Training Programme on Forest Genetic Resource Assessment, Conservation & Management for Other Stakeholders

1-3 November 2017

Sponsored by



Ministry of Environment, Forest and Climate Change Government of India, New Delhi

Organized by



Institute of Forest Biodiversity (Indian Council of Forestry Research and Education) Hyderabad



Second Training Programme on Forest Genetic Resource Assessment, Conservation & Management for Other Stakeholders, 1-3 November 2017, Venue – Institute of Forest Biodiversity, Hyderabad

Report of Training on 'Forest Genetic Resource Assessment, Conservation & Management for Other Stakeholders', 1-3 November 2017

As per the mandate of the Ministry of Environment, Forest and Climate Change, Government of India, the second training programme on 'Forest Genetic Resource Assessment, Conservation & Management' for other stakeholders was organized at Institute of Forest Biodiversity (ICFRE), Hyderabad, from 1st to 3rd November 2017. The course director Dr. S. Pattanaik, Scientist F, welcomed the trainees and informed them about the host Institution and the purpose of the programme. Sri D. Jaya Prasad, IFS, Director, Institute of Forest Biodiversity, Hyderabad, formally inaugurated the programme and wished the trainees a wonderful learning experience during the course of the training. Altogether fifty trainees, belonging to seven Institutions, registered and attended the programme. A detailed list (Appendix I) and composition of trainees is provided in the section on trainee composition.

The objective of the programme was to equip the trainees (other stakeholders) with broad knowledge about what constitutes Forest Genetic Resources (FGR), importance of FGR in biodiversity conservation, threats faced by FGR, modern technologies available to assess & monitor FGR, various approaches for FGR conservation & Management. To meet this objective, the training programme consisted of nine classroom sessions and two field visits. The schedule of the programme is appended in Appendix II

Classroom sessions:

The classroom sessions covered the following aspects of Forest Genetic Resource and one management session on 'Work and Mind'. These sessions were handled by seven resource persons from various organizations. Besides these seven persons, four other internal resource persons helped in mobilizing resources for the programme. A brief biodata and contact details of the resource persons are appended in Appendix III.

1) Forest Genetic Resources – basic concepts, characteristics of forest genetic resources.(Dr. G.R.S. Reddy, Scientist G, IFB, Hyderabad)

- Value and Importance of Forest Genetic Resources economic value, environmental value, ecosystem services and resilience, social value, cultural value, medicinal value, scientific value, etc.(Dr. G.R.S. Reddy, Scientist G, IFB, Hyderabad)
- Factors Affecting Forest Genetic Resources Opportunities and challenges in their sustainable utilization (Dr. A. Sabitha Rani, Assistant Professor, Osmania University)
- In situ conservation of Forest Genetic Resources in protected area networks (National parks, Biosphere reserves, Wildlife sanctuaries etc.). (Sri D. Jayaprasad, IFS, IFB, Hyderabad)
- 5) *Ex situ* conservation approach of conserving and managing FGR. (Sri Pravin. H. Chawhaan, Scientist G, IFB, Hyderabad)
- HRD management session on Work and Mind. (By Dr. M. C. Das, Consultant, MCD Associates)
- Application of GIS & GPS tools in Forest Genetic Resource assessment, monitoring, conservation and management. (Dr. C.S. Jha, National Remote Sensing Centre, Hyderabad)
- Application of genetic tools in FGR assessment, conservation and management. (Dr. S. Pattanaik, Scientist F,IFB, Hyderabad)
- Circa situm approach (Agroforestry, Farm forestry, etc.) of conserving and managing Forest Genetic Resources. (Dr. G.R.S. Reddy, Scientist G, IFB, Hyderabad)

Field visits:

The field visits consisted of visit to the gene conservation stands of Pterocarpus santalinus located inside the campus of Institute of Forest Biodiversity, Hyderabad and visit to the Forest Research Centre, Mulugu, under the Telengana Forest Department. During the former visit the trainees were explained the purpose, the sampling methodology of genetic material, the nursery techniques, the plantation establishment techniques and the statistical design adopted. During the latter visit the trainees were taken around the trial plots (progeny trial, clonal trials) and seed orchards of 40 economically important tree species viz., Dalbergia latifolia, Tectona grandis, Hardwickia binata, Soymida febrifuga, Sterculia urens, Anthocephalus cadamba, Madhuca indica, Mitragyna parvifolia, Chloroxylon swietenia, Stereospermum soyalinthis, Buchanania lanzan, Dolichandron crispa, Melia dubia, Terminalia tomentosa, Ceiba pentandra, Hymenodictyon excelsum, Ougenia oojenensis, Boswellia serrata, Pterocarpus santalinus, Melia azedarach, Simarouba glauca, Holeptilea integrifolia, Santalum album, Cochlospermum religiosum, Pongamia pinnata, Ailanthus excelsa, Givotia rotteliformis, Gmelina arborea, Bixa orelliana, Aegle marmelos, Acacia nilotica, Azedirachta indica, Casuarina junghaniana, Radermachar xylocarpa, Gliricidia maculate and NTFP species (Amla, Jamun, Seethaphal, Tamarind and Velaga). The trainees also visited nursery areas and got first-hand experience on rooting media, misting system of propagation, mist-less system of propagation, green house, lath house, vermicomposting etc.

Video shows:

Three video clips viz., (i) What is biodiversity and why is it important? (ii) Why understanding forest genetic diversity is vital for future options (iii) Maintaining tree genetic diversity, sourced from Biodiversity International and CSIRO were shown to the trainees.

Composition of trainees:

Altogether fifty trainees, belonging to seven Institutions, participated in the training programme. Of these, forty-two trainees (84%) were females and eight trainees (16%) were males (Figure 1). By profession, there were fifteen Lecturers/Assistant Professors/Professors (30%), three Ph.D. students (6%), one research scholar (2%) and thirty-one M.Sc. students (62%) (Figure 2). A detailed list of stakeholders along with their affiliation and communication details is appended in Appendix I.

Figure 1: Trainee composition by gender

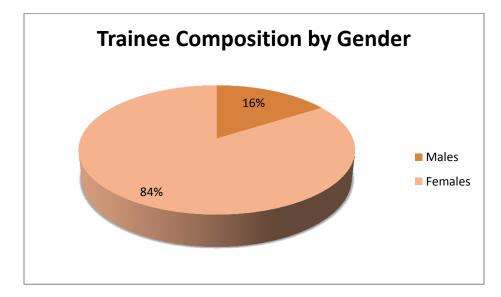
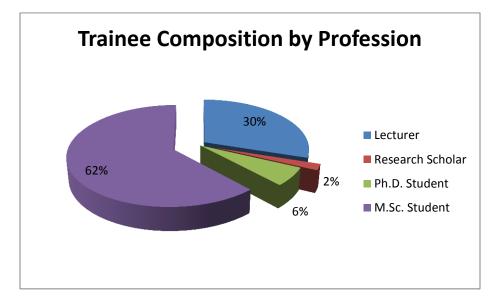


Figure 2: Trainee composition by profession



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Feedback of trainees:

A valedictory function was held on third day of the programme, after completion of all classroom sessions and field visits. All trainees were requested to give their oral as-well-as written feedback for further improvement of the training programme. The trainees were requested to rate the programme for nine parameters. The responses of trainees to these nine parameters are depicted below (Figure 3 to Figure 11). Overall, 47% trainees rated the training as excellent and 49% trainees rated it as very good (Figure 10). About 67% trainees felt that the training will be very useful and 33% useful, in their professional careers (Figure 11).

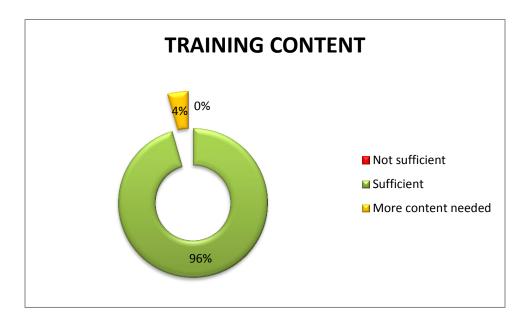


Figure 3: How was the training content?

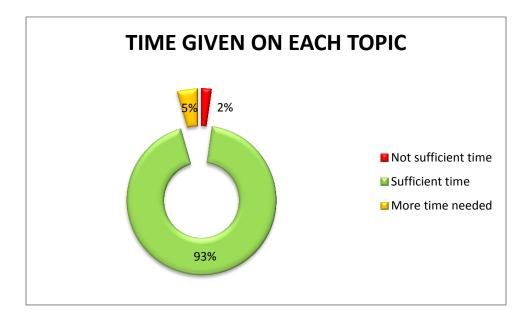
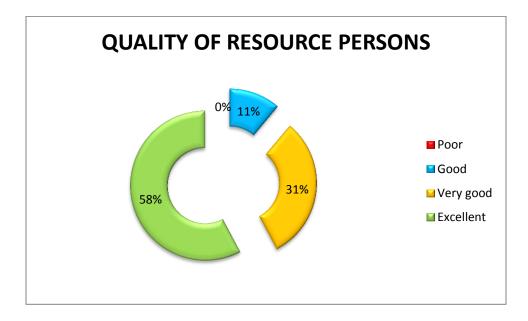


Figure 4: Was enough time given on each topic covered?

Figure 5: How do you rate the resource persons?



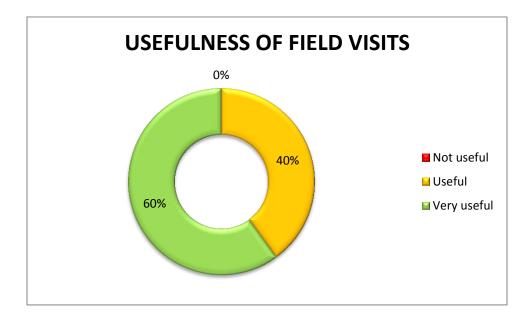


Figure 6: How do you rate the field visits?

Figure 7: How do you like the venue arrangements?

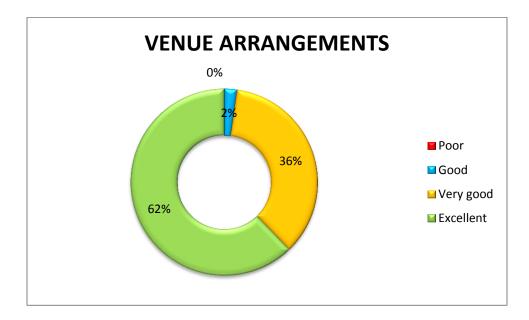




Figure 8: How do you like the food arrangements?

Figure 9: How do you like the travel and accommodation arrangements?



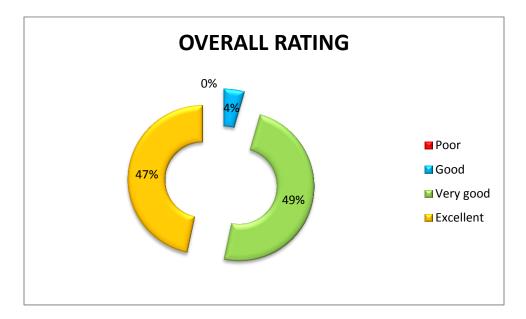
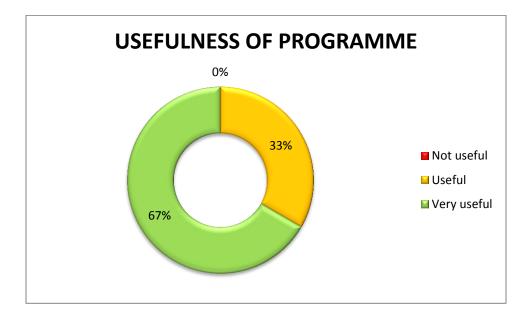


Figure 10: Overall, how do you rate the programme?

Figure 11: How useful will the training be in your profession?



Following are some of the suggestions that emerged from the feedback.

- Some practicals viz. seed processing, planting, sample plot enumeration etc, or paper based exercises should be built into such training programme.
- On all training days, afternoon sessions should be outside of classrooms i.e. field visits, practicals etc.
- More stakeholders from other states should be encouraged to participate in future programmes.
- Provision of Travelling Allowance should be made for students.
- More time should be allotted to each resource person.
- The programme may be organized over a longer duration (5-7 days)
- The Institute should organize similar trainings on Forests & Forestry, Forest Biodiversity, Agroforestry, Trees outside forest etc.

After the feedback session, all trainees were provided with a participation certificate. The programme was concluded with vote of thanks from the course Director Dr. S. Pattanaik. Photographs pertaining to inaugural session, classroom sessions, field visits and valedictory function are appended in Appendix-IV

Appendix-I

SI Contact Email ID Name of trainee Name of Institution Profession No. number Tasarruf Ahmad Asst. Professor Doon Business School, Dehradun 7417530057 ahmadtas3131@gamil.com 1 2 Prof .N. Savithramma Professor S. V. University, Tirupati 9885223773 prof.savithri@gmail.com Guru Ghasidas Vishwavidyalaya, sntshprjpt@reddifmail.com 9479168632 3 Dr. Sathosh Kumar Prajapati Asst. Professor Bilaspur Guru Ghasidas Vishwavidyalaya, 4 Neelima Meravi Research scholar 7587351809 neelimaggv@reddifmail.com Bilaspur S. V. University, Tirupati 9491580112 ankanna2010@gmail.com 5 S. Ankanna Ph.D. Student University College for Women, Koti, 7995738564 6 B. Komala Carol M.Sc. Student komalacaroll@gmail.com Osmania University, Hyderabad University College for Women, Koti, 9912841560 jaanubhargavi90@gmail.com 7 S. Jhanu Bhargavi M.Sc. Student Osmania University, Hyderabad University College for Women, Koti, 8 Gundala Samanvitha M.Sc. Student 7013018970 samanvitha9000@gmail.com Osmania University, Hyderabad University College for Women, Koti, 9 Kongari Prashanthi M.Sc. Student 9160503145 prashanthikongari1093@gmail.com Osmania University, Hyderabad University College for Women, Koti, 10 Nagarakunta Mamatha M.Sc. Student 7702714347 Nil Osmania University, Hyderabad Nizam College, Osmania University, 9440747620 avijaybhaskarreddy@gmail.com 11 Dr. A.Vijaybhaskar Reddy Asst. Professor Hvderabad University College for Women, Koti, 12 CH. Navanitha M.Sc. Student 7730070410 Nil Osmania University, Hyderabad University College for Women, Koti, 8096139822 aletisravanthi2015@gmail.com 13 A. Sravanthi M.Sc. Student Osmania University, Hyderabad University College for Women, Koti, 9618300603 14 Surnapaka Naveena M.Sc. Student navvena.spk@gmail.com Osmania University, Hyderabad University College for Women, Koti, 15 Erigi. Navaneetha M.Sc. Student 7032710772 Nil Osmania University, Hyderabad University College for Women, Koti, 9490933816 amenabarakat@vahoo.com 16 Dr. Amena Asst. Professor Osmania University, Hyderabad

List of Other Stakeholders

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Training schedule

'Forest Genetic Resource Assessment, Conservation & Management'

Sponsored by: Ministry of Environment, Forest and Climate Change Organized by: Institute of Forest Biodiversity, Hyderabad

Day-I (1st November 2017)

9.0 am – 10.0 am: Registration

- **10.0 am 10.15 am:** Inauguration
- **10.15 am 10.30 am:** Tea break

10.30 am – 12.0 Noon:

- Presentation on 'Forest Genetic Resources basic concepts: What constitutes FGR?, characteristics of FGR' And
 - And
- Presentation on 'Value and Importance of Forest Genetic Resources economic value, environmental value, ecosystem services and resilience, social value, cultural value, medicinal value, scientific value, etc.'
 Dr. G.R.S. Reddy (IFB, Hyderabad)

12.0 Noon - 1.15 pm:

- Presentation on 'Factors affecting Forest Genetic Resources Opportunities and challenges in their conservation and sustainable utilization' Dr. A. Sabitha Rani (Osmania University)
- **1.15 pm 2.15 pm:** Lunch break

2.15 pm – 3.15 pm:

 Presentation on 'In *situ* conservation of Forest Genetic Resources in protected area networks (Biosphere reserves, National parks, Wildlife sanctuaries etc.)'
By Sri D. Jaya Prasad (IFB, Hyderabad)

3.15 pm – 3.30 pm: Tea break

3.30 pm – 4.30 pm:

- Presentation on '*Ex situ* conservation approach of conserving and managing Forest Genetic Resources'
 Sri P. H. Chawhaan (IFB, Hyderabad)
- Video show

Day-II (2nd November 2017)

10.0 am – 11 am:

• HRD management session on Work and Mind **By Dr. M. C. Das (MCD Associates)**

11.0 am – 11.15 am:

• Tea break

11.15 am – 12.15 pm:

 Presentation on 'Application of GIS & GPS tools in Forest Genetic Resource assessment, monitoring, conservation and management'
Dr. C.S. Jha (NRSC, Hyderabad)

12.15 pm – 01.15 pm:

• Video show

1.15 pm – 2.15 pm:

• Lunch break

2.15 pm – 3.30 pm:

Presentation on 'Application of genetic tools in FGR assessment, conservation and management'
By Dr. S. Pattanaik (IFB, Hyderabad)

3.30 pm -3.45 pm:

• Tea break

3.45 pm – 4.30 pm:

• Visit to *ex situ* conservation area of Redsanders & Sandalwood at IFB, Hyderabad

Day-III (3rd November 2017)

8.00 am -1.30 pm:

• Field visit to Forest Research Station, Mulugu for demonstration of *ex situ* conservation methods.

1.30 pm – 2.30 pm:

• Lunch break

2.30 pm – 3.30 pm:

Presentation on 'Circa situm approach (Agroforestry, Farm forestry, etc.) of conserving and managing Forest Genetic Resources.
By Dr. G.R.S. Reddy (IFB, Hyderabad)

3.30 pm – 4.0 pm:

• Valedictory and certificate distribution.

Appendix III

| Sri D. Jayaprasad | | Dr. G.R.S. Reddy | |
|-------------------|--|------------------|--|
| Designation | Director | Designation | Scientist G |
| Organization | IFB, Hyderabad | Organization | IFB, Hyderabad |
| Qualification | Indian Forest Service, Kerala cadre, 1990 | Qualification | Ph.D. (Forestry) |
| Experience | Over 25 years' experience in forestry and wildlife management | Experience | Over 25 years' research experience in the field of forestry |
| Contact No | 040-66309501 | Contact No | 040-66309502 |
| Email ID | jpdusi@gmail.com | Email ID | grsreddy@icfre.org |

Internal Resource Persons

| Sri P. H. Chawhaan | | Dr. S. Pattanaik | |
|--------------------|---|------------------|--|
| Designation | Scientist G | Designation | Scientist F |
| Organization | IFB, Hyderabad | Organization | IFB, Hyderabad |
| Qualification | M.Sc. Student Agriculture (Plant Breeding & Genetics) | Qualification | Ph.D. (Forestry) |
| Experience | Over 27 years' experience in forestry with special reference to quantitative forest genetics and tree improvement | Experience | Over 19 years' research experience in the field of forestry |
| Contact No | 040-66309520 | Contact No | 040-66309506 |
| Email ID | pravinchawhaan@icfre.org | Email ID | pattanaiks@icfre.org |

| Dı | : M. Deepa | Sri M. B. Honnuri | |
|---------------|---|-------------------|--|
| Designation | Scientist C | Designation | Scientist C |
| Organization | IFB, Hyderabad | Organization | IFB, Hyderabad |
| Qualification | Ph. D. (Entomology) | Qualification | M. Phil, M.Sc. |
| Qualification | | | Student Botany |
| Experience | Seven years' research experience in forest entomology | Experience | Over fifteen years' research experience in forest biodiversity and agroforestry |
| Contact No | 040-66309500 | Contact No | 040-66309500 |
| Email ID | deepam@icfre.org | Email ID | mbhonnuri@icfre.org |

| Sri Pankaj Singh | | Sri Anil John | |
|------------------|--|---------------|---|
| Designation | Scientist B | Designation | Deputy Conservator of Forest |
| Organization | IFB, Hyderabad | Organization | IFB, Hyderabad |
| Qualification | M.Sc. Student (Organic Chemistry) | Qualification | MBA (Finance) |
| Experience | Seven years' research experience in NTFP chemistry | Experience | Over twenty years' experience in forestry and forest management |
| Contact No | 040-66309500 | Contact No | 040-66309524 |
| Email ID | psingh@icfre.org | Email ID | anil68john@gmail.com |

External Resource Persons

| Dr. | A. Sabitha Rani | Dr. C. S. Jha | |
|---------------|--|---------------|--|
| Designation | Assistant Professor | Designation | Scientist |
| Organization | Department of Botany, University College for Women, Osmania University, Hyderabad | Organization | National Remote Sensing Centre, Hyderabad |
| Qualification | Ph.D. (Genetics) | Qualification | Ph.D. |
| Experience | Over 25 years research experience and 12 years teaching experience | Experience | Over 25 years' research experience in remote sensing of vegetation |
| Contact No | 9866930111 | Contact No | 9392048008 |
| Email ID | sabitaammana@yahoo.com | Email ID | chandra.s.jha@gmail.com |

| Dr. M. C Das | | |
|-----------------------|--|--|
| Designation | Management consultant | |
| Organization | MCD Associates, Vijayawada | |
| Qualification | Ph. D. | |
| Experience | Over 47 years' experience in teaching Commerce and Management subjects, soft skills, behavioral subjects and marketing strategies. | |
| Contact No 9849085411 | | |
| Email ID | dgmcdas@gmail.com | |

Appendix-IV

Training Photographs

Figure 12: Welcome address by course director Dr. S. Pattanaik



Figure 13: Inauguration of training programme by Sri D. Jaya Prasad, Director IFB





Figure 14: Classroom session by Dr. G. R. S. Reddy, IFB, Hyderabad

Figure 15: Classroom session by Dr. A. Sabitha Rani, Osmania University, Hyderabad





Figure 16: Classroom session by Sri D. Jaya Prasad, Director IFB

Figure 17: A view of an ongoing classroom session







Figure 19: Classroom session by Dr. C. S. Jha, NRSC





Figure 20: Classroom session by Sri Pravin H. Chawhaan, IFB

Figure 21: Field visit of stakeholders to Forest Research Station, Mulugu





Figure 22: Stakeholders visiting nursery area at FRC, Mulugu

Figure 23: Stakeholders visiting vegetative multiplication garden at FRC, Mulugu





Figure 24: Stakeholders visiting clonal seed orchards of *Eucalyptus* sp.

Figure 25: Stakeholders visiting clonal seed orchards of *Eucalyptus* sp.



Figure 26: Stakeholders visiting Hardwickia binata trial area



Figure 27: A view of the field visit to FRC, Mulugu



Figure 28: Feedback by stakeholders





Figure 29: A view of certificate distribution ceremony





