

State Level Multi-stakeholders' Consultation

Seed Systems for Traditional Varieties for Sustainable and Resilient Agriculture

- 19th June 2023
- University of Agricultural Sciences, Dharwad



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## **State Level Multistakeholder Consultation on Seed Systems for the traditional varieties for Sustainable and Resilient Agriculture**

A state level multi-stakeholder consultation, Karnataka was recently held at the University of Agricultural Sciences, Dharwad on 19<sup>th</sup> June 2023 on seed systems for the traditional varieties for Sustainable and Resilient Agriculture. The consultation was jointly organised by the UAS - Dharwad, National Rainfed Agriculture Authority (NRAA), Sahaja Samrudha, CROPS4HD and Working Group on Seed Systems (WGoSS) of RRA Network and was attended by diverse participants (*Annexure – 1 and 2*).



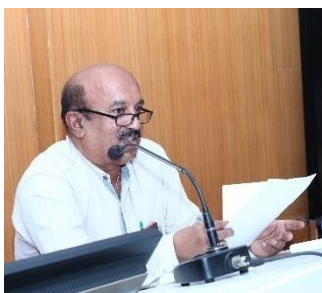
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## SESSION ~ 1

# Introduction to the Workshop



The program was started with **Dr. Ravi Hunje**, *Special Officer Seeds, UAS Dharwad* extending warm welcome and shared that this workshop is a sequel of the National Workshop on the same subject that the Vice-chancellor, UASD and SOS attended in New Delhi, organised by RRA network and National Rainfed Area Authority (NRAA), Government of India.



**Dr. B. D. Biradar**, *Director of Research UAS, Dharwad* remarked that farmers across the country are still using the time-tested traditional varieties (TVs) evolved over time. Breeders use them as breeding material. After the green revolution many of the traditional varieties and landraces are lost and the number of crops cultivated has narrowed down to 9 to 10 major crops. There

is a need for all stakeholders to come together to conserve the landraces to meet the future challenges. Dr. Biradar observed that the NGBPGR, PPV&FRA and the biodiversity registers provide a good framework for conservation.



**Ms. Bhagya Laxmi**, Convenor of the Working Group on Seed Systems for rainfed areas (WGoSS) of the national Revitalising Rainfed Agriculture (RRA) Network explained about the purpose of the consultation, and the importance of rainfed areas and the need for Traditional Varieties. The RRA network has partners in 13 different states of the country with 250 Civil Society Organisations (CSOs) in different thematic areas.

The WGoSS has an engagement with institutions which are working on traditional seeds like NBPGR, PPVFRA, MoA & FW, SAUs and crop specific ICAR institutions. WGoSS has experts from different disciplines guiding it. Under traditional varieties, neglected underutilized crop species is another important segment which also needs special focus. She informed about the series of national level workshops organized on the subject. This consultation is the follow-up meeting of the national workshop held on 20th December 2022 to deliberate on the pathways to mainstream the traditional varieties. In this workshop she has explained, about arriving at a framework for seed systems for traditional varieties appropriate for the state, and how State Govt., SAU's, National Agricultural Research Systems, FPOs, farmers and NGOs can work together to bring traditional varieties into popular use.





## SESSION ~ 2

### Sharing of Experiences

Moderating the next session **Shri. A. Ravindra**, *Director, WASSAN* brought out the lack of focus and investments in the traditional varieties that are much needed to ensure productivity and resilience in agriculture in rainfed areas. He explained the purpose of the deliberations is to enhance understanding of the TVs in Karnataka and also mentioned about the efforts being made by various stakeholders to enhance support for TVs.



**Dr. Hanumaramatti**, *UAS, Dharwad* shared his experiences and elaborating on the rich agricultural diversity in the Western Ghats. He also stressed that, in addition to *ex-situ* conservation of land races, it is also important to support ways of *in situ* conservation and supporting farmers in the revival of use of TVs. He shared examples of various types of TV paddy collection available at UASD. He also mentioned that traditional varieties are location and region specific and documentation of specific traits of the traditional varieties for which they are famous in a particular region is important.

“Simple purification and giving the seed back will also help. He recommended that guidelines should be prepared with necessary protocols for identification, purification and wide spreading of the TVs specific to a particular region.”

**Dr. Nagappa**, *Millet Breeder UAS, Dharwad* then explained about millets and the varietal development efforts at the university.

**Dr. M. D. Patil**, *Pulse Breeder, UAS, Dharwad*, shared his experience in using black seeded variety in breeding new disease resistant varieties of chickpea and other TVs in breeding for early maturing varieties of pulses.

**Dr. P. Ashoka**, *Senior Agronomist, UAS, Dharwad* narrated his experience in developing millets varieties and promotion.

**Sri. Boregowda**; a farmer-breeder shared his experience in conserving and developing new varieties. He has conserved 210 Traditional Varieties of paddy. He developed the Kannada *Tumba* paddy variety as well as developed *Sidda-sanna* variety of paddy. His application for registration with PPVFR is under process. He also has plans to develop two more varieties of paddy. A variety of *Gandha Sala* paddy has good *aroma*, and it gives yield of 18-20q / acre. Other farmers also shared their experiences with traditional varieties and how they could select, multiply a few varieties, and popularized them with other farmers.

**Sri. Anjaneya**; a farmer developed two varieties of paddy viz., *Andanuru-sanna*, *Sindoor-madhusale*; he has popularized these, and he is selling the seeds in Karnataka and outside the state. One of the FPOs promoted by Sahaja Samrudha has an annual turnover of above Rs.3.00 crores by producing and selling the traditional varieties of seed for different crop species.



**Ms. Anitha Reddy**: presented the journey and experiences of Sahaja Samrudhha. Farmers' groups and seed banks are established for conservation and popularization of traditional seeds in collaboration with seed savers and seed producers. She emphasized the importance of seed savers getting due recognition and acknowledgement. Participatory research on farm conservation of traditional seeds, and seed banks are key activities. Awareness and popularization of the traditional varieties through publication of annual calendars with recipes and through seed melas are the strategies followed. Sahaja has 58 seed producer groups conserving, multiplying and distributing 60 TVs. Seed mapping exercise was taken up in each region of Karnataka. Characterization data is being collected from the crop diversity blocks and identification of the farmers' preferred varieties is taken up through participatory varietal selection. So far farmers are conserving them by their own interest without any support. They also Started working on crops like Amaranthus.



**Shri. Sandip Pattnaik**, *CEO, Green Foundation* expressed concern over narrowing down of crop diversity and reduction in food choices. Appreciating the initiative taken up by UAS Dharwad, Sandip reiterated the need to bring TVs back into use.

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## SESSION ~ 3

### Inputs from Experts



The session started with **Dr. B. Rath, Technical Expert, National Rainfed Areas Authority (NRAA)**, Ministry of Agriculture, Government of India, giving introductory remarks. He explained about NRAA and its functions. Seeds being the key element for the growth of ecosystem, adoption of climate resilient crops that can withstand biotic and abiotic stress needs to be considered as critical to negotiate risk and to minimize crop failure. Release of suitable varieties in pulses, millets & other medicinal species for different agroclimatic regions can help in getting sustainable and effective output; this is an area where the TVs are important. Explaining that the current policies and programs in place only cater to the notified varieties, Dr. Rath emphasized on the need to bring an alternative seeds system in place to meet the demands for local & traditional landraces adapted to rainfed ecosystem. Such a seed system can only be best managed by farmers and their own institutions to be sustainable. He explained about the National Workshop organized by NRAA in collaboration to this agenda.

**Mr. Susanta Chowdary: Odisha Millet Mission (OMM)** narrated the processes followed in the OMM on using traditional varieties. After briefly sharing about OMM, he elaborated on the process, steps followed in the program to identify, characterize and bring the traditional varieties into formal seed chains. The OMM has a tripartite structure with Government, Civil Society and Research Institute playing a pivotal role with WASSAN as the program secretariat. Susantha explained the process of identification of land races by the community, the randomized design of the crop diversity blocks in farmers' fields, processes of participatory varietal selection of TVs with farmers following their own criteria and others. Season long data is collected for varietal characterization.

Farmers' selected varieties are purified with select ear-to-row seed production, followed by multi-location trials with farmers along with local checks of released varieties. Statistical analysis of the performance of the varieties in farmers' fields observed through crop cutting experiments is used to identify better

performing TVs for the location. Four TVs of finger millet are identified through this process for release by the State Landraces Varietal Release Committee (SVRC).

**Sri. Dinesh Balam:** *state coordinator of OMM* further added that Dept of Agriculture & Farmers' Welfare, Government of Odisha has constituted a working Group on Seeds, with experts from different institutions along with ICAR-IIMR, OUAT – chaired by Dr. K. S. Varaprasad, *Former Director of ICAR-IIOR* to develop the Standard Operating Procedure for Alternate Seed Systems for Landraces. It got approved by the Government of Odisha. A Landraces Varietal Release Committee (LVRC) was formed subsequently to process applications for and release of landraces. The government of Odisha has adopted a blend of the participatory approach and rigorous scientific analysis for the same.

## Opportunities to mainstream traditional varieties in Karnataka...



**Dr. Ashok Dalwai:** *former CEO of National Rainfed Agriculture Authority (NRAA)* emphasized that it is extremely important to develop a seed system for traditional varieties, given the new challenges that have emerged because of climate change which is manifesting in different forms.

Variations in the climate factors have implications on the entire production system. It will impact the pest and disease threshold levels, water bodies, atmosphere, characteristics of the soil profile including nutrients at Micro and Macro level and others. Adaptation response to climate change requires appropriate varieties to negotiate with these challenges. A more challenging task is to ensure availability of quality seeds to farmers started in 1960s. India is one of the countries worldwide which have recognized seed production system. In spite of such a system the formal seed systems' outreach is only 30-40% of the total requirement therefore it is very important now to improve quality of the rest of the crop's seeds outside the formal seed system. No investments have been made in this area so far.

**It is important to recognize that 'Seed' is a 'seed of development' for 'agricultural growth'.** A good seed influences



the yield and contributes to yield enhancement by 20-25%. Quality seeds in combination with good agronomic practices yield levels to a group further. To improve yield levels in constrained environments like rainfed areas we must focus on making available quality seeds and ensure adoption of good agronomic practices. This sets the context for developing an alternative seed system.

The seed act sets up the protocols for Central and State Varietal Release Committees to notify seeds developed by breeders; once notified the varieties are eligible to go into the seed chain. But the majority of farmers till today are using seeds which are not released through this protocol. Many farmers are dependent on farmers saving seeds. Ensuring that the farmer's saved seeds are true to type and are of reasonably good quality seeds is a big challenge. It is therefore important for the country to bring some protocols / methodology to identify right varieties outside the seed notification system, multiply and have a simple way of certification for use by farmers. We have a large number of traditional varieties, landraces, and wild varieties to select through some protocol. There are numerous examples of people across the country working on it.

Dr. Dalwai further explained that NRAA in collaboration with RRA Network initiated efforts in December 2022 to discuss about the necessary protocols to identify traditional varieties to build a formal, objective and transparent system to ensure farmers get the right variety and true to type of seeds. There are community seed banks developed by civil society organizations, conventional systems of farmer saved seeds and seed village program of the Government. Bringing these three together to develop a robust system to make quality seeds available to farmers is important. In his discussions, Dr. Dalwai emphasised that the Ministry of Agriculture, Karnataka has shown interest in traditional varieties as they are climate resilient. He suggested that this initiative could be included in the next years' budget; for this purpose, he suggested submitting a note to the Ministry by the Vice Chancellor, UAS-Dharwad along with RRA network for millets, pulses and oil seeds.

There are examples in other states like Odisha, Madhya Pradesh and West Bengal that can inform development of a system for Karnataka. He suggested that UAS- Dharwad take up the initiative on traditional varieties with the support of RRAN. The program may include identification of local varieties which are robust, resilient to climate factors, resilient to pests and diseases. The

advantage of selection from land races or traditional varieties in the field is that these are dynamically evolving along with the changing climate. These are particularly important for climate stressed areas. The university may also involve its postgraduate and doctoral students in this process of selection.

UAS-Dharwad may develop a protocol & share it with the Government of Karnataka to release it as a formal system. The ongoing schemes of Government of India and State Government can be used for this agenda. PG and PhD students can also be involved to identify good varieties to suggest the way forward.

Research system has good experience on *ex-situ* conservation where germplasm is brought and stored in the seed bank, but *In-situ* conservation will be more beneficial as we are saving the landraces wherever they are grown naturally which keeps changing accordingly to the changing climate. *In-situ* conservation is likely to give us better results as plant breeders may find it useful to use accessions from *in-situ* conserved area. NRAA has identified an area in Assam for *in-situ* conservation of Paddy varieties working along with NBPGR. UAS-D can also come up with some models for crops grown in rainfed areas.

Nearly 40-50 varieties of crops are cultivated in rainfed areas but very few crops have well developed seed system. Initiatives of *in-situ* conservation can be carried forward for crops cultivated under rainfed condition where there are a few notified/HYVs. It is useful to promote landraces and through a selection process a continuous improvement in yield can be achieved, which is otherwise a challenge. Budgets allocation and dedicated efforts for this purpose are the most important things to be considered for this purpose.

To summarize, there is a necessity of bringing the traditional varieties back in the context of climate change in order to serve almost 55% of farmers which are yet to be served with quality seeds. Emphasizing on the importance of *in-situ* conservation for a continuous development of appropriate seed systems for changing climate, Dr. Dalwai recommended UAS-Dharwad to take lead in initiating the policy and research process in Karnataka along with RRA Network.

## Scope of Main Streaming Traditional Varieties...



**Dr. K.S. Varaprasad:** *Former Director, ICAR - IIOR and Chairperson of the Working Group on Seed Systems (WGoSS)* for rainfed areas recollected his longstanding work at NBPGR and provided insights into the questions emerged during the workshop related to mainstreaming the traditional varieties.

**1. Evaluation in the context of organic inputs/ natural farming:** the varieties developed in the research system mainly targeted yield response to chemical inputs. With the change of context to agro-ecology / natural farming there is a need to evaluate the performance of traditional varieties with regards to agroecological farming/ natural farming. In several locations TVs respond well to natural inputs, at times performing well or even better than the released varieties as experienced by Odisha Millets Mission.

Identification and assessing the TVs in their locations, selecting, and providing quality seeds of the TV making them available to farmers is emerging as an important component in the mainstream seed systems.

**2. Role of NBPGR & PPVFRA in Seeds System:**

The second question Dr. Varaprasad addressed was on why mainstreaming TVs is important in spite of having the related institutions (NBPGR and PPV&FRA) in the formal agriculture system?

The main purpose of establishing NBPGR in the country was to supply germplasm to the breeding communities for increased food production. However, the wisdom of our ancestors who have developed such varieties was not given due importance. Germplasm collections mainly looked at a few common traits like yield, input response and pest and disease resistance to support the objective of national food security. Their collections have not substantially as that of traditional varieties. As per the data, there are less than 10,000 traditional varieties available in the gene bank based on the definition of traditional varieties with limited information on local name of variety, location, area and trait specification.

PPV&FRA was established to protect the rights of farmers with access and benefit sharing, besides other purposes. It tends to provide ownership of the traditional varieties only to few who have

registered the variety with it, whereas most of those varieties evolved in the public domain with contribution from several communities over historical time. PPVFRA has so far registered less than 2000 varieties of paddy while there are thousands of paddy varieties available with the farmers across India.

Recently, a good development in NBPGR is that it is giving back the germplasm to farmers for conservation, multiplication and use.

### **3. Emerging context of Climate Change:**

Dr. Varaprasad further elaborated on Dr. Ashok Dalwai's observation on the benefits of *in-situ* conservation through utilization. Traditional varieties are exposed to dynamic climate change and evolved continuously in its own native environment along with the gene transfer with the wild relatives occurring around. While conserved *in situ*, they provide a good germplasm basis for evolving varieties that are more adapted to climate change.

The proposition is not about replacing formal varieties with traditional varieties but addressing the gaps to look at traditional varieties at an ecosystem level on their adaptation and performance is extremely useful.

The ability of the traditional varieties to withstand the extreme climatic condition is often much better than the high yield varieties. Nutrition concerns are as important as climate change. There is a policy shift from food security to nutrition security to fight malnutrition across India. Traditional varieties with high nutrition density have a larger role to play in achieving nutritional security within the local ecosystems.

Over the past few decades, public & private investment has been made towards mainly 12 field crops and 11 vegetable crops despite having 1500 species available in NBPGR. This has significantly brought down the diversity among crop species. And 80% of human energy is dependent on these 5 - 6 crops. Therefore, there is a need to evaluate and promote the traditional varieties within their locations for nutrition security, adaptation to climate change and natural farming. These three are the vital concerns of the nation at this moment. Susanta and Dinesh quoted the example of finger millet variety from Odisha which performed better than released popular varieties when they are grown at their own place. Scientific evidence needs to be developed on traditional varieties in poly-cropping and multi-crop systems. The multi cropping system is performing extremely well in the context of climate change in the drought prone area.



## CONCLUDING SESSION

# Discussion and Next Steps



Following the inputs from experts and sharing of experiences, **Sri. A. Ravindra**, WASSAN posed the questions *below* for discussion, to arrive at points on which the house has consensus.

- *Is there a need for an alternative seeds system in Karnataka?*
- *What are the contours of the system?*
- *Can such a system be evolved in participation with farmers and their groups/ FPOs, CSOs and research system?*
- *What are going to be the roles and responsibilities of different stakeholders?*

The present discussion brought out the consensus about the need for establishing a support system for traditional varieties in Karnataka among the diverse multi-stakeholder house consisting of farmers championing the cause of conservation and improving traditional varieties, scientists, representatives from the civil society and agriculture department.

*The following action points emerged from the discussion:*

1. With the consensus emerging on the need to promote an alternate seed system for TVs, a core committee was formed to further discuss and evolve the modalities of the seed system for TVs. UAS-Dharwad has agreed to lead the initiative in Karnataka state.

2. *The Core Committee was formed with the following members:*

- Two representatives from UAS- Dharwad:
  - Dr. B. D. Biradar, *Director of Research*
  - Dr. Ravi Hunje (*Special Officer (seeds)*)
- One person from Sahaja Samrudha has made a long standing contribution to the agenda.
  - Smt. Anitha Reddy
- One representative from RRA Network
  - Smt. Bhagya Laxmi

- Core group members can pick up other members who have expertise, interest and are able to give time to form an extended core group.

It is recommended that the Hon'ble Vice Chancellor formally notify the constitution of this committee to take the agenda further.

3. WASSAN/RRAN and Sahaja will work on a draft on the purpose of the seed systems for TVs and detail its modalities and roles of stakeholders.
4. The draft prepared by the core committee will be shared with extended core group members in advance followed by organizing a physical meeting on 4<sup>th</sup> week of July 2023 for further discussion, inputs and finalization.
5. The finalized note will be presented to Dr. Ashok Dalwai and Vice Chancellor, UAS-D for further inputs by extended core group; to be completed by mid-Aug 2023.
6. The finalized note will be presented to the Department of Agriculture formally with support from Dr. Ashok Dalwai and the Vice Chancellor, UAS-Dharwad.
7. Meanwhile both UAS-Dharwad (S. A. Patil foundation) and RRAN may start working on undertaking relevant research as suggested by Dr. Dalwai.

The meeting ended with Dr. Ravi Hunje thanking the participants.



# Annexure - 1

## Participants

- 1) Dr. P. L. Patil  
Vice Chancellor, University of Agricultural Sciences, Dharwad  
(UAS-Dharwad)
- 2) Dr. B. D. Biradar  
Director of Research, University of Agricultural Sciences, Dharwad
- 3) Dr. Ravi Hunje  
Special Officer (Seed), UAS-Dharwad
- 4) Shri. A. Ravindra  
*Director, Watershed Support Services and Activities Network  
(WASSAN)*
- 5) Smt. Bhagya Laxmi  
*Associate Director, WASSAN*
- 6) Smt. Anitha Reddy. M  
*Associate Director, Sahaja Samrudha Karnataka*
- 7) Shri. Hareesh B.S  
*Director Program, Green Foundation, Karnataka*
- 8) Shri. Sandip Pattnaik  
*Chief Executive Officer, Green Foudation, Karnataka*
- 9) Dr. Badari Prasad  
*Scientist, University of Agricultural Sciences, Raichur*
- 10) Shri. Ganadhalu Srikanta  
*Media Advisor, Documentation, Bhoomi Sustainable Development,  
Karnataka*
- 11) Shri. Ravi K.  
*Project Director, Bhoomi Sustainable Development, Karnataka*
- 12) Shri. Ananda Teertha Pyati  
*Seed Coordinator, Sahaja Samrudha, Karnataka*
- 13) Smt. Seema  
*Project Coordinator, Sahaja Samrudha, Karnataka*

- 14) Shri. Basavana Gowda  
*Scientist (Horticulture), Basavana Gowda*
- 15) Dr. Ashoka. P  
*Sr. Agronomist & Head, UAS-Dharwad*
- 16) Shri. Shashidar T. R  
*Professor (Horticulture), UAS - Dharwad*
- 17) Dr. N.G. Hanamaratti  
*Principal Scientist, UAS-Dharwad*
- 18) Dr. Arunkumar Hosamani  
*Special Officer, Seeds, UAS - Raichur*
- 19) Dr. Vijayakumar. A. G  
*Seed production officer (G.P.B.) Seed unit, UAS - Dharwad*
- 20) Dr. N. K. Nayidu  
*Asst. Seed Production Officer, (G.P.B), Seed unit, UAS-Dharwad*
- 21) Dr. Prakash Bhat  
*Chief Executive Officer, People First Foundation*
- 22) Dr. N. Devakumar  
*Former Director of Extension, UAS – Dharwad*
- 23) Shri. N.H Bhandi  
*SMS (Soil Science), KVK, Gadag*
- 24) Dr. M. D. Patil  
*Scientist (Plant Breeding), AICRP on MULLaRp, UAS-Dharwad*
- 25) Dr. Nagappa Govanakappa  
*Breeder Small Millet, UAS - Dharwad*
- 26) Dr. Anisa M. Nimbal  
*Associate Professor (GPB), UAS - Dharwad*
- 27) Smt. Vasantha Kumari R.  
*Farmer*
- 28) Shri. Pradeep Kumar  
*Farmer*
- 29) Shri. A. N. Anjaneya  
*Farmer*
- 30) Shri. Bibijan Haleeman  
*Community Seed Bank, Sahaja Samrudha, Karnataka*



- 31) Shri. Ishwarappa Angati  
*Project coordinator, Sahaja Samrudha, Karnataka*
- 32) Ms. P. Poojitha  
*Programme Associate, WASSAN*
- 33) Shri. Ishwar Gouda  
*Desi Seed Saver, Producer, Mattigatti, Dharwad*
- 34) Shri. Samadhan B.  
*Programme Officer, WASSAN*
- 35) Smt. M. Leelavathi  
*Programme Officer, WASSAN*
- 36) Ms. Rakshitha Naik  
*Consultant, IBBN, RRAN, Karnataka*
- 37) Ms. Roopal Jena  
*Regional Coordinator, RRANetwork*
- 38) Shri. Mallikarjuna Patil  
*Lead Sustainable Agriculture, IFHD-Bangalore*
- 39) Shri. Amrut Dani  
*Research Coordinator, Sahaja Samrudra, Karnataka*
- 40) Shri. Nishant Bamkapur  
*Programme Coordinator, Sahaja Samrudra, Karnataka*
- 41) Shri Nanjundaswamy R.N.  
*Production Coordinator*
- 42) Shri. S. M. Rathod  
*UAS – Dharwad*
- 43) Shri. Praveen Hebballi  
*Farmer*
- 44) Shri. M. Saranappa  
*Farmer*
- 45) Shri. H.V Sajjan  
*Farmer*
- 46) Dr. Kumar C.J  
*Sr. Technical Officer, Seed unit, UAS – Dharwad*
- 47) Mr. Ashok Asuti  
*Assistant Engineer, Seed unit, UAS – Dharwad*

- 48) Dr. Basamma Patil  
*Technical Officer, UAS – Dharwad*
- 49) Mr. Kallesh D.T  
*Technical Officer. UAS - Dharwad*
- 50) Mr. Navan V. Malathi  
*UAS - Dharwad*
- 51) Smt. Geetha L.  
*ADA (SMS), Agriculture Department, Karnataka*
- 52) Smt. Asha. H. Mikali  
*ADA, Agriculture Department, Karnataka*
- 53) Mr. G. P. Nadaf  
*Chief Executive Officer, Bhoomika FPO Ranebennur  
Vanasiri Rural Development Society (VRDS) Ranebennur*
- 54) Mr. Hanumantappa N.M.  
*Director of Bhoomika FPO, Vanasiri Rural Development Society  
(VRDS) Ranebennur*
- 55) Mr. Srenik Raj  
*Desi Seed Producer, Chinnikatti Haveri*
- 56) Shri. Battada Boregowda  
*Farmer*
- 57) Sri. MoulesabHalemani  
*Farmer*

#### **LIST OF PARTICIPANTS JOINED VIRTUALLY**

- 1) Dr. Ashok Dalwai, IAS  
*Former Chief Executive Officer, National Rainfed Area Authority  
(NRAA), Ministry of Agriculture & Farmers Welfare Government of  
India*
- 2) Shri. Bisweswar Rath  
*Technical Expert, National Rainfed Area Authority (NRAA)  
Ministry of Agriculture & Farmers Welfare Government of India*
- 3) Dr K.S. Vara Prasad  
*Former Director for ICAR – Indian Institute of Oilseeds Research &  
Chairperson for the WGoSS for Rainfed Areas – RRA Network  
Hyderabad*

- 4) Shri. Susanta Chowdary  
*Senior Program Officer, Odisha Millet Mission*
- 5) Shri. Dinesh Balam  
*Policy Advocacy and Co-ordination, Odisha Millet Mission*
- 6) Dr. Prashant Armorikar  
*Director (Watershed Development), NRAA  
Ministry of Agriculture & Farmers' Welfare  
Department of Agriculture & Farmers' Welfare*
- 7) Shri. Pulak Ranjan Nayak  
*Programme Officer, Odisha Millet Mission*





# Annexure - 2

## Schedule

| Time                                   | Programme                                                                                                                                                                            | Speaker / Moderator                                                            |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| 9.45 – 10.00 am                        | Registration                                                                                                                                                                         | RRA Network team                                                               |
| 10.00 – 10.45 am                       | Welcome address                                                                                                                                                                      | Dr. B.D. Biradar,<br>Director of Research, UAS, Dharwad                        |
|                                        | Introductions, Introducing Working Group on Seed Systems (WGoSS), RRA Network & objectives of Workshop                                                                               | Ms. Bhagya Laxmi,<br>RRA Network & WASSAN                                      |
|                                        | <b>Tea Break (10.45-11.00 am)</b>                                                                                                                                                    |                                                                                |
| 11.00 – 1.30 pm                        | <b>Experiences in Karnataka and other states on Traditional Varieties</b><br>Ravindra A, Director, WASSAN                                                                            |                                                                                |
|                                        | • UAS - Dharwad work on landraces on millets, oilseeds, pulses and their performance                                                                                                 | Dr. Hanumaramatti & Dr. Naggappa<br>UAS Dharwad                                |
|                                        | • Experiences with AICRP- small millets & performance with different agronomic practices / Guli method                                                                               | Dr P. Ashoka,<br>UAS Dharwad                                                   |
|                                        | • Sahaja Samrudha experience on production, popularization and sales of Traditional varieties                                                                                        | Shri Krishna Prasad                                                            |
|                                        | • Experiences on collection, conservation and seed banks of Green Foundation                                                                                                         | Shri Sandip Patnaik                                                            |
|                                        | • Odisha experiences with using the landraces under Odisha Millets Mission (OMM)                                                                                                     | Shri. Susanta Chowdhry &<br>Shri Pulak Ranjan Nayak                            |
|                                        | • Sharing from representatives of KVKs, ARSs                                                                                                                                         | Scientists                                                                     |
|                                        | • Custodian farmers experiences                                                                                                                                                      | Farmers                                                                        |
|                                        | Discussion and listing out the points coming out                                                                                                                                     |                                                                                |
|                                        | <b>Lunch Break (1.30 - 2.15 pm)</b>                                                                                                                                                  |                                                                                |
| 2.15 – 4.30 pm                         | <b>Seed Systems for Traditional Varieties / land races &amp; neglected crops in Karnataka: Experts' Inputs</b><br>Dr. P. L. Patil, Vice-Chancellor, UAS- Dharwad & Shri. A. Ravindra |                                                                                |
|                                        | • Introductory remarks from NRAA                                                                                                                                                     | Dr. B. Rath,<br>National Rainfed Agriculture Authority (NRAA)                  |
|                                        | • Seed Systems for Rainfed Areas in Karnataka and scope for landraces                                                                                                                | Dr S. Rajendra Prasad, *<br>Former VC, UAS- Bengaluru                          |
|                                        | • Scope of mainstreaming Traditional Varieties                                                                                                                                       | Dr K. S. Varaprasad,<br>Former Director, ICAR-IIOR                             |
|                                        | • Odisha experience in mainstreaming traditional varieties                                                                                                                           | Dr. Arabinda K Padhee, IAS, *<br>Principal Secretary, Dept of A&FE, Odisha     |
|                                        | • Opportunities to mainstream traditional varieties in Karnataka                                                                                                                     | Dr. Ashok Dalwai,<br>Former CEO, National Rainfed Agriculture Authority (NRAA) |
| • Agenda emerging from the discussions | Shri. A. Ravindra                                                                                                                                                                    |                                                                                |
|                                        | <b>Tea Break (4.30 - 4.45 pm)</b>                                                                                                                                                    |                                                                                |
| 4.45 - 5.30 pm                         | <b>Discussion on Karnataka initiative - Shri. A. Ravindra</b>                                                                                                                        |                                                                                |
|                                        | • Inputs from UAS Dharwad - on way forward                                                                                                                                           | Dr. P. L. Patil, VC, UAS-D & Scientists                                        |
|                                        | • Points emerging from the discussions                                                                                                                                               | Ms. Bhagya Laxmi                                                               |
|                                        | • Conclusions & summing up                                                                                                                                                           | Shri. A. Ravindra                                                              |
|                                        | • Way forward and closing remarks                                                                                                                                                    | Dr. P. L. Patil, VC, UAS- Dharwad                                              |
| 5.30 – 5:45 pm                         | Vote of thanks                                                                                                                                                                       | Dr. Ravi Hunje, Special Officer (Seeds), UAS-D                                 |

\* Not participating