Dr. V P Sharma, NRAA welcomed the participants to the second meeting with international agencies and R&D institutions for collaborative efforts in the development process of rainfed agriculture. He on behalf of NRAA, also expressed appreciation on the increased number of participation in the meeting compared to the meeting that was held on 15.1.2019.

2. Dr. Ashok Dalwai, CEO, NRAA in his introductory address, thanked all the delegates to take time to attend this important meeting. He exhorted the need for a common platform to make potential use of the vast knowledge and experiences of national and international agencies including that of the research system anchored by ICAR. He informed the delegates that NRAA has taken concrete interfaces with FAO and GIZ with one TCP each. He emphasized that working together would yield compounding effect in consolidation of experiences into robust sustainable models; those may be useful not only for India, but also for other countries. He emphasized the need to focus on climate change adaptability and enhancing the resilience of farm operations, particularly in rainfed ecosystems. He emphasized that all sustainable models should have ultimate focus on farmers welfare and equity. Dr. Dalwai indicated that NRAA can play an important role as a policy advisory agency making use of the vast and rich knowledge and technological findings available with different institutions/agencies.
3. Shri B Rath, TE(WM), NRAA made a brief presentation on the vision and mission statement of NRAA which has been the outcome of the deliberations of first meeting and the initiatives taken on collaborative actions as follow up measurers. He explained the broad contours of Technical Cooperation Project (TCP) signed with FAO entitled “Sustainable and resilient livelihood options for rainfed areas of India through improved integrated crop livestock farming system”, with three sub-projects namely; (i) Land based integrated rainfed agriculture systems for improved income and nutritional security to be piloted in Odisha; (ii) Reviving traditional pasture routes in dry and arid parts of the country in selected routes in Rajasthan; and (iii) Resources Conservation in Sugarcane farming with Sugar beet as a replacement/ supplementary crop without comprising the crushing/ operational period of sugar mills and economic returns to farmers for pilot testing in Maharashtra and Karnataka. NRAA is engaged in another TCP with GIZ for formulation of a comprehensive “National Land Use and Soil Policy”. Shri Rath further explained the collaboration of NRAA with ICAR-CRIDA on (i) prioritization of rainfed districts; and (ii) on drought proofing action plans. NRAA is also working with ICAR, NBPGR on conservation of wild races in 2 selected cites. He also informed that NRAA is currently engaged in formulation of Guidelines for implementation of Drought Proofing Action Plans, Revision of Common Guidelines for Integrated Watershed Management Programme (IWMP), Policy advocacy for inclusion of tress on farms as item for assistance under NDRF/SDRF. Shri Rath invited the national and international agencies to collaborate with NRAA on these priority issues.

4. Dr. A K Sikka, IWMI explained the process of prioritization of rainfed areas and development of RAPI (Rainfed Area Priority Index) by ICAR during 2011-12. He explained
on the justifications regarding 67% weightage to NRI (Natural Resources Index) and 33% to ILI (Integrated Livelihood Index). He told that these indices are relevant for prioritization but as a policy maker, one has to look at deriving maximum return on the available investment. And for this adequately resource endowed areas like north-east and eastern part of the country, with poor human resources may be the trigger point to get immediate results. He also emphasized that fringe forest areas being the major livelihood of tribal communities of rainfed areas, need specific development approach. He also indicated that GAC report has been made public at COP 14 which has also focused on dryland areas and water management.

5. Dr. Arvind Padhi, Country Director, ICRISAT suggested greater role of NRAA in (i) securing land tenure systems – legalized land leased laws, (ii) involvement of local self governments (Panchayti Raj Institutions) in planning and implementation of watershed projects, and (iii) integration of rainfed area programmes with National Nutrition Mission. NRAA should associate State governments in the consultation processes to get better feedback and support in policy formulation and programme designing.

6. Dr. A P Singh, Advisor (Agriculture), NITI Aayog suggested appropriate use of GIS driven cadastral maps for planning, implementation and monitoring of land based programmes. He further indicated that this is the most appropriate time to take up amalgamation of IWMP with any of the schemes (e.g. RKVY) for closer supervision by Ministry of Agriculture, in the light of 15th Finance Commission proposals being finalized (w.e.f. April, 2020). He mentioned that there are over 530 sugar mills in the country with excess production even with operational time during October to May. The sugarbeet can
be grown in north India during this period only and so may not have any impact on crushing period of the sugar mills unless some alternatives are factored in.

7. Dr. A K Singh, DDG (Crops & Horti.) informed that bajra and sorghum crops have been sub-merged in rain water for third consecutive year in 4 districts of Rajasthan. We need to develop region specific diversification plans suitable to the current trends in climatic aberrations. He also informed that a compendium of technologies for rainfed areas has been developed by ICAR and which may be shared with NRAA for wider promotion.

8. Dr. A K Joshi, CYM Myers emphasized on consolidating, documenting or promoting indigenous technological knowledge, which are available with farming communities of rainfed areas.

9. Dr. S P Wani, ICRI suggested to refocus on watershed development from income enhancement prospective, along with conservation of natural resources and improvement of livelihoods. He further emphasized on economic productivity of water. He stated that NBBSS-LUP has developed a model for land use – LRI (Land Resource Inventorization Model).

10. Shri A R Khan, NABARD stated that remote sensing data can be used for prioritization of areas of high vulnerability. Successful integrated farming system clusters can be mapped and scaled up by NRAA. He also stated that NABARD has conducted a Water Productivity Study that may be used for diversification plan. He also said that unless there is an ownership by local bodies, it is difficult to maintain/sustain a watershed project. He indicated missing links of banking system in government programmes. He said
that grant based programme do not sustain, whereas loan based programmes are more sustainable. He also emphasized on capacity building of local communities in managing finances and linking development programmes with financial institutions (bank and insurances companies). He expressed need for a national level dedicated fund for vulnerable areas. He indicated that banks are not coming forward to finance agro forestry. This needs encouragement at farm level. He requested for NRAA-NABARD collaboration to hold a one day consultation with Heads of the financial institutions on the issue of blending policy with finance, which can be held at a mutual agreed place.

11. Dr. J P Mishra, ADG, PME, ICAR indicated three priority areas for contribution of NRAA. NRAA should work on a national strategy to reduce usage of fresh water by agriculture from existing 85% to 75% level in the next ten years looking at its scarcity and competitive demands. He however underlined the fact that though agriculture is the major user of water, but the governance of water is not with Ministry of Agriculture which is a great challenge. On the recent efforts of farmers welfare in cash assistance, challenges of aggregation in farm operations and sustainability need to be examined in a different prospective. He also opined that soil health card needs a different orientation to serve as soil health care card leveraging it with assistance of Rs. 6000 per farmer from PMKISSAN.

12. Dr. Saxena, IUCN stated that landscape based planning approach is important in rainfed areas and emphasized on piloting agro diversity conservation project in rainfed areas and he further indicated that corporate can also be roped in for landscape/ agri-heritage projects.

13. Shri Stephen Schmid, GIZ emphasized on promotion of bio-char through bio-char associations. He indicated that NRAA can join them on their pro-soil project on enhancing
land fertility and improving rural livelihood. CEO, NRAA requested him to submit a concept note on the same.

14. Dr. Anand Jain, NBAGR, Karnal, emphasized for promoting livestock sector as integral part of development process of rainfed areas. He also stressed on the need of pasture development, insurance and bank support in livestock projects.

15. Dr. D R Saha, ICAR, IISWC mentioned that agromet advisory on real time basis based on high resolution soil moisture analysis can help rainfed farmers significantly. He suggested that there should be a data sharing policy among the organizations so that it can be utilized efficiently. He informed that they have developed water management tools based on IOT (Internet of Things) by using soil moisture sensor which will be shared with NRAA for wider application.

16. Director, IISWC informed that there are lot of government programmes with similar mandates and there is need for a convergence architecture to make most of these programmes. PMKSY was meant to integrate various natural resource development schemes and to rely on regional planning, but due to lack of complete data and information, the documents may be lacking some critical inputs which are important in the planning process. This necessitates for development of a common data base of various government programmes.

17. Dr. V P Singh, Director, CIAT stated that rainfed areas are dominated by tribal communities, and the tuber/rhizomes/root crops are common in their food system, therefore, there is need to include these crops in drought proofing programmes.
18. Mrs. Nafees Meah, IRRI, emphasized on the development of the value chain system and marketing structure for better returns in rainfed agriculture.

19. Ms. Divya Dutt, UNEP suggested on analysis of to what extent pricing and fiscal policy is contributing to crop choices and what alternative subsidy models are feasible. She also emphasized on use of NRI & ILI for state level action plan on climate change.

20. Shri Ashish, IFPRI, mentioned that there is need to encourage price signals to tilt cropping in favour of low water duty crops. He also emphasized on focus on rural non farm sector in rainfed area to mobilize additional livelihood and income support from secondary agriculture. He mentioned that livestock sector contribute 1/3rd of the agricultural GDP but adequate budget provisions are not made. This requires immediate relook. He further suggested that a differential credit policy for rainfed areas may be formulated, so that the dependence on farming community on money lenders can be reduced from the current level.

21. Ms. Marie Aude Even, IFAD emphasized on gender sensitization and involvement of SHGs in all programmes and schemes for sustainable agriculture. She also informed that IFAD is implementing APDMP in five district of Andhra Pradesh. NRAA can make use of the synergy at the field level by integrating the efforts in the common project districts. She further suggested for development of common portal for accumulating knowledge experience from all stakeholders.

22. Dr. Javed Rizvi, ICRAF indicated their willingness to work with NRAA on agro-forestry project including plantation. He suggested that NRAA should suggest quality check for the planting material to ensure desired benefit to the farming community in large scale
plantation drives. He appreciated NRAA’s efforts to put in place a policy for NDRF/SDRF relief in case of natural calamities and damage to the trees.

23. Mr. Tomio Schichire, FAO appreciated NRAA’s efforts to bring all international organizations at one platform and also taking up bilateral and multi lateral projects to implement at field level and share the lessons with all stake holders. He was of the opinion that this kind of inclusive approach is very appropriate for India.

24. Mr. A H Rizvi, ICARDA suggested promoting fodder cactus and pulses in arid zones.

25. Dr. C A Ramarao, CRIDA mentioned that there are no separate national data base for rainfed crops. DES of DAC&FW and MoSPI may be requested to collect specific data at district and sub-district level. He indicated that the partnership with KVK in rainfed districts will go a long way to track the sustainability of watershed on long term basis. He emphasized on use of remote sensing to monitor watershed implementation at sub district levels.

26. Ms. Jyotsna Biswal, ILRI emphasized for promoting tree fodder and popularising market structure for tree fodder. She also emphasized that how agriculture can be made more attractive and entrepreneurial to retain youth and agriculture.

27. Dr. K V Prabhu, PPVFRA appreciated the efforts of NRAA for the cause of rainfed farming community. He observed that it is high time to look beyond agriculture to ameliorate problems of rainfed areas and providing better economic gains. Advantage of schemes like start up India and MSME to promote entrepreneurship among youth to set up agro based production processing and marketing units in rainfed areas, need to be accessed. He said that a number of private players including big corporates are supporting
these initiatives under CSR programmes. NRAA need to explore creating development platform associating such corporate sectors. He also said that wind energy, solar energy can be used effectively to create rural jobs.

CEO, NRAA Dr Ashok Dalwai concluded the round table by thanking all the delegates for their active participation, suggestions & inputs. He agreed for holding a Joint NRAA-NABARD workshop to blend policies & finance together and also suggested for development of a common portal for sharing knowledge & experiences of mutual interests.

The meeting ended with thanks to all.
List of Participants

**Drought Proofing of critical Drought Prone Districts and Partnership with FAO on Sustainable Initiatives etc.**

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<tr>
<th>S.No.</th>
<th>Name &amp; Designation</th>
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<td>1.</td>
<td>Dr. Ashok Dalwai, Chief Executive Officer</td>
<td>NRAA</td>
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<td>2.</td>
<td>Shri P Pravin, ADG</td>
<td>ICAR</td>
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<td>3.</td>
<td>Dr. B. S. Prakash, Technical Consultant (Senior)</td>
<td>NRAA</td>
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<td>4.</td>
<td>Dr. Sarita Rani, Sr. Consultant</td>
<td>NRAA</td>
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<td>5.</td>
<td>Dr. A R Khan</td>
<td>NABARD</td>
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<td>Dr. Anand Jain</td>
<td>NBAGR, Karnal</td>
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<td>7.</td>
<td>Dr. Babita Singh</td>
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<td>8.</td>
<td>Dr. V P Sharma, Technical Consultant</td>
<td>NRAA</td>
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<td>9.</td>
<td>Dr. Praveen Kumar, Head of Division</td>
<td>ICAR-CAZRI</td>
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<td>10.</td>
<td>Mr. Tomio Shichiri, FAO Representative in India</td>
<td>FAO, India</td>
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<td>IFAD</td>
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<td>Dr. K V Prabhu, Chairman</td>
<td>PPVFRRA</td>
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<td>Dr. P R Ojasvi</td>
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<td>Mr. Aqeel Hasan Rizvi</td>
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<td>Mr. Nafees Meah, Regional Representative South Asia</td>
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<td>Dr. Suhas Wani</td>
<td>ICRISAT</td>
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<td>Dr. Arvind Padhi, IAS, Country Director</td>
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<td>22.</td>
<td>Mr. Stefan Schmid</td>
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<td>Mr. Navin Vivek Horo</td>
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<td>24.</td>
<td>Ms. Divya Dutt</td>
<td>UNEP</td>
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<td>25.</td>
<td>Dr. Vivek Saxena, Country Representative</td>
<td>IUCN-INDIA</td>
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<td>26.</td>
<td>Archana Chatterjee</td>
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<td>27.</td>
<td>Dr. Javed Rizvi, Regional Coordinator-India</td>
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<td>28.</td>
<td>Shri Devashree Nayak, Agro-forestry</td>
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<td>Gender Scientist</td>
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<td>31.</td>
<td>Dr. C A Ramarao</td>
<td>CRIDA, Hyderabad</td>
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<td>32.</td>
<td>Dr. A K Joshi</td>
<td>CIMMYT</td>
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<td>33.</td>
<td>Dr. A P Singh, Advisor (Agriculture)</td>
<td>NITI Aayog</td>
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<td>34.</td>
<td>Dr. A K Singh</td>
<td>DDG (Crops &amp; Hort.)</td>
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National Rainfed Area Authority
Dept of Agriculture, Cooperation & Farmers Welfare
Ministry of Agriculture & Farmers Welfare
NRAA was established as per decision of Cabinet on 3rd November 2006 as an expert body of Ministry of Agriculture to provide the much needed knowledge inputs regarding systematic up-gradation and management of country’s dry land and rainfed agriculture.
Outcome of first meeting

- First meeting was held on 15.01.2019
- International organizations participated: UNEP, IUCN, FAO, ICRAF, IFPRI, ICARDA, CIMMYT and GIZ.
- DAC&FW, PPVFRA, ICAR and NITI Aayog also participated.
- The suggestions received during the meeting were very useful and NRAA has infused these thoughts into its work:
  - Vision and mission of NRAA finalized
  - Launching of Technical cooperation projects with FAO
  - Collaboration with GIZ
  - Development of drought proofing plans with CRIDA
Vision and Mission of NRAA

**Vision:** To make rainfed agriculture an economically viable enterprise for improving livelihood & welfare of farming community, by adopting appropriate strategies compatible with agro-ecology, agro-biodiversity and sustainability.

**Mission:** To promote prosperity of farmers and ensure inclusive growth in rainfed areas of the country on a sustainable basis.
FAO Technical Cooperation Projects

Sustainable and resilient livelihood options for rainfed areas of India through improved integrated crop livestock farming system

- Landscape based integrated rainfed agriculture systems for improved income and nutritional security – Odisha
- Reviving traditional pasture routes in dry and arid parts of the country – Rajasthan
- Resource Conservation in Sugarcane farming – Sugar beet as a replacement/ supplementary crop without compromising the crushing/ operational period of sugar mills and economic returns to farmers – Maharashtra and Karnataka
Landscape based integrated rainfed agriculture systems for improved income and nutritional security

The project aims to cover at least 1000 households in at least 3 revenue villages

**WATER MANAGEMENT TO MITIGATE DRYSPELLS**

**CLIMATE RESILIENCY CROP DIVERSIFICATION**
- Diversification of mono-cropped rainfed rice systems/rice fallows to appropriate millet based farming system

**COMMUNITY SEED CENTRES**
- Development of seed banks to supply appropriate seed through community seed systems through convergence

**NUTRI GARDENS IN THE BACKYARD**
- Promotion of nutri-gardens

**PROCESSING, PROCUREMENT AND MARKETING**
- Setting up of primary processing units
- Aggregation & Marketing through FPOs
- Procurement of millets, pulses and oilseeds

**LIVESTOCK**
- Setting up at least 3 indigenous breed farm-clusters
- Setting up small ruminants vaccination systems

**POLICY ADVOCACY & CONVERGENCE**
Reviving traditional pasture routes in dry and arid parts of the country

- Improving the productivity of existing CPRs to provide better forage to livestock
- Development of new or revival of existing CPRs en-route
- Development of Common Facility Centres to serve as a multiple services platform
- Creation of livestock watering points en-route
- Development of fodder nursery along the route
- Developing information & educational communication material for the community
- Integrating government interventions under animal health service
- Converge with other government and CSR programmes
- Developing a technology enabled tracking and monitoring system
- Community mobilization and strategic advocacy to enhance involvement
- Developing business plans/models for promoting livelihood opportunities for pastoralists
- Focus on health, education and awareness levels of pastoralists
Resource Conservation in Sugarcane farming

To evaluate the efficacy of sugar beet cultivation in different agro ecologies of country as an alternative or supplementary crop to sugarcane for resource conservation, enhancing farmers income and extending crushing period of sugar mills

Interventions

- Sugar beet as inter crop in the existing sugarcane areas
- Sugar beet as a substitute to sugarcane
- Enhancing processing capacity of sugar mills
- Additional facilities required in crushing
- Studying the soil health and environmental impact
GIZ Collaboration

- Formulation of National land use and soil policy
  - Analysing the available draft policies
  - Regional consultations with key stakeholders: International Institutes, States, ICAR Institutes, State Agricultural Universities in respective regions;
  - National consultation to finalise the draft
  - National Consultant is being engaged to synthesise the available information

- Collaboration with GIZ and RRA-N: organising National Consultation on 23rd September on ‘Invest on Land for Life: Policy Framework for Land Degradation Neutrality in Rainfed Areas Post UNCCD COP 14’
Collaboration with ICAR

- **Prioritization of rainfed districts - CRIDA**
  - Task Force Constituted
  - Three meetings of task force held
  - Based on changed NRI & LHI scenario vulnerability is being assessed
  - Report likely to be finalised by Sept, 2019

- **Drought Proofing – CRIDA**
  - Assessment of natural resources and production systems
  - Water budgeting: deficiencies in worst scenario is assessed
  - Based on land use and agro-ecology, interventions are suggested

- **Agro biodiversity – NBPGR**
  - Two sites for in-situ conservation of land races have been identified
  - Expert team visited the site
  - Process for handing over of land has been initiated
  - DPR is being prepared
Areas for Collaboration

NRAA is currently engaged in developing/ suggesting/ modifying Policies in following areas:

✓ National Land Use and Soil Management Policy
✓ Guidelines for implementation of Drought Proofing Action Plans
✓ Revision of Common Guidelines for Integrated Watershed Management Programme (IWMP)
✓ Policy advocacy for inclusion of trees on farms as item for assistance under NDRF/ SDRF
Thank You!