being accessed by private firms through different projects and platforms of ICAR.

1.5.2.8 Efforts shall be made to digitize data generated from all AICRPs and long-term projects. The legacy/past data shall be made available in centralized data repositories and curated for use.

1.5.2.8 'High value' data must be identified and stored in secure facilities. Strict protocols should govern the recording, modification and retrieval of such data to ensure integrity and security.

1.5.2.9 Wherever feasible, research data management systems should be linked with public databases (e.g. Indian Biological Database Centre, NCBI, CYVERSE, Open Goverment Data Platform, etc.) to minimize redundancy, reduce storage costs and optimize overall data management.

1.5.3 Operationalization of the Quality Data Acquisition Procedures and Resources Required

1.5.3.1 To operationalize the procedures given in Sections 1.5.1 and 1.5.2, adequate resources need to be allocated. While existing funds can be utilized for training scientists at various levels, additional funds will be required for procuring of devices, software development, and related accessories, as per details below:

- **Hand-held devices/Tablets**: Cost-effective, robust hand-held devices or tablets equipped with built-in data recording software are essential. To minimize the number of hand-held devices or tablets, provisions may be made for multiple to securely use a single device/node through appropriate authentication features.
- **Barcode Reader and Printer**: Barcodes should be generated for each plot/experimental unit, containing details such as experiment number, treatment, *etc.* Barcode printers would be required to print labels on durable media (such as glossy material) that can withstand weather conditions. These labels may be affixed to individual plants/experimental unit (if required) or on signboards. If tablets are equipped with barcode scanning functionality, separate scanners may not be necessary; otherwise, dedicated barcode readers should be procured.
- **Mobile Application Development/Customization**: A dedicated mobile app should be developed for data entry, or existing one could be customized. All designated Nodal Officer(s) and staff in PME Cell must receive training in (i) data acquisition, storage and retrieval protocol(s); (ii) data verification, curation, and quality assurance procedures; (iii) data sensitivity classification, access control protocols, and data protection rights; (iv) data storage, archival, retention, and secure disposal policies; and (iv) metadata standards and documentation. Such training may be conducted at ICAR-NAARM or ICAR-

IASRI. A new training module should be added to the annual training plan of these institutes and HRD cell should be informed to include it in the annual HRD plan.

- **Exposure Visits**: To ensure alignment with best practices, PME Cells shall facilitate structured visits for Nodal Officer(s), Officer-in-Charge (Data Management) and key staff to external institutions recognized for their advanced digital data and information management systems.

1.5.3.2 Adequate infrastructure, including data input systems, servers/data Centre/back-up facilities, disaster recovery systems and security mechanisms, must be established. Clear roles and responsibilities should be assigned, and required skills imparted to staff.

1.5.3.3 Computers at Institutes should be upgraded on priority to meet operational requirements.

1.5.3.4 Each scientist/technical officer should be provided with a hand-held device for recording geo-referenced data, particularly for resources inventory. This type of system requires some equipment such as Global Positioning System (GPS), Sensors, tablets, scanner barcode reader which can perform in offline as well as online mode. Although this investment may incur costs, the resulting efficiency and accuracy in information flow, will significantly outweigh the expenditure.

1.6. Data Retention

1.6.1 Research project data shall be retained in hard copy and/or digital form even after the funding period ends, or once publication(s) or prosecution of IPR application(s) emanating from the study (as defined in Section 1.8) have been completed. For projects with long-term implications such as climate change, nutrient mapping or similar themes, data may need to be retained for extended periods. At the institute level, the PME Cell in consultation with PI/Nodal Person and with the approval of the Director, shall determine the minimum storage period. Primary data can be stored at the respective Unit/Centre/Station and along with a copy to be submitted to the PME Cell. However, as a rule of thumb, PME Cell shall retain enough data necessary to reconstruct and evaluate the findings of a project with accuracy, while all raw data shall be preserved in a central digital repository. In case research involves supporting materials, such as the use of biological specimens, care shall be taken to retain their quality during the storage period. Secure disposal methods for both digital and physical data once it has reached the end of its retention period or is no longer needed shall be as per the accepted methods for digital data erasure, such as cryptographic erasure and the use of certified data destruction software that complies with international standards. For the physical destruction of media, including hard drives, USB drives, CDs/DVDs, and old notebooks, by employing techniques like shredding, degaussing, or incineration, ensuring proper verification and meticulous record-keeping

of the disposal process shall be followed. Long-term archival policies are strongly recommended to ensure the enduring availability of valuable datasets.

1.6.2 When archived data are reused in new studies or publications, due credit shall be accorded to the original institutes and researchers who contributed to the generation of the archived data.

1.6.3 In cases where individuals involved in research projects resign, retire, or are transferred, they may be permitted to retain copies of research data from projects on which they have worked, provided such data is essentially required for the purpose of research publication. Permission shall be granted subject to a written assurance that guarantees: a) acceptance of custodial responsibilities for the data, and b) access to the data for Institute/ICAR, whenever necessary. In any case, the original data must be retained at the Institute and to be transferred to the next PI or the PME Cell. The "No Dues Performa" issued on superannuation or transfer of scientists/technical officers shall include the information regarding the data available with the person and to whom it has been handed over as per section 1.5.2.6.

1.6.4 **Mandatory Standard Archival Formats**: To ensure long-term accessibility, all archived data should be stored in open file formats like CSV, PDF/A, NetCDF, HDF5, and TIFF.

1.6.5 **Implementation of Active Archival Management**: Following of protocols for regular data integrity assessments (e.g. checksum validation), a strategic plan should be established for migrating data to updated formats as existing ones become outdated.

1.6.6 **Universal Persistent Identifiers deployment**: To enhance dataset find ability, traceability and long-term citation all archived datasets shall be assigned globally unique and persistent identifiers (e.g. DOIs, URIs), rather than relying solely on citable accession numbers.

1.6.7 **Enhanced Archival Metadata Standards**: Standards shall be implemented to enable and increase the metadata requirements for archived data to encompass a detailed preservation history, including format migrations and integrity checks, as well as specific rights information for archived versions and thorough provenance tracking.

1.6.8 **Clarification of Long-term Archival Custodianship**: The long-term archival responsibilities for data of enduring value shall be clearly delineated. This should involve conceptualizing a centralized ICAR digital archive at central level that serves to enhance and complement the other repositories at the central or institute level. Datasets should also be identified for long term storage in digital platforms and proper long-term data archiving of such datasets with latest technology supported with adequate provisions of infrastructure and manpower for development, implementation and maintenance of such systems.

1.7. Data Storage and Security

1.7.1 Data storage is important to ensure that research outputs remain accessible for future researchers who may wish to evaluate validate, or build upon earlier findings. Proper storage also establishes precedence in cases where similar research is published later or where issues relating to IPR/legal claims may arise.

1.7.2 Adequate data security provisions shall be established to protect data against physical damage, unauthorized use of the data or its application, unauthorized/accidental deletions; modification; disclosure, loss, theft, confidentiality and integrity breaches for data in data transport; and physical storage and disasters. Notebooks or data in other physical forms shall be kept in a safe and secure location, preferably locked. Coded identifiers in place of names and other information shall be used to ensure privacy and anonymity; the encoding key shall be kept in a different secure location.

1.7.3 Similarly, protecting the electronic data shall be ensured through a multi-layered approach: (a) Use of unique user IDs and strong, frequently updated passwords, providing access to data files through a centralized process, evaluating and limiting administrator access rights, ensuring no interception can be made from outside wireless devices, *etc*.; (b) protecting the system by maintaining up-to-date versions of all software and media storage devices, keeping updated anti-virus/firewall protection, using intrusion detection software to monitor access, *etc*.; and (c) protecting data integrity by recording the original creation date and time for files, using encryption/electronic signatures to track authorship and changes made to data files, maintaining regular back up (both on and offsite) and creating both hard and soft copies as required, ensuring that data are properly secured. Electronic data shall be backed-up and archived periodically and the backed-up files shall be stored in PME Cell and/or Institute library. Besides having digital online back-up of the data and digital applications on servers/cloud, the backup shall also be done in offline mode to safeguard from disasters and attacks. Offline back-ups are a crucial component of a strong data storage and data centre security strategy. Offline data back-ups be performed regularly and respective data owners shall be informed about the need to secure their data by taking back-ups at their level on a regular basis.

1.7.4 Each data-set shall be properly documented. Some fields refer to data documentation by other terms, such as metadata or codebooks, information about the methodology and procedures used to collect the data, details about codes, definitions of variables; variable field locations, frequencies, and the like proper documentation is essential to ensure that a dataset remains usable even decades later enabling others to interpret and apply it as they had generated the data themselves, while also preventing misuse, misinterpretation and confusion. The precise content of documentation will vary depending upon the scientific area, study

design, the type of data collected, and characteristics of the data set to be decided on case-to-case basis. Different sets of standards should be evolved. The following metadata standards shall be helpful in forming these standards. A larger exercise shall be undertaken to develop these standards across disciplines. Broadly, information can be documented in the following four groups:

Group 1: Metadata: Primarily identify type of information, project title in which data generated, author(s) {PI, Co-PIs *etc.*} responsible for generating, institute name (s), contact details along with affiliations, date generated, source of funding, *etc.*

Group 2: Supplementary Information – Part 1 (Subject Level details): Depending on the subject(s), the standards shall be developed. For example, if the data is from an experiment pertaining to Soil Science, the standards may be geo-referenced field location, soil type, climate, previous crop grown, sowing date, irrigation schedules followed, *etc.* For general data, this level should be able to capture general information, such as broad area (related to Finance/Administration circulars); and cross-references to earlier data.

Group 3: Supplementary Information – Part 2 (Study Details and Resources): Project level details, name of the project, project code, objectives, scientific and technical manpower engaged (with their respective time allocations), the specific thematic emphasis of the project (*e.g.*, drought tolerance, nutrient management), experiment/survey details, hypothesis under investigation, statistical design/survey design applied, previous experiment/benchmark survey reference, dates, actual data, unit, treatment unit details, details on codes if data is coded, type of transformation(s) used, if any on the variables, data is processed or raw, statistical techniques used for analysis performed, *etc.*

Group 4: Supplementary Information – Part 3 (Others): Any data not covered under the above three categories.

These metadata standards shall be evolved through a larger, cross-disciplinary exercise.

1.7.5 The creation of data repositories should be taken up in two different formats: (i) generate metadata (data about the type of data available, location of data availability and identification of the source) to enable data discovery and its exploration for the research and developmental activities at PME Cell (this would also be helpful in avoiding duplication/multiplication of data generation activities and also increase the reliability of data sets being used); and (ii) the centralized online research data repository along with standardization of analysis and reports should be taken up in a phased manner. ICAR initiated creation of a Central Data Repository (KRISHI Portal) in July 2015. Multiplicity of central research data repositories shall be avoided. The details shall be entered in a repository/system requiring information on more number of fields and data shall flow to other portals (requiring lesser number of fields on a particular category) through

APIs. Systematic maintenance of genetic resources data will be the responsibility of respective Bureaus. The bioinformatics/genomics data will be submitted to National Biocomputing Portal. All other data shall be part of one Central Research Data Repository. In case, any institute wishes to create or has already created their own internal Repositories, these can be maintained additionally; however, the data must be available in central repository.

1.7.6 Efforts should also be made to preserve and digitize legacy/past data, wherever feasible. Although historical data may lack complete information, systematic efforts should be undertaken to safeguard and archive them. It shall be mandatory for all All-India Coordinated Research Projects (AICRPs) and Network Projects to digitize their historical raw experimental data, and not just the summarized results published in annual reports, to ensure its long-term availability for future research.

1.8. Data Access and Sharing

1.8.1 Regardless of the recording medium, it is essential to maintain data in a manner that preserves its privacy as required by confidentiality agreements and regulations while ensuring legitimate access to scientific supervisors and collaborators. Authorization to access institutional data shall rest with the PIs/Co-PIs/PME Cell/Director of the Institute or the designated nodal person. Access to the data shall be granted only to eligible person(s) for legitimate institutional purposes or in compliance with applicable laws (e.g. Right to Information Act). However, the authorization to access institutional data shall vary according to its sensitivity. The PME Cell should classify the data depending upon the levels of relative sensitivity. In view of National Data Sharing and Accessibility Policy-2012, the data should be classified into open access, registered access and restricted access. All these data sets should also be classified into high-value and low-value categories. Some data sets shall be identified for sharing on Open Government Data Platform under the National Data Sharing and Accessibility Policy (NDSAP). Non-sensitive data should be shared with Open Government Data Platform as per ICAR Data Use Licensing policy. It shall also include specific restrictions for sharing the data as per policy. Sharing access level (e.g. to be shared only within ICAR institutes and what level, not to be shared with other agencies, free to share with other agencies, paid access, for non-commercial use, etc.) shall be properly defined. Besides this, the acquisition, production, and maintenance of geospatial data shall be governed by National Geospatial Policy-2022. Sharing of any other data shall be governed as per ICAR policy.

1.8.2 The access to and use of research data may be restricted for reasons including. i) National security: data pertaining to intelligence or political decision making; ii) Data pertaining to protection of germplasm resources, biological resources, protection of rare, threatened or endangered species; iii) Trade secrets and intellectual property rights data involving business-

sensitive or confidential third-party information.; iv) Personal data subject to restricted access under laws of India and policies to protect confidentiality and privacy (like Digital Personal Data Protection Act, 2023) and other act and rules that may come in force from time to time; v) Data under consideration in legal actions (sub-judice); and vi) Participant confidentiality, third-party licensing or use agreements, *etc*.

1.8.3 Research data sharing shall be encouraged through publication of results in scientific journals, or establishing IPR on a scientific product or process. Prioritization of research data for protection, putting in public domain through publication and data to be used for executing further research work (background IP) need to be done by PI/Institute. Before publication, there is no obligation to share any preliminary data that have been collected. In fact, sharing at this stage needs to be discouraged because the inferences from such data may not be conclusive while a project is still in progress. Also, there may be concerns regarding appropriation of results by other researcher, and/or it may cause premature disclosure in case filing IPR application is considered. Once the research data have been published or IPR protected it shall be considered open data and shared in accordance with Sections 1.8.1 and 1.8.2, using the procedures defined in 1.8.4 and 1.8.5. All finalized research data must be deposited with the central data repository with adequate security mechanism.

1.8.4 Different cooling periods for various data sets intended for public domain release and sharing should be identified. For example, data on agro-meteorology, productivity, area under different crops, land use patterns *etc.* may not require any cooling period. Suggested timelines for cooling period include: four years for raw experimental data; one year for mean or analysed results; release after a decision on the IPR application for data with IP potential; and three years for unpublished data from M.Sc./Ph.D. theses. These timelines as policy suggests, may be changed at Institute level or can be adopted or made more rigid as needed. Data shall be as available on the central repository, with a copy maintained on the Institute website, if necessary, under appropriate protection or embargo.

1.8.5 When sharing data across organizations, formal data-sharing agreements shall be executed to define restrictions on usage and further transfer. Any individual organization using the shared data must acknowledge the source in their manuscript including appropriate mention in the methods, references, or acknowledgement sections.

1.8.6 For any mode of data sharing (electronic, physical *etc*.) the ICAR Data Use License, as defined in Chapter 2, must invariably be linked or published.

1.8.7 Any publication, document or paper arising from joint work under a collaborative MoU/agreement shall be jointly owned. Use of the name, logo or official emblem of the Parties requires prior permission of both sides, and safeguards must be in place to prevent misuse. Publications shall only be made with the mutual written consent. A party intending to publish must notify the other in writing, through a prior notice allowing the other

Party to respond within a certain period say (30/60 days), accompanied by a draft of the proposed publication or public disclosure. Within this period, the other Party shall respond with one of the following: (i) to allow publication; or (ii) request delay in publication, till patents are filed; or (iii) to allow publication of only part of information; or (iv) request exclusion of certain portions from the information to be published.

1.8.8 A Data Management Plan (DMP) shall be prepared and followed throughout project lifecycle. Data shall always be accompanied by suitable metadata and adhere to FAIR principles - Findable, Accessible, Interoperable and Re-useable. Ethical standards shall be maintained at all stages: from data generation, processing, refining, storage to data archival.

1.9. ICAR Open Access Policy

1.9.1 The ICAR Open Access (OA) policy referred here is applicable mainly to research outputs in the form of publications, reports, extension materials, and similar content. ICAR is committed to maximum open access while safeguarding its intellectual rights and commercial rights.

1.9.2 The centralized repository (Section 1.7.5) shall serve as the single point of access for all agricultural data/knowledge generated within ICAR. Additionally, individual institutes may establish their own OA institutional repositories, however all information should be available in Central Data Repository.

1.9.3 All the metadata and related information in the institutional repositories are copyrighted by ICAR. These are licensed for use, reuse and sharing for academic and research purposes. Commercial or other reuse requires prior written permission.

1.9.4 Publications such as research articles (OA or those with ICAR copyright), popular articles, monographs, catalogues, conference proceedings, success stories, case studies, annual reports, newsletters, pamphlets, brochures, bulletins, summary of the completed projects, speeches, and other grey literature available with the institutes to be placed under OA of Central Repositories and/or respective institutes.

1.9.5 The institutes are free to place their unpublished reports in their OA repositories. They are encouraged to share outputs in public platforms such as YouTube and social media channels (like Facebook ®, Google+, X, Instagram) with appropriate disclaimers.

1.9.6 Authors of scholarly articles resulting from research conducted at ICAR institutes must immediately deposit the final author-approved version of accepted manuscripts in the central or institutional OA repository. However, inclusion may be restricted or impractical in cases where publishers impose subscription or access limitations.

1.9.7 Scientists and other research personnel across ICAR are encouraged to publish their research work with journals publishers that permit self-archiving in OA Institutional Repositories.

1.9.8 Authors of scholarly literature produced from research funded in whole

or part by ICAR, or by other public funds through ICAR establishments, are required to deposit the final version of the author's peer-reviewed manuscript in the institute's OA Institutional Repository.

1.9.9 Scientists are advised to cite ICAR's OA policy while signing the copyright agreements with publishers. Where embargo periods apply, these should, as far as possible not to exceed 12-24 months.

1.9.10 All M.Sc. and Ph.D. theses/dissertations (full content) and summaries of completed research projects shall be deposited in the institutes OA repository, upon completion. Metadata (e.g. title, abstract, authors, publisher, etc.) shall be freely accessible from the time of deposition. OA of the full content may be provided after an appropriate embargo period.

1.9.11 All journals published by ICAR are OA. Additionally, journals, conference proceedings and other scholarly literature published with the financial support from ICAR to the professional societies and others bodies, shall also be made OA.

1.9.12 Documents containing patentable or commercially sensitive material, or those restricted by legal commitments of the institute and/or author, should not be included in OA repositories. However, ICAR scientists and staff who are authors of commercial books are encouraged to negotiate with publishers to enable repository sharing after a suitable embargo period.

1.9.13 The ICAR-Directorate of Knowledge Management in Agriculture (DKMA) shall serve as the nodal agency for implementation of the ICAR OA policy. ICAR-DKMA will organize advocacy workshops and capacity building of scientific and technical personnel, repository administrators, editors and publishers on OA practices, and the use of free and open source softwares.

1.9.14 OA initiative is an ongoing process, not a one-time event. Full compliance is expected over a period of five years. This policy is an initial step toward formal openness, with progress, compliance, and impact to be reviewed periodically.

1.10. Digital Data Security

1.10.1 Coverage: The digital data security is applicable to data repositories (both central and institutional) as well as any digitally stored data of ICAR.

1.10.2 Linkage of Data Classification to Security Baselines: Data sensitivity classifications (such as open, registered, restricted, and high/low value) shall be associated with the required minimum-security protocols. This includes implementing specific encryption standards for "high value" data (both at rest and in transit), enforcing multi-factor authentication for accessing sensitive data systems. All access and changes to be electronically (manually for offline devices) logged with username, location, date and time, etc.

1.10.3 Mandatory Regular, Independent Security Audits: Regular security audits of data management systems and repositories shall be mandatorily conducted by qualified internal or external experts to proactively identify

and address potential vulnerabilities. The frequency of such audits shall be at least once in six months for high value data and once in a year for other data.

1.10.4 **Development of a Formal Data Security Incident Response Plan**: A comprehensive incident response plan shall be developed and maintained. This plan must define procedures, assigns roles, and establishes communication protocols for effectively addressing data breaches, unauthorized access, or other security incidents.

1.10.5 **Implementation of Role-Specific Cybersecurity Training**: All ICAR personnel shall receive recurrent, and role-specific cybersecurity awareness training, emphasizing current threats and best practices. These trainings must: (i) raise awareness of cyber threats (phishing, malware, ransomware, *etc*.); (ii) promote secure behavior (password hygiene, data handling, *etc*.); and (iii) ensure compliance with regulations and institutional policies.

1.10.6 **Secure Development Practices for Data Systems**: To enhance the professionalism of custom-built data portals or management tools, it is essential to implement a secure software development lifecycle (SSDLC) that integrates security considerations from the design phase onwards.

1.11. Data Backup and Disaster Recovery

1.11.1 **Backup Rule:** Formally adopt the 3-2-1 backup strategy, which entails maintaining three copies of data on two distinct media types, with one copy stored off-site. This approach shall be regarded as the minimum standard for safeguarding all critical research data.

1.11.2 **Standardization of Automated and Versioned Backups:** It is important to prioritize automated backup systems over manual processes. Additionally, ensure that backup solutions are equipped with versioning capabilities, enabling recovery across multiple points in time.

1.11.3 **Disaster Recovery Testing:** Establish a systematic schedule (at least once in a year) for the regular documentation and testing of backup restoration and disaster recovery procedures to ensure their effectiveness and help to identify any potential gaps in the processes.

1.11.4 **Geographically Dispersed Redundancy**: For 'high value' datasets and those stored in central ICAR repositories, adopt geographically distributed redundant systems or comprehensive cloud-based disaster recovery solutions to ensure availability and resilience against regional disasters. Offline backups at dispersed centers shall be maintained to: (i) protect critical data; and (ii) enable recovery from natural disasters, power failures, or physical damage. Perform weekly/monthly full backups of systems with daily incremental/differential backups daily for critical systems such as databases, file servers, application servers and configurations.

Chapter 2

ICAR Data Use Licence

The ICAR Data Use Licence provides the rights, terms and conditions of use of data as defined in the previous chapter. This chapter has also defined the copyright notice to be displayed in all the ICAR publications/websites or in any other communications. The material from section 2.1 onwards shall be made available in ICAR website and all institutes while displaying anything in their website or share it for any purpose/mode, the link of this page shall be provided. ICAR has taken several initiatives for research data management including KRISHI Portal along the lines of Open Government Data (OGD) platform, India (https://data.gov.in).

2.1. Terminology and Definitions

- 'Commercial purpose' refers to selling, hiring, exchanging or using data, whether in its original or any adapted form, or incorporated in or used in the provision of any products or services for monetary profit or gain.
- 'Council' means Indian Council of Agricultural Research.
- 'Data' here means the data as defined in Section 1.2 of this document. However, it does not include any inventions, patents, design rights or trademarks of ICAR or any other person/firm or any computer programme used in the making or operation of a database/application.
- 'Data User' means any person who accesses or utilizes data, through publications, maps, automated programme, *etc.*
- 'ICAR Institute' means and ICAR institute or its regional stations/Krishi Vigyan Kendras.

2.2. Grant of Licence – Terms and Conditions of Use of Data

2.2.1 **Rights of Use:** ICAR grants the data user, a royalty-free, non-exclusive, non-transferable license to use data solely for academic, research and non-commercial purposes.

2.2.2 **Rights of Distribution:** The rights are granted to the user for personal use and it cannot be sub-licensable transfer it to any other. Further, distribution of data to others, use for obtaining patent or assert any other intellectual property rights is prohibited. Users may, however, create and distribute hard copies or non-editable digital images (e.g. PDFs) provided they are distributed free of charge and not used in advertising.

2.2.3 Attribution

2.2.3.1 The data user must acknowledge the provider, source, and license of data by explicitly publishing the attribution statement, including the DOI

(Digital Object Identifier), or the URL (Uniform Resource Locator), or the URI (Uniform Resource Identifier) of the data concerned.

2.2.3.2 For multiple datasets, users may provide a single link/separate page listing attribution statements and specific URL/URI of all data used.

2.2.3.3 Catalogues and links featured on ICAR data management platforms must be accurate, and not to be used in a derogatory manner or in an advertisement or in a misleading context. Wherever the material is being published or issued to others, the source must be prominently acknowledged. However, the permission to reproduce this material shall not extend to any material which is identified as being copyright of a third party. In such cases, authorization to reproduce such material must be obtained from the departments/copyright holders concerned, wherever applicable.

2.2.3.4 Some of the catalogues and information available through the Portal(s) are available under terms described in the "licence" metadata element of individual dataset records except where otherwise noted. In such cases, those licence terms are applicable.

2.2.4 **Non-endorsement:** The data user while distributing, must not represent that ICAR takes responsibility for the accuracy or correctness of the Data or any output of any application of the Data (including any prediction or the output of any modelling), or that ICAR supports or endorses use of the Data or any products derived or conclusions or predictions drawn from the Data.

2.2.5 Disclaimer

2.2.5.1 While efforts are made to ensure accuracy, currency of content on the portal(s), ICAR assumes no legal responsibility for completeness, reliability, fitness, usefulness or otherwise for purpose of the data. It also does not mean that its use will not infringe any third-party rights. Users are advised to verify/check any updated information available with the concerned Government Department(s), ICAR Institutes or other source(s), and to obtain any appropriate professional advice before acting on the information provided in the portal(s)/platforms.

2.2.5.2 Data may contain inherent defects or deficiencies. Use of the data is at the user's own risk, and ICAR assumes no liability for any losses, damages, or costs resulting from its use. The material/information/data is provided "as is" and ICAR makes no express or implied representation or warranty concerning the fitness for any purpose.

2.2.5.3 In no event will the Government of India or ICAR be liable for any expense, loss or damage including, without limitation, indirect or consequential loss or damage, or any expense, whatsoever arising from use, or loss of use, of data, arising out of or in connection with the use of any portal(s) owned by ICAR or any of its Institutes.

2.2.6 Continuity of Provision: The data provider(s) will strive for continuously update the data, as new data regarding the same becomes available.

However, the data provider(s) do not guarantee the continued supply of updated or up-to-date versions of data, and will not be held liable in case the continued supply of updated data is not provided.

2.2.7 **No Liability for Third Party Links:** Links provided on ICAR platforms/ portal(s) are for public convenience only. ICAR is not responsible for their content, reliability of linked websites, or continued availability, nor does it endorse views expressed therein. The availability of such linked pages cannot be guaranteed at all times.

2.3. Indemnity

Data users indemnify and release ICAR against all claims, demands, suits, liabilities, loss or expense arising directly or indirectly from:

(a) Use of the data from ICAR repositories;

(b) Third party use of any data or other products derived from the data; and

(c) Any breach of this agreement/licence by the data user.

2.4 Exemptions

The license does not cover the following kinds of data:

- Personal information (which will be confidential and will not be shared/to be used);
- Data that the data provider(s) is/are not authorized to licence (*i.e.* data is non-shareable and/or sensitive);
- Names, crests, logos and other official symbols of the data provider(s);
- Data subject to other intellectual property rights, including patents, trademarks and official marks;
- Identity documents; and
- Any data that should not have been publicly disclosed for the grounds provided under section 8 of the Right to Information Act, 2005.

2.5. General Provisions

2.5.1 **Governing Law:** This licence will be governed by the applicable laws of India.

2.5.2 **Variations in Writing**: This licence may not be varied except in writing.

2.5.3 **Dispute Resolution:** These terms and conditions shall be governed by and construed in accordance with the Indian Laws. Any dispute arising under these terms and conditions shall be subjected to the exclusive jurisdiction of the courts at New Delhi. If there is a dispute between ICAR/Institutes and the data user that cannot be resolved then the matter must be referred to the sole arbitrator appointed by Director General, Indian Council of Agricultural Research for arbitration in accordance with the Arbitration and Conciliation Act 1996 as amended from time to time. The decision of the arbitrator (including any award as to costs) will be final and binding.

2.5.4 **Media Releases Disclaimer:** Media releases provide general information only and are not substitutes for professional advice. Their use is also subject to ICAR's legal notice and disclaimer.

2.5.5 **Change in Terms and Conditions:** Terms and conditions may be revised based on ICAR's policies. Data users shall verify the terms of use from time to time.

2.6. Copyright Notice

2.6.1 Copyright in the material available on ICAR portal(s)/online platform(s) is owned by the ICAR, India and/or third parties and may only be used in the ways described in this Copyright Notice.

2.6.2 The text and images in media releases are ICAR copyright. These may be used without further permission for the reporting of news and for wider publicity. Images used must have "©Copyright ICAR India, (date of first publication) displayed on/or adjacent to the image.

2.6.3 Images may not be used in connection with other news items that have no direct connection with the text of the media release.

2.6.4 Data user may take temporary copies necessary to browse portal(s)/online platform(s) on screen.

2.6.5 Unless otherwise stated, data user may download or print a single copy of ICAR copyright material for research or personal non-commercial use.

2.6.6 Data user must not change any of the material or remove any part of any copyright notice.

2.6.7 Proper citation is required wherever material is used;

2.6.8 Use of ICAR websites/portal(s) is also subject to ICAR's 'Legal notice and disclaimer'.

2.6.9 For copyright details of other material in ICAR or its websites/portal(s) of from anywhere else, refer to *ICAR Guidelines for Intellectual Property Management and Technology Transfer/Commercializatio*n (https://icar.org.in/en/policy-guidelines as ICAR-Guidelines-for-IPM-and-Technology-Transfer_2018.pdf) and changes made in these guidelines from time to time.

References

Government of India. 2000. The Information Technology Act, 2000. (https://www.indiacode.nic.in/bitstream/123456789/13116/1/it_act_2000_updated.pdf)

Government of India. 2012. National Data Sharing and Accessibility Policy. (https://dst.gov.in/sites/default/files/gazetteNotificationNDSAP.pdf)

Government of India. 2022. National Geospatial Policy. (https://dst.gov.in/sites/default/files/National%20Geospatial%20Policy.pdf).

Government of India. 2023. The Digital Personal Data Protection Act, 2023. (https://www.meity.gov.in/static/uploads/2024/06/2bf1f0e9f04e6fb4f8fef35e82c42aa5.pdf)

ICAR. 2013. ICAR Open Access Policy: https://icar.org.in/en/node/8799

ICAR. 2014. ICAR Guidelines for Internal Evaluation and Forwarding Research Papers to Scientific Journals and Data Management in ICAR Institutes: http://icar.org.in/sites/default/files/inline-files/ICAR-Guidelines-Research-Papers-2014_0.pdf

ICAR. 2017. ICAR Data Use License.

ICAR. 2018. Quality Research Data Acquisition Guidelines

ICAR. 2018. ICAR Guidelines for Intellectual Property Management and Technology Transfer/ Commercialization (Revised in 2018). Indian Council of Agricultural Research, New Delhi. http://icar.org.in/en/icar_guidelines_for_ipm_and_technology_transfer_2018.pdf

Office Orders: (i) F.No. GAC-21-4/2016-CDN dated May 10, 2016 and (ii) F.No. 13/55/2018-Cdn.Tech. dated September 07, 2018

Annexure-I

Office Orders Committee for Comprehensive Research Data Management Policy

भारतीय कृषि अनुसन्धान परिषद्
INDIAN COUNCIL OF AGRICULTURAL RESEARCH
कृषि अनुसन्धान भवन-II, पूसा, नई दिल्ली-110012
Krishi Anusandhan Bhawan-II, Pusa, New Delhi-110001

F.No:A.Engg.32/1/2025-(AE) (efile No. 375237) Date: 23.05.2025

Office Order

As per the directions of the Director General, ICAR, the Agricultural Engineering Division has been entrusted with the responsibility of formulating a Data Policy for the Council. Accordingly, a Committee has been constituted comprising of the following Members:

1) Deputy Director General (Ag. Engg.), ICAR Hqrs. – Chairman
2) Assistant Director General (ICT). ICAR Hqrs. – Member
3) Assistant Director General (FE). ICAR Hqrs. – Member
4) Director, ICAR-IASRI – Member Secretary

The Committee will prepare a draft policy in consultation with the Deputy Director Generals of all Subject Matter Divisions and other invited experts in the field. The draft report is to be finalized and submitted by the Committee by 20th June, 2025 for approval of the Competent Authority in ICAR.

This issues with the approval of DDG (Ag. Engg.)

23/5/2025

(Davinder Kumar)
Deputy Secretary(Ag. Engg.)

Distribution:

1) All members of the Committee.
2) PPS to DG, ICAR for information only

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