



Government of Odisha

**STANDARD
OPERATING PROCEDURE (SOP)
ON
SEED SYSTEM FOR
LANDRACES
AND TRADITIONAL VARIETIES**



**Department of Agriculture & Farmers' Empowerment
Government of Odisha**



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CONTENTS

1. Introduction	01
2. Identification and selection of promising landraces	06
1.1 Exploration and Identification	06
1.2 Establishment of Crop Diversity Blocks and Community-Managed Seed Centres	07
1.3 Documentation, Characterization, and Conservation	08
3. The Process of varietal release for landraces/ traditional varieties	09
2.1 Multi-Location Trials and farmer-led evaluation	09
2.2 Field and seed standards	10
2.3 Package of Practices (PoP)	10
2.4 Naming, Release and Notification	11
4. Seed production protocol for released/ notified traditional varieties	13
3.1 Classes of seeds	13
3.2 Production of primary & secondary seeds	14
3.3 Process of production of label seeds	15
5. Cost structure	19
6. Price fixation	20
7. Role of Government agencies	20
8. Risk management	21
9. Other Schemes	21
10. Annexure – I: Seed and field standard of Ragi	21
11. Annexure – II: Range of traits of 4 released landraces of Ragi	23
12. Annexure – III: State seed sub-committee	24
13. Annexure – IV: Landraces varietal release committee	25
14. Annexure – V: Working group on seeds	27
15. Annexure – VI: District level seed committee	28

ABBREVIATIONS

Abbreviations	Full Description
AICRP	All India Co-ordinated Research Project
ATMA	Agriculture Technology Management Agency
BDA	Biological Diversity Act - 2002
BMC	Biodiversity Management Committee
CDB	Crop Diversity Block
CGIAR	Consultative Group on International Agriculture Research
CSC	Community Seed Centre
CSO	Civil Society Organization
DAFE	Department of Agriculture and Farmers Empowerment
DNA	Deoxyribonucleic Acid
FPO	Farmers Producer Organization
HYV	High Yielding Varieties
ICAR	Indian Council of Agriculture Research
LAMPS	Large Area Multi-Purpose Society
LR	Landraces
NBPGR	National Bureau of Plant Genetic Resources
OSOCA	Odisha State Organic Certification Agency
OSSC	Odisha State Seed Corporation
OSSOPCA	Odisha State Seed & Organic Products Certification Agency
OUAT	Odisha University of Agriculture & Technology
PACS	Primary Agricultural Credit Society
PPVFRA	Protection of Plant Varieties & Farmers' Rights Authority
SAA	Shree Anna Abhiyan
SATHI	Seed Authentication, Traceability, and Holistic Inventory
SAU	State Agriculture University
SoP	Standard Operating Procedure
SPA	Seed Producing Agency
SPP	Seed Processing Plants
SPPIF	Special Programme for Promotion of Integrated Farming
SSLR	Seed System for Landraces
SSTL	State Seed Testing Laboratory
TC	Threshing Certificate
TV	Traditional Varieties
UN	United Nation
UPOV	The International Union for the Protection of New Varieties of Plants
WSHG	Women Self Help Group

Introduction

A FAO report mentions that there are more than 30,000 edible plant species suitable for human consumption, of which 6000 have been used as food and around 700 cultivated throughout human history (1). FAO studies show that three-fourths of the food humans consume globally comes from just 12 plant and five animal sources, with just three crops — wheat, rice and corn — accounting for 51 per cent of the calories included in the diet (2). With such heavy dependence on these crops, there is always a risk to food security due to climate vagaries and emerging pests. In this context, the conservation and promotion of agrobiodiversity become an integral part of climate change adaptation strategy, where landraces/traditional varieties can play pivotal roles.

The term landrace/traditional varieties is generally defined as a cultivated, genetically heterogeneous variety that has evolved in a certain eco-geographical area and is therefore adapted to the edaphic and climatic conditions and to its traditional management and uses (3). Many landraces/traditional varieties have disappeared from cultivation but are preserved in gene banks. Landraces/traditional varieties are often deliberately selected and maintained by farmers for specific traits like yield, taste, or other desirable characteristics.

Indian context:



The ICAR-NBPGR has collected more than 4.3 lakh accessions of about 1,500 crop species, mostly collected from farmers' fields and to some extent from wild ecosystems. More than 40,000 landraces or traditional varieties have been developed over thousands of years by the Indian farming communities in rice alone. In India, farm-saved seeds still account for 40–60% of the seed requirements, particularly in rainfed and tribal areas. Yet, landraces/traditional varieties, being genetically heterogeneous and non-notified, are often excluded from formal seed system, which focus on uniformity, certification, and market scalability. As a result, even where these landraces/traditional varieties outperform released ones under local conditions, access to their seeds remains a major bottleneck.

1. FAO, *Once neglected, these traditional crops are our new rising stars*. FAO newsroom story 02.10.2018.
2. Food and Agriculture Organization of the United Nations. <http://www.fao.org/>
3. Casañas F, Simó J, Casals J, Prohens J. *Toward an Evolved Concept of Landrace*. *Front Plant Sci*. 2017



The Green Revolution established India's formal seed system, facilitating the distribution of certified seeds for select high-yield crops through regulated channels under national seed certification policies. Based on the deliberations that emerged from the 1992 Convention on Biological Diversity (CBD) and Agreement on Trade-Related Aspects of Intellectual Property Rights of the World Trade Organization (TRIPS), there emerged a need for an effective sui generis system for protection of plant varieties. In this context, the introduction of the Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA) in 2001 led to the establishment of the Plant Variety Protection (PVP) system, enabling the registration of new Essentially Derived Varieties (EDVs) as well as extant and farmers' varieties.

The PPV&FRA recognised that farmers' varieties were mostly excluded from the formal seed chain due to ownership complexities. The Seeds Act of 1966 sets quality standards only for the notified varieties through the Central and State Variety Release Committees (CVRC and SVRC). Both the Seeds Act and PPV&FRA do not have provisions to develop quality standards for mainstreaming landraces/traditional varieties/farmers varieties into the formal seed supply chain. While the Biological Diversity Act (2002) aims to conserve the landraces/traditional varieties, it does not address their seed quality or integration into the seed supply chain. Despite farmers' preference for landraces/traditional varieties, there is no regulatory framework to support their identification, evaluation, mainstreaming, and to facilitate farmers' access to quality seed.

Agro-biodiversity significance of Odisha:

Odisha hosts numerous traditional crops and varieties, including rice, millets, legumes, tubers, vegetables, medicinal and aromatic plants. These landraces/traditional varieties are climate-resilient, nutritionally rich, salt-tolerant, and possess other valuable traits shaped by their native environments. The Jeypore tract of Odisha (undivided Koraput districts, part of Chhattisgarh, part of Andhra Pradesh) is a secondary origin of Asian cultivated rice (Ramiah & Ghosh, 1951), also the primary center of origin of aus ecotype of rice (Sharma, Tripathy & Biswal (2000). There were 1,745 rice landraces/traditional varieties, and 150 wild rice samples were collected.

Koraput region of Odisha was recognised as a Globally Important Agriculture Heritage System (GIAHS) in 2012 by FAO for maintaining unique tribal traditional agricultural practices, conservation and utilisation of inherited traditional knowledge for local food

security and cultural diversity. Around 2010, the Department of Agriculture and Farmers Welfare, Government of Odisha, initiated a process to document and promote indigenous seed varieties. Keonjhar Kalachampa variety in Odisha, a locally cultivated landrace/traditional variety, was brought into the formal seed distribution system, recognising the efforts of traditional farmers.

Odisha is also home to many agricultural heritage and biodiversity hotspot regions such as Sunabeda Region - Nuapada, Gandhamardan Region - Bargarh and Balangir, Niyamgiri Region - Kalahandi and Rayagada, Gupteswar Region - Koraput, Chitrakonda Region - Malkangiri, Similipal Region - Mayurbhanj, Malyagiri Region - Keonjhar, Mahanadi Delta Region - Cuttack and Puri, Mahendragiri Region - Gajapati and Bhitarkanika Region - Kendrapara. Odisha has one of the greatest diversity of foods including landraces of rice, millets, tubers, pulses, oilseeds, wild edible flowers, fruits, ethnobotanical plants, and many others. Gandamardhan Hills are recognised as one of the greatest treasures of medicinal and aromatic plant diversity in the world. The same observed in Sunabeda region of Nuapada, Simlipal region of Mayurbhanj, and other regions. Odisha also has a rich history of community custodianship of agro-biodiversity.

The rich agro-biodiversity and biodiversity hotspots have been preserved and conserved by the ethnic communities of this region in collaboration with the Government of Odisha line department. The custodian farmers conserve valuable genetic resources with their personal cost for the public domain and visualise future climate change. Padma Shri was conferred on the late Kamala Pujari, Dr Sabarmatee Tiki and Mr Patayat Sahu for their work on the conservation and promotion of traditional varieties. Custodian farmers such as Dr Raimati Ghiuria, Ms Subasa Mohanta and others received national and international recognition.

Landraces initiative by Department of Agriculture & Farmers' Empowerment, Odisha:

Experiences from participatory varietal trials under 'Shree Anna Abhiyan, formerly Odisha Millets Mission (OMM)' have shown that certain millet landraces under cultivation are performing better than the released varieties in farmer' field conditions using natural farming and other agronomic practices. Farmers have selected these landraces based on their ecological suitability, yield, pest and disease resistance, nutritional and medicinal values. The traits that characterize such landraces are often expressed in their adaptation sites. As many landraces have evolved locally, these traits may not manifest fully in other locations. Formal seed system are developed to identify a few varieties which will perform better across many regions. By design or definition, these formal seed system will not be able to cater to seed requirements of a diverse ecology.

For promotion of such traditional varieties, an alternate seed system with focus on selection, evaluation, multiplication, and distribution in their native region is needed. Unfortunately, there was no standard operating protocol through which these traditional varieties/landraces could be promoted by the Government of Odisha. Realising this need,

the Department of Agriculture & farmers' Empowerment. Government of Odisha, formed a Working group on Seeds under SAA to create an enabling framework for landraces managed by community institutions. Accordingly, the Working Group on Seeds under SAA evolved a Standard Operating Procedure for Seed System of landraces (SOP for SSLR) on 2nd April 2022 for millet crops, and then revised it on 30th July 2025, both for millets and other crops. Though this SOP for Seed System for Landraces is developed for millets, this framework is suitable for all the crops including horticulture. Necessary experts and farmers with experiences in landraces of different crops may be involved in contextualising this SOP for seed system for other crops. Key components of SOP on SSLR include:

- A. Identification and selection of promising landraces based on local relevance and performance
 - Exploration and identification
 - Establishment of Crop Diversity Blocks (CDB) and Community managed seed centre
 - Documentation, Characterization, and Conservation
- B. The Process of Varietal Release for Landraces/ Traditional Varieties:
 - Multi-Location Trials and Farmer-Led Evaluation
 - Field and Seed Standards
 - Package of Practices (PoP)
 - Naming, Release, and Notification
 - Monitoring and Execution
- C. Seed Production Protocol for released or notified landraces/ traditional varieties:
 - Classification of different levels of seeds
 - Production protocols for landraces/ traditional varieties
 - Labelling protocols for landraces/ traditional varieties

In addition, SOP also delineates the process of cost structure and price fixation, roles and responsibilities of different institutions, and risk mitigation.

As per the procedure laid out in the SOP, evaluation trials were conducted in collaboration with ICAR, OUAT and CSO partners. Based on the trial results, landrace varietal release proposals were developed following the scientific methodology. A landrace varietal committee was notified on 30th May 2023 vide letter number: Letter No- 1M (04) 07/2019 - 20340 by the Department of Agriculture & Farmers' Empowerment. For the first time, custodian farmers were made part of a varietal release committee. After evaluation of landraces by the landrace varietal committee, four landraces/traditional varieties of Ragi, namely Kundra Bati, Laxmipur Kalia, Malyabanta Mami and Gupteshwar Bharati, have been notified for release by the Department of Agriculture & Farmers' Empowerment, Government of Odisha, for first time in the country on 10th August 2023, vide letter number: 29869.

**DEPARTMENT OF AGRICULTURE & FARMERS' EMPOWERMENT
GOVERNMENT OF ODISHA**

NOTIFICATION

Number 29868^{10TK} Bhubaneswar, the August, 2023

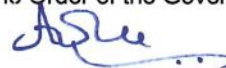
In exercise of the powers conferred by Government of Odisha in the Standard Operating Procedures (SOP) for Seed Systems for Landraces (SSLR) and as per the recommendation of Landrace Varietal Release Committee (LVRC), which was constituted vide Notification No- 1M (04) 07/2019- 20340 dated 30.05.2023, Govt in Department of Agriculture & Farmers' Empowerment (DA&FE) finds it expedient to regulate and promote the quality of the seeds of the landraces/farmer varieties, specified under column (4) of the kinds specified in the corresponding entries under column (2) and types specified under column (3) of the below mentioned Table.

The Department hereby declares that the said landraces/farmer varieties shall be notified varieties for the districts mentioned in column (5) for seed production, and shall be sold for the purpose of agriculture in the districts mentioned in column (5) of the said Table. Custodian farmers/Women Self Help Groups/Farmer Producer Organizations/NGOs will be supported by ICAR and OUAT for maintaining the purity and quality of the released landraces/farmer varieties and their production shall be undertaken as per the process laid out in the SOP for SSLR.

TABLE

SI	Kind	Type	Name of the Landrace/Farmer Varieties	Recommended Districts
(1)	(2)	(3)	(4)	(5)
1	Ragi	Open Pollinated Variety	KUNDRA BATI	Koraput, Malkangiri
2	Ragi	Open Pollinated Variety	LAXMIPUR KALIA	Koraput, Malkangiri
3	Ragi	Open Pollinated Variety	MALYABANTA MAMI	Koraput, Malkangiri
4	Ragi	Open Pollinated Variety	GUPTESWAR BHARATI	Koraput, Malkangiri

By the Order of the Governor



(Dr. Arabinda Kumar Padhee)

10.08.2023

Principal Secretary to Government



1

IDENTIFICATION AND SELECTION OF PROMISING LANDRACES

Promising landraces will be identified based on their adaptability to local agro- climatic conditions, yield stability, resistance to stresses, and cultural significance. This process will integrate farmers' traditional knowledge with scientific evaluation to ensure relevance and acceptance.

1.1 Exploration and Identification

The process of identifying promising landraces will begin with systematic exploration and documentation in agro-biodiversity-rich areas of Odisha. This includes surveying traditional farming landscapes, engaging with local communities, and recording crop varieties that are valued for traits such as climate resilience, yield stability, aroma, taste, seasonal suitability, pest and disease resistance, and adaptability to specific land and soil types. The evaluation process will combine traditional knowledge with scientific assessment to ensure that selected landraces are locally relevant, culturally significant, and agro-ecologically appropriate.



1.2 Establishment of Crop Diversity Blocks and Community-Managed Seed Centres

A Crop Diversity Block is a plot designed to display and multiply various local crop varieties, especially traditional and rare types, helping conserve genetic resources and boost seed availability.

Crop Diversity Blocks (CDBs) will be established at the sub-district level within biodiversity-rich zones of Odisha. These CDBs will serve as operational hubs for the conservation, characterisation, purification, and multiplication of landraces and traditional varieties. They will also act as demonstration and learning sites where farmers can observe and assess the performance of different landraces under local conditions.

Community institutions such as FPOs, WSHGs, and farmer collectives shall anchor Community Seed Centres (CSCs) that will implement CDB activities. Each CSC will be equipped with basic infrastructure, storage, documentation tools, and operational guidelines to ensure functional sustainability. Identified landraces from the exploration process will be documented, conserved, and displayed, and small quantities of seed will be made available to registered seed conservers for on-farm use and evaluation.

CSCs will also be responsible for selecting suitable seed producers, prioritising those with assured irrigation, productive land, and a willingness to follow seed production protocols. These centres may also facilitate the registration of germplasm under the Protection of Plant Varieties and Farmers' Rights Act (PPVFRA), ensuring legal recognition and protection of community-owned genetic resources.

In addition, all collected landraces and planting materials will be registered in the name of the respective community or custodian farmers, with facilitation and support from the Krushi Vigyan Kendra of the district concerned. This ensures formal acknowledgment of community contributions to conservation and safeguards farmers' rights over genetic resources.

Through these integrated efforts, CDBs and CSCs will not only conserve Odisha's agrobiodiversity but also enable seed sovereignty, farmer-led innovation, and resilient, community-based seed system.



1.3 Documentation, Characterization, and Conservation

Identified landraces will be systematically documented using standardised agromorphological descriptors, supported by digital tools for cataloguing, geo-tagging, and traceability. Ethnobotanical information and farmers' traditional knowledge will be captured to highlight the cultural, ecological, and livelihood relevance of each variety. All documented data will be compiled into a state-level digital landrace registry to serve as a comprehensive reference for conservation planning, varietal promotion, and policy action.

To guide this process, a context-specific set of minimal descriptors will be developed for systematic characterisation. This will be coordinated by the Working Group on Indigenous Seeds and Landraces, in consultation with PPVFRA, ICAR institutions, OUAT, CSOs, community institutions, and custodian farmers. The descriptors will include traits of both scientific and local importance—such as yield potential, aroma, taste, seasonality, pest and disease resistance, and soil adaptability—ensuring they are practical for field-level use and aligned with national protocols. Crops with considerable landrace or traditional varietal diversity and wider cultivation coverage shall be prioritised to maximise impact and community engagement.

Seed samples of selected landraces will be stored at the State Seed Testing Laboratory (SSTL) and submitted to National Gene Banks for long-term conservation. Collaborative partnerships with research institutions will support further characterisation, purification, and multiplication, facilitating their wider use across both formal and informal seed system. This integrated approach aims to secure Odisha's rich genetic heritage while promoting agroecological resilience, nutritional security, seed sovereignty, and sustainable rural livelihoods.





2

THE PROCESS OF VARIETAL RELEASE FOR LANDRACES/ TRADITIONAL VARIETIES

The varietal release process is critical to formally recognize and mainstream landraces and traditional varieties into formal seed system. While these varieties have evolved through farmer-led innovation and natural selection, their formal release ensures wider access, preservation of genetic diversity, and acknowledgment of custodianship by communities.

2.1 Multi-Location Trials and Farmer-Led Evaluation

For the release of landraces or traditional varieties, evidence of consistent performance is required through a minimum of two years of data across three agro-ecological locations, along with data from on-farm demonstrations involving at least 10 farmers. These trials will follow a participatory varietal selection (PVS) approach, where farmers' observations and preferences play a key role in assessing varietal suitability.

Key traits to be evaluated include:

- ▶ Yield performance (not necessarily superior to standard checks)
- ▶ Pest and disease resistance
- ▶ Climate resilience and adaptability
- ▶ Nutritional value
- ▶ Suitability for low-external-input systems
- ▶ Cultural and culinary quality traits

The focus will be on the value-in-use and performance under real farm conditions, as reflected in farmer feedback and observations captured during passport data collection.



2.2 Field and Seed Standards

The Landrace Varietal Release Committee (LVRC), constituted by the Government of Odisha (Notification No. 3925, dated 1st February 2025), will be responsible for finalising field and seed standards specific to landraces and traditional varieties. These standards will be developed through consultations with PPVFRA, ICAR institutions, OUAT, CSOs, community institutions, and custodian farmers.

Based on these standards:

- ▶ The Odisha State Seed and Organic Products Certification Agency (OSSOPCA) will formulate certification guidelines for Primary, Secondary, and label - I and label - II seeds.
- ▶ Seed certification will be mandatory for varieties included under formal, subsidized seed supply chains.
- ▶ For private markets or community-level exchange, certification will be optional, allowing flexibility in informal seed system.

2.3 Package of Practices (PoP)

Each released variety must be accompanied by a documented Package of Practices (PoP). These will be developed based on standard agronomic trials, data generated during the evaluation process, and PoPs followed under the All India Coordinated Research Projects (AICRP). The final PoP will be submitted as part of the varietal release proposal.



2.4 Naming, Release, and Notification

To preserve cultural identity, landraces shall retain their original names, possibly with a prefix or suffix, while recording the original name and locality as an alternate identity in official documentation.

The varietal release process will follow this timeline:

- ▶ A landrace may be released as a variety by the Landraces Varietal Release Committee (LVRC).
- ▶ A two-year period after release is required before it can be formally notified, allowing time for field-level validation and multiplication.
- ▶ Notification will be pursued only for those landraces that demonstrate large-scale potential for multiplication and outreach.

The State Seed Sub-Committee may also recommend landraces from Odisha for national-level release if they show performance and demand beyond state boundaries.



2.5 Monitoring and Execution

Name of the Committee	Members	Roles and Responsibilities
State Seed Sub-Committee	The listed members are attached in the Annexure III	<ul style="list-style-type: none"> • Approves policies and guidelines for landraces • Reviews recommendations from LVRC • Monitors landrace seed system implementation • Approves annual plans and budgets • Suggests standard naming and classification
Landraces Varietal Release Committee (LVRC)	The listed members are attached in the Annexure IV	<ul style="list-style-type: none"> • Advises State Government on landrace mainstreaming • Reviews SoP implementation • Assesses and approves landrace release proposals • Provides guidance on seed standards and naming
Working Group on Landraces and traditional varieties	The listed members are attached in the Annexure V	<ul style="list-style-type: none"> • Preparation of SoP • Designing formats for data collection and landrace proposals • Preparing Package of Practices • Field visits and screening inputs • Recommendations to other committees
District Level Committee on Landrace and traditional varieties	The listed members are attached in the Annexure VI	<ul style="list-style-type: none"> • Monitor seed supply, registration, and incentives • Support seed inspection, processing, and labeling • Coordinate training and capacity building • Facilitate linkages with formal seed systems

3

SEED PRODUCTION PROTOCOL FOR RELEASED/ NOTIFIED TRADITIONAL VARIETIES

The conservation and mainstreaming of landraces and traditional varieties require a structured approach to quality seed production that respects their genetic integrity and cultural value. This protocol provides a step-by-step guide to ensure the production of genetically pure, ecologically adapted, and locally accepted seed of released or notified traditional varieties.

3.1 Classes of Seeds

After release of landraces/traditional varieties by LVRC, steps shall be taken for conservation and multiplication of released landraces/traditional varieties and following nomenclature to be used in case of released landraces/traditional varieties.

Classes of Seeds for multiplication in Indian Seed System	Classes of Seeds for multiplication of landraces/ traditional varieties	Designated organisation
Nucleus seed	Primary Seeds	DAFE/ SAU/ ICAR relevant institutions will do maintenance, and production (Released by LVRC)
Breeder Seed	Secondary Seeds	SAU/ Relevant ICAR institutions
Foundation Seed	Label – I Seeds	SAU/ Departmental farm/ Registered seed growers
Certified Seed	Label – II Seeds	OSSC / SPA to sell through dealer network



3.2 Production of Primary & Secondary Seeds

- ▶ The landraces/ traditional varieties developed by the DAFE with two years varietal purification trial data and after release by LVRC will be considered as Primary seeds.
- ▶ The purification trial of two years will be done by SAUs/ICAR relevant institute/ DAFE.
- ▶ Primary Seed Samples shall be stored at SSSL gene bank for scientific conservation, characterization, and for further multiplication.
- ▶ The seed materials of released landraces/ traditional varieties will be preserved in SSSL and if require the SSSL can go for Grow out test under supervision of a breeder for genetic purity.
- ▶ Regular maintenance, conservation and of primary & secondary seed production by SAUs/ SSSL.
- ▶ After the testing and on receipt of communication from concerned institution (SAUs/ ICAR) the seeds will be handed over to OUAT/ SAUs/ICAR institutes for production of the secondary seeds under the supervision of concerned breeder as per seed and field standard. The seed and field standard of ragi is annexed at Annexure – I. And for other crops – Indian minimum seed certification standard - 2013 shall be followed.
- ▶ The breeder will finalize the rouging and Isolation traits of the release varieties from the pool of the traits submitted by the developer (annexure – II). The final trait will be approved by the State Seed Sub-committee and the breeder will grow and monitor accordingly. The breeder will take two seasons' data to finalize the seed standards and submit the reports to the State Seed sub-committee for further decision.



3.3 Process of Production of Label Seeds

The label – I seeds will be produced in the departmental farms/KVK/OUAT/ registered seed growers under supervision by OSSOPCA & OSSC.

The label– II seeds will be sold / distributed to the farmers by OSSC for cultivation .

Procedure for seed multiplication of landraces/traditional varieties

Farmers registration

- ▶ Seed Producing Agency (SPA) – OSSC/registered seed producing agency/ Government-approved agency will register the growers in the SATHI portal after getting the list of growers as well as varieties from the DA&FE. Seed production programme will be monitored in the SATHI portal with support of NIC, Bhubaneswar.
- ▶ The farmers registration, inspection & certification cost will be borne by the DA&FE, Odisha.
- ▶ The registered seed growers/ farmers to produce Label–I under seed village programme shall submit to the Certification Agency, one or more relevant evidence such as labels, seed containers, purchase records, sale records etc., as may be demanded by the Certification Agency during submission of the application.
- ▶ The registered farmers will produce the quality seed as per the recommended Package of Practices. OSSOPCA shall train seed growers and community institutions on quality seed production and storage.



Inspection

- ▶ The inspection process shall be taken up by OSSOPCA in coordination with the District Level Committee at different crop growth stages as per the existing guidelines.
- ▶ The first inspection shall be made before flowering to determine isolation, presence of volunteer plants, outcrosses, planting ratio, errors in planting and other relevant factors.
- ▶ The second and third inspections shall be conducted during flowering to check isolation, Off-types, pollen shedders in the female parent, and other relevant factors.
- ▶ The fourth inspection shall be made at maturity and prior to harvesting to verify the true nature of the plant and other relevant factors.



Processing

- ▶ After harvesting and threshing, pre-cleaning should be done to remove large debris like stones, clods, and plant parts by the registered grower.
- ▶ The inert matter, weed seeds, and other crop seeds should be cleaned from the desired seed lot.
- ▶ Seeds will be dried to a safe moisture level to prevent spoilage and improve storage.
- ▶ Seeds will be sorted by size, shape, and weight to remove smaller, shriveled, or damaged seeds.
- ▶ Seeds should be treated to prevent seed-borne or soil-borne diseases and insects.
- ▶ OSSOPCA will issue the Threshing Certificate (TC) to growers.
- ▶ Growers will hand over the seeds to the OSSC processing unit.





Sampling

The OSSOPCA will draw the seed samples as per prevailing procedure and send them to a government notified State Seed Testing Laboratory for quality testing.

Testing

Notified Laboratory will do the laboratory analysis and will submit the testing report to OSSC for labelling.

Labelling

- ▶ In place of tagging, labelling will be done by OSSC/ Government- approved Seed Producing Agency as per Clause B of Seed Act.
- ▶ The labels will be printed by OSSC/SPA and bagged on label seeds.
- ▶ Label-I will be used for further multiplication and Label-II will be sold to farmers by OSSC/SPA.
- ▶ The colour of the label should resemble Opel Green (IS No.207). A standard logo and brand name will be used by the OSSC/SPA for marketing of landraces/raditional varieties of seeds, using a specifically coloured bag.
- ▶ The producer will maintain detailed records for each seed lot, including the test reports, for a specified period (e.g., three years).
- ▶ The guard sample from each lot to be kept for six months.



Template for Label Seeds of Landraces and Traditional Varieties

Label number:

Kind:

Variety:

Lot number:

Date, month, year of test:

Validity up to:

Adaptability:

Germination (minimum) %


Physical Purity (minimum) %

Genetic purity (in case of variety) (minimum) %

Weight:

Name of the chemical used for seed treatment, if seed is treated:

Seller's Name and address:

 LABEL NO. : 0077220
KIND :
VARIETY:
ADAPTABILITY OF VARIETY :
LOT NO. :
DATE, MONTH & YEAR OF TEST :
VALID UPTO :
GERMINATION (MIN) : %
PHYSICAL PURITY (MIN) : %
GENETIC PURITY (MIN) : %
NET WEIGHT (WHEN PKD.) : kg.
RECOMMENDED FOR CULTIVATION
(Name of the State and Season) :
NAME OF THE CHEMICAL USED FOR SEED TREATMENT :

Produced and Marketed by :
ODISHA STATE SEEDS CORPORATION LIMITED
(A Govt. of Odisha Undertaking)
SAMANTARAPUR, BHUBANESWAR - 751 002

4

COST STRUCTURE

This includes cost towards maintenance and conservation of primary seeds and production of secondary and Label-I seeds. The proposed cost structure is indicative and may vary from crop to crop and the approved cost structure of OUAT/ICAR will be followed. There will be no separate budget allocation required for this, as the expenditure towards seed production will be met from the respective schemes of DAFE.

- a. Cost towards maintenance, DNA banding and conservation of Primary seed: Rs. 1.00 lakh
- b. Cost towards Production of Secondary and Label-I seeds per season: Rs. 4.05 lakh

(Cost as per date of notification operational guidelines - 2025, NFSNM)

Sl	Particulars (Cost of Production secondary seeds)	Unit	Amount (Rs)
1	Cost of cultivation for secondary seed of Ragi	1 ha	35000.00
2	Breeder maintenance cost / per season	5000/month	30000.00
3	Travel for monitoring of seed production area	LS	100000.00
4	Research Associate (RA/SRF) costs for OUAT/ICAR for season	Rs 40000/ month	240000.00
		Total	4,05,000.00

(Subject to approval of concerned SAU/ ICAR Institutions/ Directorate)

- c. Cost structure for production of Label Seeds by Seed Grower:
 - Production incentive for farmers:
 - Cereals and millets - @ Rs 1000/Qtl.
 - Pulses & oil Seeds - @ Rs 2000/Qtl.
 - Assistance for capacity building:
 - For 30 farmers: Rs 10,000 on seed production technique to be done by OSSOPCA
- d. Inspection charges to be borne by DA&FE as per actual claim by OSSOPCA.

5

PRICE FIXATION

OSSC will submit the crop-wise sale price proposal of labelled seeds to the DA&FE for approval by the State Seed Pricing Committee, as is done for other classes of seeds.

A compensatory subsidy mechanism for released landraces/traditional varieties should be there aligning to certified seeds.

6

ROLE OF GOVERNMENT AGENCIES FOR QUALITY SEED PRODUCTION OF LANDRACES/ TRADITIONAL VARIETIES

Sl	Activities	Responsibility
1	Online farmers/seed growers' registration	OSSOPCA/OSSC
2	Production of Primary and Secondary Seeds	OUAT/SAUs/Govt Farms
3	Seed testing, nutritional analysis and DNA finger printing (if required)	ICAR/CGIAR institutes
4	Seed Production plot inspection, threshing, labelling and sending sampling	OSSOPCA
5	Seed processing, Threshing certificate, storage, distribution, price fixation	OSSC/FPOs/SHGs/Private Entrepreneur
6	Seed inventory for sale, dealer identification and distribution	PACS/ LAMPS/FPOs/SHGs/ Private Entrepreneur



7

RISK MANAGEMENT

Farmers' decisions on choice of crops and varieties change quickly with respect to emerging weather and market scenarios. Even after well-defined indents and seed demand estimation, there could be circumstances where the growers will be left with unsold stock. The FPOs may choose to sell the produce as grain in the market or under departmental demonstration programmes. This mechanism shall continue for a period of an initial up to three years until the supply chain is firmly established.

8

OTHERS SCHEMES

This SoP for SSLR will also be applicable to the seed production activities of landraces/traditional varieties to be taken under various schemes, including "Amruta Anna".

Annexure - I

SEED AND FIELD STANDARD OF RAGI

(A) Seed Standard: (Ragi)

Sl	Factor	Secondary Seeds	Label Seeds
1	Pure seed (minimum)	97.0%	97.0%
2	Inert mater (maximum)	3.0%	3.0%
3	Other crops seed (maximum number)	10/kg	20/kg
4	Weed seeds (maximum number)	10/kg	20/kg
5	Objectionable weed seeds (maximum)	None	None
6	Germination (minimum)	75%	75%
7	Moisture (maximum)	12.0%	12.0%

(B) Field standard: (Ragi)

(a) General requirements

Isolation:

Contaminants	Minimum distance (meter)	
	Secondary source seed	Label seed
Fields of other varieties	2	3
Fields of the same variety not conforming to varietal purity requirements for certification	3	3

Specific requirements

Factor	Maximum permitted (%) at final inspection	
	Secondary source seed	Label seed
Off types	0.050	0.10

**As per Indian Minimum Seed Certification Standard (2013) for finger millet – Ragi (Eleusine coracana L. Gaertn)*

Similarly for other crops, the Indian Minimum Seed & field Standard of Foundation and Certified Seed should be followed.



Annexure – II

RANGE OF TRAITS OF 4 RELEASED LANDRACES OF RAGI

Trait range of 4 ragi landraces					
Sl	Characters	Kundra Bati	Laxmipur Kalia	Malyabant Mami	Gupteswar Bharati
1	Grain yield (kg/ha)	1001-1990	992.6 - 2160	1160.5- 2386	1140 - 2786
2	Straw yield (kg/ha)	5718 - 12651	5158 - 11496	5457 - 10221	5925 - 10411
3	Plant height (cm)	83.7 - 103.1	75.66 - 120.4	90.6 - 104	89.3-125.3
4	Ear-head length (cm)	4.3 - 6.8	3.6 - 6.5	5.6 - 11.9	4 - 11.4
5	Finger length (cm)	4.2 - 5.3	4.3 - 5.3	6 - 8.4	6.3 - 8.5
6	1000 gr. Wt (g)	2.4 - 3.2	3 - 2.5	1.5 - 2.7	2.5 - 2.7
7	Grain Protein in (gm)	5.58 - 7.88	5.71 - 7.38	6.35 - 8.88	6 - 8.31
8	Grain calcium_ppm	2462.1 - 3072.59	2408.8 - 3131.73	2320.09 - 3074.47	2972.7 - 3484.5
9	Grain iron_ppm	17.29 - 26.28	17.31 - 22.98	19.72 - 27.6	21.01 - 26.93
10	Grain zinc_ppm	15.62 - 18.52	16.84 - 18.14	17.62 - 21.91	18.07 - 21.58
11	Productive tiller (n)	1 to 3	1 to 3	1 to 3	1 to 3
12	No. of fingers (n)	5 to 6	5 to 6	4 to 6	5 to 6
13	Day to 50% flowering	81 - 105	89 - 108	82 - 94	83 - 101
14	Day to 100% maturity	127 - 149	135 - 144	112 - 134	110 - 135
15	Growth habit	Decumbent	Erect	Erect	Decumbent
16	Ear shape	compact	compact	semi compact	open
17	Finger branching	Present	Present	Present	Present
18	Grain colour	White at maturity and become copper brown after 3 months of storage	Light red	Brick red	Copper brown
19	Nodal pigmentation	Green	Green	Green	Green

Annexure - III

No. 3-61/2017-SD.IV (Pt. I)

भारत सरकार
कृषि एवं किसान कल्याण मंत्रालय
(कृषि एवं किसान कल्याण विभाग)

Shastri Bhawan
New Delhi.
Dated: 7.03.2025

ORDER

The Central Seed Committee is pleased to re-constitute the State Seed Sub-Committee for Agricultural Crops for the State of Odisha for the term 2024-26 under Section 3(5) of the Seeds Act, 1966, consisting of the following members:

Sr. No.	Name	Designation
1.	Principal Secretary, Department of Agriculture & Farmers' Empowerment, Odisha, Bhubaneswar.	Chairman
2.	Director of Agriculture & Food Production, Odisha, Bhubaneswar.	Member
3.	Dean of Research, Odisha, University of Agriculture & Technology, Bhubaneswar.	Member
4.	Associate Director of Research (Seeds), Odisha University of Agriculture & Technology, Bhubaneswar.	Member
5.	Director, Odisha State Seed & Organic Product Certification Agency, Bhubaneswar.	Member
6.	Managing Director, Odisha State Seeds Corporation Ltd., Bhubaneswar.	Member
7.	Area Manager, National Seeds Corporation Limited, Bhubaneswar.	Member
8.	Agriculturist, Department of Agriculture & Farmers Empowerment, Odisha, Bhubaneswar.	Member
9.	Shri Jayakrushna Pradhan (Seed Producer) M/s- JKBK Seeds, At/Po: Singhbrahmapur, Dist:Puri.	Member
10.	Shri Ajay Kumar Panda (Seed Producer) M/s-Amulya Seeds, At./Po: Charbahal, Dist: K alahandi	Member
11.	Shri Pruthveeraj Sahu (Farmer) At/PO- Saplaha, Block: Paikmal, Dist: Bargarh	Member
12.	Shri Laxmidhara Panda (Farmer) At: Lambhira. Po. Sadha, Block- Hatadihi, Dist: Keonjhar.	Member
13.	Shri Bipin Khatei (Seed Trader) At: Patasahanipur, GP: Gobindapur, Block. Pipili, Dist. Puri.	Member
14.	Sri Shiba Prasad Sahoo (Certified Organic Producer) At-Tileimal, PO-Ghess, Dist: Bargarh.	Member
15.	Seed Certification Officer, State Seed Testing Laboratory, Bhubaneswar.	Member
16.	Joint Director of Agriculture (Farm & Seeds) Office of the Director of Agriculture & Food Production, Odisha, Bhubaneswar.	Co-convener
17.	Secretary, Central Seed Committee - cum - Deputy Commissioner (QC) Ministry of Agriculture and Farmers Welfare, Department of Agriculture and Farmers Welfare, B/ 116, Shastri Bhawan, New Delhi	Co-convener

Annexure – IV

Government of Odisha
Department of Agriculture & Farmers' Empowerment
Directorate of Agriculture and Food Production,
Krusha Bhawan, Odisha, Bhubaneswar

Letter No- 1M (04) 07/2019- 20340

Date: 30.05.2023

NOTIFICATION

A Landrace Varietal Release Committee (LVRC) on millets is formed for releasing the landraces as per the standard operating protocols for seed system. LVRC is hereby constituted with following members: -

- | | | |
|-----|--|-----------------|
| 1. | Principal Secretary, Department of Agriculture & Farmers Empowerment, Government of Odisha. | Chairperson |
| 2. | Director of Agriculture & Food Production, Odisha | Co- chairperson |
| 3. | Director, OSSOPCA. | Member |
| 4. | Managing Director, Odisha State Seed Corporation. | Member |
| 5. | Joint Director of Agriculture, Farm & Seed, DA&FP, Odisha. | Member |
| 6. | Joint Director of Agriculture, OMM, SPMU. | Convenor |
| 7. | Seed Certification Officer, State Seed Testing Laboratory. | Member |
| 8. | Dean Research Odisha University of Agriculture Technology. | Member |
| 9. | Additional Director of Research (Seeds), Odisha University of Agriculture Technology (OUAT). | Member |
| 10. | Director/Representative, ICAR-IIMR. | Member |
| 11. | Custodian Farmers/Farmers cultivating concerned germplasm
(2 Nos). | Member |



- | | | |
|-----|--|--------|
| 12. | FPO Representative involved in seed production of concerned germplasm. | Member |
| 13. | Representative, Working Group on Seeds under OMM. | Member |
| 14. | Representative, NGO with expertise in millet germplasm. | Member |

Following are Terms of Reference (ToR) of LVRC on millets: -

1. To advise the State Government on all matters relating to the mainstreaming of the Landraces on millets in the State.
2. To review the implementation of the Govt approved Standard Operating Procedure (SoP) on Landraces on millets in the State and to send periodic reports to the State Government.
3. To assess and release of landraces of millet crops for the State considering the different traits of the landraces and community/ farmers preference.
4. Guide on seed standards and monitoring as per approved proposal.
5. To review the assessment of landraces on millets, seed requirements especially of certified, foundation seed and plan for different regions of the state.
6. Any other functions may be assigned to it by State Government in connection with the implementation of Govt. approved SOP on Alternate Seed Systems for Landraces on millets.

By orders of the Governor



(Dr. Arabinda Kumar Padhee)

Principal Secretary,

Department of A & FE

Annexure - V

Government of Odisha
Department of Agriculture & Farmers' Empowerment

Number.DAFP-SPIII-MM-0008-2025-25805 Bhubaneswar, the 30th JULY 2025

ORDER

A Working Group on Landraces and Traditional Varieties is constituted with the following members: -

1. Dr. K.S. Varaprasad, Rtd. Director, ICAR-IIOR	Chairperson
2. Dr. Rajendra Prasad, Retd. VC, University of Agriculture Science, Bangalore	Member
3. Dr. Rajesh Dash, Rtd. Director IMAGE	Member
4. Joint Director of Agriculture (Farms & Seeds)	Member
5. Joint Director of Agriculture (Pulses & OS)	Member
6. Joint Director of Agriculture (SAA)	Member Convener
7. Joint Director of Horticulture	Member
8. Seed Certification Officer, SSTL	Member
9. Deputy General Manager, OSSC	Member
10. Mr. Chakradhar Panda, Retd CDAO	Member
11. Dean Research, OUAT & concerned breeder	Member
12. Representation, ICAR-IIMR	Member
13. Representative, OSSOPCA	Member
14. Representation, Programme Secretariat/ Agency	Member

The roles and responsibilities of the working group are: -

1. Preparation of SoP
2. Designing formats for data collection and landraces proposals
3. Preparing Package of Practices
4. Field visits and screening inputs
5. Recommendations to other committees
6. Any other tasks assigned by Directorate/ Department related to the seed system.



Principal Secretary to Government

Annexure - VI

**Government of Odisha
Department of Agriculture & Farmers' Empowerment**

Number.DAFP-SPIII-MM-0008-2025-25806 Bhubaneswar, the 30th JULY 2025

ORDER

A District Level committee on Landraces and Traditional Varieties is constituted with the following members: -

1. Chief District Agriculture Officer (CDAO)
2. Deputy Director of Horticulture (DDH)
3. Block Agriculture/ Horticulture Officer
4. Seed Production Officer (SPO)/Zonal Manager
5. Concerned Breeders
6. District OSSOPCA Representative
7. Representatives Facilitating Agency
8. Custodian Farmers
9. Any other member suggested by CDAO.

The roles and responsibilities of the District Level committee are: -

1. Monitor seed production, supply, registration and incentives.
2. Support seed inspection, processing and labelling.
3. Coordinate training and capacity Building
4. Facilitate linkage with formal seed system.



Principal Secretary to Government

30.07.2025

