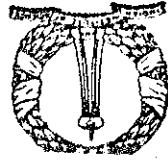


DECEMBER 1989
BANGALORE - 560 012
INDIAN INSTITUTE OF SCIENCE
Centre for Ecological Sciences

TECHNICAL REPORT NUMBER 57



JULY 1988 - DECEMBER 1989

WORKSHOPS AND TRAINING PROGRAMMES

CES 4280
301.31 M89 (65)

91	.....	21-22 SEPTEMBER 1989	12.	PEOPLE'S PARTICIPATION IN THE MANAGEMENT OF NATURAL RESOURCES
68	.....	18-21 JULY 1989	11.	TRAINING PROGRAMME ON DECENTRALIZED MANAGEMENT OF NATURAL RESOURCES
63	.....	4 JULY 1989	10.	MEETING ON PEOPLE'S PARTICIPATION IN FORESTRY
59	.....	3 JUNE 1989	9.	DISCUSSION MEETING ON PEOPLE ORIENTED FOREST POLICY
56	.....	MAY (2ND AND 3RD WEEK)	8.	TRAINING PROGRAMME ON ENVIRONMENTAL EDUCATION FOR HIGHER PRIMARY SCHOOL TEACHERS
53	.....	MAY (1ST AND 2ND WEEK)	7.	TRAINING PROGRAMME ON ENVIRONMENTAL EDUCATION FOR HIGHER PRIMARY SCHOOL TEACHERS
50	.....	3-5 APRIL 1989	6.	TRAINING PROGRAMME ON ENVIRONMENTAL EDUCATION FOR SCHOOL AND COLLEGE TEACHERS
33	.....	13-18 FEBRUARY 1989	5.	ONE WEEK TRAINING PROGRAMME FOR IAS OFFICERS ON MANAGEMENT OF ENVIRONMENT
25	.....	9-10 JANUARY 1989	4.	NATIONAL SEMINAR ON COMMON LANDS
17	.....	12 OCTOBER 1988	3.	WORKSHOP ON THE DEVELOPMENT OF THE MINOR FORESTS AND THE GAINI LANDS IN UTTARA KANNADA
10	.....	6-8 SEPTEMBER 1988	2.	WORKSHOP ON WASTELAND DEVELOPMENT AND SOCIAL FORESTRY
1	.....	25-29 JULY 1988	1.	TRAINING PROGRAMME ON MANGROVE AFForestation

130 30 NOV. - 2 DEC. 1989
 14. DISCUSSION MEETING ON HUMAN ECOLOGY AND CULTURAL HERITAGE

126
 13. TRAINING PROGRAMME ON ENVIRONMENTAL EDUCATION FOR TEACHERS OF HIGHER PRIMARY SCHOOLS FALLING IN KARBALNALA WATERSHED DEVELOPMENT PROGRAMME, KANAKKALUVA TALUK, BANGALORE DISTRICT

TRAINING PROGRAMME ON MANGROVE AFFORESTATION

Venue : Dr. Baliga College of Arts and Science
Kumta
District Uttara Kannada 581343.

Dates : 25 - 29 July 1988

Organized by :

National Institute of Oceanography
Dona Paula, Goa 403004

Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

and

Dr. Baliga College of Arts and Science
Kumta 581343
District Uttara Kannada

In addition to natural calamities, man has been disturbing the ecological balance in the coastal region that has resulted in increase in the coastal wasteland, decrease in the biological productivity and increase in the pollution level leading to destruction of estuarine and marine life.

In order to find solutions to improve the coastal environment, a 5 - day training course in "Mangrove afforestation and nursery techniques" was organized under the joint auspices of National Institute of Oceanography, Goa and Centre for Ecological Sciences, Indian Institute of Science, Bangalore.

There was very good response from various agencies for the training programme. About 25 candidates were selected from Gujarat, Maharashtra, Goa and Karnataka. The participants were mainly from State Forest Departments, Social Forestry and Fisheries Departments, World Wildlife Fund for Nature and Port Trusts. In addition research scholars, teachers and students from local colleges also participated. A small mangrove exhibition was arranged depicting the significance of mangrove ecosystem, its uses, management and conservation. Considerable amount of relevant literature on mangrove ecosystem was made available to the participants. A special demonstration of afforestation and nursery techniques was held by Mr. Patil, Deputy Director, Social Forestry, Sawantwadi, Maharashtra at Masur-Lukkeri, with the help of the authorities of Masur High School, Masur. A few 35 mm audio-visual shows and 16 mm films were also shown during the course.

REPORT

A field tour was organized to Coondapur mangrove forest on 28th July to see the status of mangroves along the coast and problems associated with it.

PROGRAMME SCHEDULE

25 - 7 - 1988

Time	Topic	Faculty
9.00 - 10.00 AM	Registration	
10.00 - 11.00 AM	Inauguration and Introduction to Ecology	Prof. Madhav Gadgil
11.00 - 11.30 AM	Opening of exhibition and Tea	
11.30 - 1.00 PM	Mangrove ecosystems of India	Dr. A.G. Untawale
1.00 - 1.30 PM	Discussions	
1.30 - 2.00 PM	Lunch	
2.00 - 3.00 PM	Distribution and Ecology of mangroves in India	Mrs. Sayeeda Wafar
3.00 - 3.30 PM	Discussions	
3.30 - 4.00 PM	Tea	
4.00 - 5.00 PM	Video film on mangrove afforestation at Goa	
5.00 - 5.30 PM	Projection of films : 1. Life between tides 2. Salt marsh	

10.00 - 11.00 AM 1. Identification of species
 2. Mapping of mangroves with the help of aerial photography
 Dr. T.G. Jagtap

11.30 - 12.00 NOON Tea

12.00 - 1.00 PM Literature review

1.00 - 2.00 PM Lunch

2.00 - 2.30 PM Audio-visual film

2.30 - 3.30 PM Presentation by the participants

3.30 - 4.00 PM Tea

4.00 - 7.00 PM Literature review

27 - 7 - 88

10.00 - 11.00 AM Mangrove afforestation along the Maharashtra coast
 Dr. A.G. Raddi

11.00 - 11.30 AM Discussions

11.30 - 12.00 NOON Tea / Literature

12.00 - 1.00 PM Afforestation in Sundarbans
 Dr. P.K. Roychoudhury

1.00 - 1.30 PM Discussion

1.30 - 2.30 PM Lunch

2.30 - 5.30 Demonstration of nursery development and afforestation of mangroves in the field at Masur - Lukkeri.

26 - 7 - 1988

28 - 7 - 88

FIELD TRIP

Departure from Kumta

7.00 AM

Arrival at Coondapur

9.00 AM

Visit to Hemmadi, Kullur and Coondapur mangroves. It was shown to thy participants how local fishermen have grown the mangroves all along the estuary to get more fish yield.

4.30 PM

Departure from Coondapur

29 - 7 - 1988

9.00 - 11.00 AM

Literature review and discussion among participants and lecturers.

Concluding session

11.00 - 12.00 NOON

Impressions and remarks on training course by the participants
Award of certificates
Vote of thanks

NAMES AND ADDRESSES OF THE PARTICIPANTS

1. Shri R.S. Vernekar
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Ankola
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Kumta
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Student
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Kumta
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Student
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Vivekananda Girijana Kalyana Kendra
B.R. Hills
Mysore District, Mysore.

and

Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012
Organized by :

Dates : 6 - 8 September 1988

Venue : Vivekananda Girijana Kalyana Kendra
Billigiri Rangan Hills
Mysore District, Mysore.

WORKSHOP ON WASTELAND DEVELOPMENT AND
SOCIAL FORESTRY

REPORT

At the request of FEVORD-K (Federation of Voluntary

Organization for Rural Development in Karnataka), Centre for Ecological Sciences in association with Vivekananda Girijana Kalyana Kendra organized a three day training programme on Ecocodevelopment, wasteland development and social forestry at B.R.T. Hills in Mysore District. This was the second in the series, the first being the workshop held in Mugad village in Dharwad.

The participants included organizers and field workers from various voluntary agencies particularly those working with tribal people and involved in (i) creating awareness in people regarding the degradation of environment, (ii) wasteland development and (iii) integrated rural development. Participants came mainly from Mysore, Kodagu, Dakshina Kannada, Mandya and Bangalore districts. Resource persons for the training programme were drawn from

the Centre for Ecological Sciences and ASTRA of Indian Institute of Science and from the Forest Department.

PROGRAMME SCHEDULE

Date	Topic	Resource person
6-9-1988	1. Introduction by participants	Participants
	2. Explanation of the activities of the organizations and expectations from the workshop	Participants
	3. Welcome and introduction to the workshop	Somasundaram VGKK
	4. Agricultural ecosystems - what is happening to them	N.H. Ravindranath
	5. Biomass requirement - methods of estimation of quantity and area	N.H. Ravindranath
	6. Soil and water conservation - a watershed approach	P.R. Bhat
7-9-1988	1. Silvicultural practices for wasteland development	D.M. Bhat
	2. Fodder development and livestock management	P.R. Bhat
	3. Man-wildlife conflicts	R. Sukumar
	4. Forest fires	R. Sukumar
	5. Social forestry	Shyamala Hirmath
	6. Management of common lands	Somasundaram
	7. Lowest energy efficient building technology and its demonstration	Subhash Basu
8-9-1988	1. Forest Department and voluntary agencies in waste land development	Yellappa Reddy (Forest Dept.)
	2. Fuelwood conservation : biogas and Astra Ole	N.H. Ravindranath
	3. Environmental Education	N.H. Ravindranath and VGKK
	4. Conclusion	Anant Hegde and Somasundaram

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1. Shri Anant Hegde Asheskar
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H.D. Kote
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10. Shri Krishne Gowda
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11. Shri Madatah
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India Development Service
22. Shri Somanna
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Athyaksharu
Hunsur
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Pandavapura taluk

24. Smt. D. Tejakumari
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Melkote
Pandavapura taluk
25. Shri H.Y. Venkataswamy
REAL Centre
Ankola
26. Shri H.N. Somasundaram
BR Hills
Vivekananda Girijana Kalyana Kendra
27. Smt. D.R. Prabhavathy
BR Hills
Vivekananda Girijana Kalyana Kendra
28. Shri N.S. Kalappa
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Vivekananda Girijana Kalyana Kendra
29. Shri Sugti Gowda
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Vivekananda Girijana Kalyana Kendra
30. Shri K.S. Shamanna
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Vivekananda Girijana Kalyana Kendra
31. Shri Venkatesh
BR Hills
Vivekananda Girijana Kalyana Kendra
32. Shri Sidddegowda
BR Hills
Vivekananda Girijana Kalyana Kendra
33. Shri Kethegowda
BR Hills
Vivekananda Girijana Kalyana Kendra
34. Shri M.R. Shankarappa
BR Hills
Vivekananda Girijana Kalyana Kendra
35. Shri H. Ramachary
BR Hills
Vivekananda Girijana Kalyana Kendra

RESOURCE PERSONS

From Indian Institute of Science

1. Dr. N. H. Ravindranath

2. Dr. R. Sukumar

3. Shri Subhash Basu

4. Shri D.M. Bhat

From Forest Department

1. Shri Yellappa Reddy

Conservator of Forests (Research and Utilization)
Aranya Bhavan
Bangalore

From Voluntary Agencies

1. Smt. Shyamala Hiremath
IDS, Medleri

2. Shri Somasundaram

VGKK

B.R. Hills

WORKSHOP ON THE DEVELOPMENT OF THE MINOR FORESTS AND THE GAINI
LANDS IN UTTARA KANNADA

Venue : Zilla Parishat Meeting Hall
Karwar

Date : 12th October 1988

Participating Agencies :

1. The Times Research Foundation, Bangalore
2. Uttara Kannada Zilla Parishat, Karwar
3. Indian Institute of Science, Bangalore
4. Sahyadri Parisara Vardhini, Vadhavalli, Sirsi
5. Dr. Baliga College of Arts and Science, Kumta.

A one-day workshop on the development of the minor forests and the gajni lands in Uttara Kannada district was held on 12 October 1988 at the Zilla Parishad meeting hall at Karwar. The workshop included presentations by scientists, forest department officials and Zilla Parishad presidents and members. The morning session focussed on development of minor forests in Uttara Kannada and the afternoon session dealt with development of gajni lands.

REPORT

PROGRAMME SCHEDULE

10 : 45 AM Registration of the participants

FIRST SESSION

11:00 - 1.00 PM

DEVELOPMENT OF MINOR FOREST IN UTTARA KANNADA

Welcome

Shri Ramchand Nayak

Introduction

Prof. Madhav Gadgil

Existing conditions and

the efforts towards

development of the minor

forests in Uttara Kannada

Community dependence on

minor forests

Community involvement in

the management of the

minor forests

Discussions and Resolutions

Shri K.M. Hegde

Conclusion

Shri Pramod Hegde

1.00 - 2.15 PM

LUNCH

SECOND SESSION

2.30 - 5.00 PM

GAINI LAND DEVELOPMENT IN UTTARA KANNADA

Welcome	Shri P.M. Tandell
Introduction	Shri M.D. Subash Chandran
Existing cultivation and management practices	Shri Nagesh Naik
Prospects for the development of coconut cum fisheries (prawn) in gaini lands	Dr. Subramaniam
Improved system of paddy cultivation and technology application in gaini lands	Experts from U.A.S., Dharwad
Prospects for the development of fisheries and prawn in gaini lands	Shri K. Sham Bhat
Discussions and Resolutions	Shri A.P. Joshi
Conclusion	Shri R.S. Hegde
Vote of thanks	

NAMES AND ADDRESSES OF PARTICIPANTS

1. Shri Rama Beera Ager
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2. Smt. Laxmi Manjappa Naik
At / PO Belke
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3. Shri Damodar N. Hardikar
At / PO Mundalli
Taluk Bhatkal
4. Shri Sahadev K. Gowda
At / PO Sanakanakoppa
Taluk Halliyal
5. Shri Nagesh M. Ghatakambale
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6. Dr. G.G. Sabahit
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7. Shri Parashuram S. Bhat
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At / PO Hosakuli
Taluk Honavar
9. Smt. Vanitha A. Naik
At / PO Manki
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10. Shri Hanumanth S. Hallera
At / PO Kagal
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15. Shri P.M. Tandel
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16. Shri Hanumanthappa G. Kunnur
At / PO Mundagod
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At / PO Bankanala
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21. Shri G.M. Mulakhanda
A.P.M.C. Yard
Sirsi 581402
22. Shri N.V. Hegde
At / PO Muttige, Golagod
Taluk Siddapur
23. Shri Linga Guru Cheluvadi
At / PO Siddapur
Taluk Siddapur
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At / PO Hosur
Taluk Siddapur
25. Shri Vibhakar D. Malagaonkar
At / PO Jagalibet
Taluk Joida
26. Smt. Manorama K. Goankar
At / PO Vanalli, Mavinmane
Taluk Yellapur
27. Deputy Conservator of Forests
Karwar

1. Prof. Madhav Gadgil
Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012
 2. Shri Ramamanda Nayak
President
Zilla Parishat, Karwar
 3. Shri Venkataswamy
Assistant Conservator of Forests
Siddapur
 4. Shri Deepak Sharma
Deputy Conservator of Forests
Sirsi
 5. Shri D.M. Bhat
Centre for Ecological Sciences
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 6. Shri M.D. Subash Chandran
Dr. Baliga College of Arts and Science
- NAMES AND ADDRESSES OF RESOURCE PERSONS

28. Deputy Director, Animal Husbandry
Karwar
29. Assistant Director, Animal Husbandry
Sirsi
30. Assistant Director, Animal Husbandry
Karwar
31. Assistant Director, Animal Husbandry
Kumta
32. Deputy Director, Fisheries
Karwar
33. Assistant Director, Fisheries
Karwar
34. Assistant Director, Fisheries
Kumta
35. Assistant Conservator of Forests
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36. Assistant Conservator of Forests
Siddapur

- Kumta
7. Shri K.M. Hegde
Sahyadri Parthara Vardhini
Yadahnalli, Sirsi
8. Shri R.S. Hegde
Sahyadri Parisara Vardhini
Yadahnalli, Sirsi
9. Shri Nagesh Naik
CES Field Station, Sirsi
10. Dr. Subramaniam
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I.C.A.R. Research Complex
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NATIONAL SEMINAR ON COMMON LANDS

Venue : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 5600012

Dates : 9 and 10 January 1989

Organized by : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 5600012

and
Samaja Parivartana Samudaya
Dharwad 580001

The first session on "community based management system" was chaired by Shri K.A. Bhoja Shetty, Prof. Madhav Gadgil and Shri R.M. Hegde presented a case study of the work done in Uttara Kannada district. In the second session on "Conservation and ecological approach to tank irrigation" Dr. Somashankara Reddy and Shri Narayan Prasad spoke on the involvement of local people in storage and mangement of water. They expressed their view of tank irrigation being ecologically sound and efficient. The third session on "Regenerating the common lands" was chaired by Shri S.R. Ramaswamy, Dr. Prabha Mahale, Shri K.M. Hegde and Shri S.Shreekanth and Dr. H. Sudarshan spoke of their efforts to involve the local rural people, especially the poor, tribals and women in the work of regenerating the common lands. In the fourth

It was inaugurated by Justice Shri D.M. Chandrashekar, former Chief Justice of Karnataka High Court. The keynote address was delivered by Shri Zafar Saifullah on "Land use policy with reference to common lands". He expressed the need for a holistic, comprehensive and micro-based approach to land use management as has been suggested in CLUMP. The seminar was conducted under eight sessions including a concluding session.

A National Seminar on Common Lands was held at Centre for Ecological Sciences, Indian Institute of Science, Bangalore on 9th and 10th January 1989. The participants included scientists, social activists, voluntary workers and officials from government of Karnataka.

REPORT

session, the issue of linking employment generation to ecological restoration was discussed. Shri Mohan Hirabai Hirabai stated that employment guarantee and ecoresoration are two sides of the same coin. The fifth session on the role of administration in people-oriented and sustainable management of common property resources was chaired by Prof. Madhav Gadgil. Shri S. Krishna Kumar, Shri Yellappa Reddy and Shri Palanna made presentations. They felt that it is essential to involve the actual users in the control and management of common lands. Shri Hiremath and Shri Ramaswamy spoke in the sixth session on reclaiming the common lands. They narrated the various efforts of concerned people in reclaiming the common lands that have been handed over to industries like HRF (KPL) and Mysore Paper Mills. In the seventh session, Prof. Madhav Gadgil presented an alternate prospective for managing common property resources as an element of people-oriented and sustainable development. He suggested seven parameters by means of which any project can be evaluated in respect of deciding whether it is people-oriented and sustainable. Shri Varma presented a case study of their experiment in involving local people in the eco-development project. In the concluding session each session was reviewed and action programmes and follow-up action points were identified.

NAMES AND ADDRESSES OF THE PARTICIPANTS

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19. Shri G. Raju
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Talkaj Waki
Ahmedabad 380054
20. Shri S. Steekant
DEED Hoskote Road
Hunsur 571105
21. Shri Ram M. Apte
1668/3, Ramling Khind
Belgum 590002

22. Ms. Celine Aranha
Shubadha Society
Suralpady
Kanikambla Post
Mangalore taluk
23. Ms. Prabha Mahale
Dept. of Anthropology
Karnatak University
Dharwad 580003
24. Shri K. Rangarajan
Youth for Action
1-8-702/26/1
Shankarmath
Hyderabad 500044
25. Shri E. Venkat Ramanayya
Youth for Action
1-8-702/26/1
Shankarmath
Hyderabad 500044
26. Shri N.H. Ravindranath
Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012
27. Mr. Johnson E. David
Administrator
Data Centre for Natural Resources
WWF-India
104, Spencer Road
Bangalore 560005
28. Dr. H. Sudarshan
Vivekannada Girijana Kalyana Kendra
R.R. Hills
Mysore district
Karnataka 571313
29. Dr. R.S. Pinta
Department of Psychology
Himachal Pradesh University
Shimla 171005
30. Shri P.V. Kamath
456, Viveknagar
Bangalore 560047
31. Shri G.N.N. Prasad
Prarambha
18/1 Aji Askar Road
Bangalore 560052

32. Shri Somabhatkar Reddy
Indian Institute of Management
Bangalore
33. Shri Vasu
902, I Stage
Indiranagar
Bangalore 560038
34. Shri M.N. Jayasimha
Agricultural In Charge
'S.P.H.R.E.'
Gooty 515401
Anantpur district
A.P.
35. Shri R. David
CARES
Devalampeta (Vill)
Chotter district
A.P. 517161
36. Mr. Syed Ajmal Pasha
Ecological Economics Unit
Institute for Social and Economic Change
Nagarbhavi
Bangalore 560072
37. Prof. Madhav Gadgil
Centre for Ecological Sciences
Indian Institute of Sciences
Bangalore 560012
38. Shri Prakash Kumar Varma
Society of Hill Resource Management School
Shahpur Road, Daltonganj 822101
District Palamanu, Bihar
39. Shri Mohan Hirabai Hiratala
Vriksha Mitra
At P.O. Gadchiroli 442605
Maharashtra
40. Shri S. Krishna Kumar
Secretary
Agriculture and Horticulture
Government of Karnataka
M.S. Building
Dr. B.R. Ambedkar Veedhi
Bangalore 560001

41. Shri R.M. Palanna
Conservator of Forests
(Monitoring and Evaluation)
Government of Karnataka
Aranya Bhavan
Malleswaram
Bangalore 560003

ONE WEEK TRAINING PROGRAMME FOR IAS OFFICERS

ON

MANAGEMENT OF ENVIRONMENT

Venue : Hotel Cauvery Continental
Cunningham Road
Bangalore

Dates : 13 - 18 February 1989

Organized by : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560 012

3. The faculty of the course was a mixture of administrators, academics, and gross-root workers involved in the many problems of environment. I believe that the involvement of the gross-root workers was widely appreciated by the participants. It would have been useful to have included

2. The course has primarily aimed at tracing a variety of issues relating to environment and development. We have not been able to provide much technical material on subjects like environmental impact assessment. This was in part due to the fact that Shri. D K Biswas of the Dept. of Environment had agreed to cover these topics had to cancel at the last moment. However, I believe that we have been successful in treating whole range of issues in the context of environment and development and generate considerable awareness of the problems concerned amongst the participants.

1. This was the first time that the Indian Institute of Science, had been involved in organising a Training Programme for the IAS Officers. This is a marked departure from our usual courses which are oriented towards the scientific and the academic community. It has turned out to be a very interesting experience indeed to attempt to get across a wide range of issues on a subject of such an all embracing scope as environment to administrators with very varied backgrounds from the many different parts of our diverse country.

COURSE DIRECTOR'S REPORT:

REPORT

- a) Energy
- b) Industry
- c) Urban Development
- d) Water Resources
- e) Agriculture
- f) Health and Population

Following 6 sectors:

7. The participants prepared group reports on their perceptions of how environmental concerns could be incorporated as a part of planning and implementation of development in the following 6 sectors:
 6. Other suggestions of the participants regarding the subject content and inclusion of panel discussions could easily be acted upon in any future course.
 5. The participants felt that a field trip should have been organised and attempts would certainly be made in this direction in future. However, this would again be difficult to be managed with in the course budget of Rs. 20,000/--.
 4. The faculty were largely restricted to the state of Karnataka. One of the two experts we had invited from Delhi could not come. It would certainly be most valuable to have a wider coverage from different parts of the country. However, it would be quite impossible to invite a larger number of people from other parts of the country, if the course fee is restricted to Rs. 20,000/--.
- some legal experts and political leaders as well.

8. The level of interest and participation by the participants was very high.

I believe these group exercises to have been very useful.

1. The participants felt that the course was on the whole very relevant to their work/area of interest.
2. The participants felt that the course objectives have been achieved partially, and in a few cases totally.
3. The programme designed was felt to have good or very good conceptual framework, and good or very good coverage. The orientation to practical problems was felt to vary between very good to fair and the training methodology was by and large considered to be good.
4. The faculty mix between academicians, practising administrators and in this case gross-root workers was considered to be very good by most participants.
5. The course material and lecture notes were perceived to be good or very good.
6. The participants benefitted from interactions with other participants by and large to a substantial or fair degree.
7. The extent of useful knowledge/skills acquired from the course was perceived to be fair to substantial.
8. The participants found a number of sessions to be very effective.
9. A relatively very small proportion of the sessions were thought to be rather ineffective and could be dropped.

10. The absence of panel discussions and field visits was noted to be a deficiency of the course. The case studies and exercises were considered to be effective or very effective.
11. The main suggestions for improving the effectiveness of the course was that we should cover material from outside of Karnataka and a field visit should be arranged. It was also suggested that we may have fewer lectures, more panel discussions, more case studies from the participants themselves and involve some legal experts and political leaders.
12. The accommodation and food was largely considered to be very good and the library facilities to be good.
13. Good proportion of the faculty were noted to be either effective or very effective and a minority to be ineffective.
14. Overall 59 % of the participants found the course to be very useful and 38 % useful. One of the participants felt that the course was partially useful. None of them thought it to be not useful.

SCHEDULE OF PROGRAMME

Theme : Issues in Environment and Development

Monday 13 - 2 - 1989

Time	Topic	Faculty
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9:00 - 10:00 AM Registration

10:00 - 11:00 AM

Environment and Development : A case study of Andaman, Nicobar and Lakshadweep Islands

Father C.J. Saldanha
Centre for Taxonomic
Studies, St. Joseph's
College, Bangalore
560001

11:00 - 11:15 AM

Environment and urban growth

Dr. Vinod Yasulu
Institute for Social
and Economic Change
Nagarbhavi, Bangalore
560072

11:15 - 12:15 PM

An Ecological view of the development process

Prof. Madhav Gadgil
Centre for Ecological
Sciences, Indian
Institute of Science
Bangalore 560012

1:15 - 2:00 PM

..... Lunch

2:00 - 2:30 PM

..... Library/Reading

2:30 - 3:30 PM

Environment and Development : An Administrator's viewpoint

Sri Chitranjeevi Singh
Administrative
Training Institute,
Maitthamahai Road
Mysore 570011

3:30 - 3:45 PM

..... Tea

3:45 - 4:45 PM

Environment and Development : A Sociologist's viewpoint

Dr. Ramachandra Guha
Institute for
Economic Growth
University Enclave
Delhi 110007

Theme : Energy and Environment

Tuesday, 14 - 2 - 1989

Time	Topic	Faculty
9:30 - 10:30 AM	Environment, development and the energy resources	Shri.T.R.Sathischandran Institute for Social and Economic Change Nagarbhavi, Bangalore 560072
10:30 - 10:45 AM	Tea	
10:45 - 11:45 AM	Managing biomass as energy source: case study of Antrajole, community biogas and wood gasifier	Dr.N.H. Ravindranath Centre for Ecological Sciences, Indian Institute of Science Bangalore 560012
11:45 - 12:45 PM	Linking employment generation, rural development and environmental restoration	Shri Dilip Kamath 807/1, MG Road T. Wadi Extension Belgaum 590006
12:45 - 1:30 PM	Lunch	
1:30 - 2:30 PM	Library/Reading	
2:30 - 3:30 PM	Environment and power generation	Prof.D.K. Subramanian Department of Automation and Computer Science Indian Institute of Science, Bangalore 560012
3:30 - 3:45 PM	Tea	
3:45 - 4:45 PM	Environment, resources and Development	Prof. A.K.N. Reddy Management Studies Indian Institute of Science, Bangalore 560012

Shri. P.V. Shenoi
Spl. Secretary
Govt. of India
Director Tech Mission
on oil seed prodn.
Min. of Agriculture
Krishi Bhawan,
New Delhi-1.

Shri Ullas Karanth
499, Kuvempu Nagar
Mysore 570009

Dr. R Sukumar
Centre for Ecological
Sciences, Indian
Institute of Science
Bangalore-560012

Shri P. Padmanabhan
Chief Wildlife Warden
Tamil Nadu
1710, Tiruch Road
Colombatore 641045

Prof. B.R. Hegde
University of
Agricultural Sciences
Hebbal, Bangalore
560024

Shri S.R. Hirwath
India Development
Service, Medical
581211, Ranbennur
Dist. Dharwad

9:30 - 10:30 AM	Forestry and Environment : Perspective of a social activist	Shri S.R. Hirwath India Development Service, Medical 581211, Ranbennur Dist. Dharwad
10:30 - 10:45 AM	Tea	
10:45 - 11:45 AM	Issues in wildlife conservation	Shri P. Padmanabhan Chief Wildlife Warden Tamil Nadu 1710, Tiruch Road Colombatore 641045
11:45 - 12:45 PM	Planning for good water and land use	Prof. B.R. Hegde University of Agricultural Sciences Hebbal, Bangalore 560024
12:45 - 1:30 PM	Lunch	
1:30 - 2:30 PM	Biosphere Reserves	
2:30 - 3:30 PM	Nilgiri biosphere reserve: a case study	Shri Ullas Karanth 499, Kuvempu Nagar Mysore 570009
3:30 - 3:45 PM	Tea	
3:45 - 4:45 PM	Operation Food Bowl	Shri. P.V. Shenoi Spl. Secretary Govt. of India Director Tech Mission on oil seed prodn. Min. of Agriculture Krishi Bhawan, New Delhi-1.

Time	Topic	Faculty
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Thursday, 16 - 2 - 1989

Theme : Forestry and Environment

Theme : Environment and Rural Development

Friday 17 - 2 - 1989

Time	Topic	Faculty
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9:30 - 10:30 AM

Some lessons from tribal development

Dr. H. Sudarshan
Vivekananda Girijana
Kalyana Kendra
BR Hills, Via
Chamarajanagar
Mysore District
571317

10:30 - 10:45 AM

..... Tea

10:45 - 11:45 AM

Comprehensive land use management programme

Shri Zafar Saifulla
Development
Commissioner
Karnataka, Vidhana
Soudha, Bangalore
560001

11:45 - 12:45 PM

Presentations by the participants

.....

12:45 - 1:30 PM

..... Lunch

1:30 - 2:30 PM

... Library/Reading ...

2:30 - 3:30 PM

Utara Kanada : A case study in hill area development

Shri K.M. Hegde
Sahyadri Parissara
Vardhini, Street
Dist. Utara Kanada

3:30 - 3:45 PM

..... Tea

3:45 - 4:45 PM

Forestry and Environment :
Perspectives of a Forester

Shri S. Shyam Sundar
Principal
Chief Conservator of
Forests, Karnataka
Aranya Bhawan
Malleswaram,
Bangalore 560003

9:30 AM - 4:30 PM Presentations by the Participants

Saturday 18 - 2 - 1989

Theme : Integrating Environmental Considerations with Development Planning and Implementation

45

45

1. Shri. Anandaran, V
Comm. for Co-op Enqui
ries E.O. Secy to Govt
6th floor, Insurance
Bldg, Tilak Rd., Abids
Hyderabad-500001

Name of the Participant
with full Address

Telephone No.

Cadre

Year

2. Shri. Arun Prasad
CHAIRMAN
Bihar State Subordinate
Services Selection
Board, Main Secretariat
Patna-800015

3. Smt. Aruna Sunderarajan
Dt. Planning Officer
Tirukk. Dt.
Kerala

4. Shri. Ashok Chandra
Additional Secretary
Dept. of Company Affairs
A-wing, Shastri Bhavan
New Delhi-110001

5. Ashok Thakur
Director of Food &
Supplies
Simla, H P

6. Smt. K Bhadrnagar
Dept. of Agricultural
Research & Education
Krishi Bhawan,
New Delhi-110001.

1. Shri. Arun Prasad
CHAIRMAN
Bihar State Subordinate
Services Selection
Board, Main Secretariat
Patna-800015

2. Shri. Arun Prasad
CHAIRMAN
Bihar State Subordinate
Services Selection
Board, Main Secretariat
Patna-800015

3. Smt. Aruna Sunderarajan
Dt. Planning Officer
Tirukk. Dt.
Kerala

4. Shri. Ashok Chandra
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5. Ashok Thakur
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6. Smt. K Bhadrnagar
Dept. of Agricultural
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Krishi Bhawan,
New Delhi-110001.

1. Shri. Arun Prasad
CHAIRMAN
Bihar State Subordinate
Services Selection
Board, Main Secretariat
Patna-800015

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CHAIRMAN
Bihar State Subordinate
Services Selection
Board, Main Secretariat
Patna-800015

3. Smt. Aruna Sunderarajan
Dt. Planning Officer
Tirukk. Dt.
Kerala

4. Shri. Ashok Chandra
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A-wing, Shastri Bhavan
New Delhi-110001

5. Ashok Thakur
Director of Food &
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Simla, H P

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Dept. of Agricultural
Research & Education
Krishi Bhawan,
New Delhi-110001.

1. Shri. Arun Prasad
CHAIRMAN
Bihar State Subordinate
Services Selection
Board, Main Secretariat
Patna-800015

2. Shri. Arun Prasad
CHAIRMAN
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Services Selection
Board, Main Secretariat
Patna-800015

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Dt. Planning Officer
Tirukk. Dt.
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2. Shri. Arun Prasad
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3. Smt. Aruna Sunderarajan
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Tirukk. Dt.
Kerala

4. Shri. Ashok Chandra
Additional Secretary
Dept. of Company Affairs
A-wing, Shastri Bhavan
New Delhi-110001

Name of the Participant with full Address	Telephone No.	Cadre	Year
7. Shri. Bhatnagar S Chief Electoral Officer Bihar, Patna	OFF: 24856 & 25978 Res: 24046 & 25695	Bihar	1958
8. Shri. Choudhury, B. K. Additional District Magistrate (General) Howrah P.O., Dist. Howrah West Bengal	OFF: 67-3121 67-4913 Res: 42-8525	W Bengal	1980
9. Shri. Doraiswamy, P. K. Principle Secretary Education Department Govt. of Andhra Pradesh Secretariat, Hyderabad-500022	OFF: 232403 Res: 33711	AP	1956
10. Shri. Ganga Das Commissioner Municipal Corporation of Delhi, Town Hall No. 20, Chandni Chowk, Delhi-110006	OFF: 2511012 2511423 Res: 604493	UT	1968
11. Shri. Gautam Basu Managing Director Bengal Immunity Limited Govt. of India Enterprises 153, Lenin Saranee Calcutta	OFF: 274677 Res:	Karnataka	1970
12. Shri. Girdhar, C B Secretary to Govt. of Gujrat, Rural Devt. Dept., Block No. 5, 2nd floor, New Sachhi- valaya, Gandhinagar	OFF: 20140 Res: 405353	Gujarat	1962

Name of the Participant
 With full Address
 Telephone No.
 Cadre
 Year

13. Shri. John Innocent
 Officer on Spl. Duty
 Revenue & Forests Dept.
 Bombay-32
 Res: 2021586
 Maharashtra 1955

14. Shri. Kundan Lal
 Commissioner of Land
 Reforms & Ex-officio
 Secretary to Govt. of Gujarat
 Revenue Dept. Sachivalaya
 Gandhinagar - 382010
 Res: 20493
 Gujarat 1968

15. Shri. Lalit Mathur
 Joint director
 IAS Nat. Academy of Admn.
 Mussoorie-248179
 Res: 2394
 AP 1968

16. Shri. Mannivannam V
 Secretary to Govt.
 Personnel & Administration
 Reforms Department
 Madras-9
 Res: 617516
 TN 1972

17. Shri. Mathur K K
 Additional Secretary,
 Dept. of Power
 Shram Shakti Bhawan,
 New Delhi
 Res: 387897
 UT 1960

18. Shri. Pant, J C
 Principle Secretary
 Transport Department
 Vidhana Bhawan
 Lucknow
 Res: 52847
 UP 1961

19. Shri. Rajamohan C S
 Joint Commissioner
 Civil Supplies
 Madras-5
 Res: 432982
 TN 1980

20. Shri. Raj Kumar Singh
 Administrator
 Bihar State Cooperative
 Marketing Union
 Patna
 Res: 21101
 Bihar 1975

Name of the Participant with full Address	Telephone No.	Cadre	Year
21. Shri. Raam Behra Addl. Secy. to Govt. G A Dept. & Ex-officio Comm. for Departmental Inquiries, G A Dept. Bhubaneswar	Off: 55358 Res: 52609	Orissa	1974
22. Shri. Rao S N Principal Secretary Govt. of MP, Personnel Admn. Reforms and Trg. & Energy Deptn, Vallabh Bhawan, Bhopal-4	Off: 28-7246 Res: 44-8635	MP	1958
23. Shri. J R Saha, Director, Directorate of Industries, New Secretariat building, 1, Kiron Sankar Roy Road, Calcutta-700001.	Off: 32048 & 24266 Res: 24511	Punjab	1982
24. Shri. Sandhu, R S Deputy Secretary to Governor, Punjab Raj Bhawan, Sector-6 Chandigarh-160019	Off: 48625 Res: 46107	U P	1973
25. Mrs. Sarita Sahney Secretary G A D. U.P., Secretariat Annexo Bhawan, Lucknow	Off: 2511 Res: 2273	H P	1977
26. Smt. Sarojini Thakur Registrar, Co-op Societies Smta, H P	Off: 75282 Res: 578010	KTK	1972
27. Shri. Sengupta A Secretary to Govt.-II Finance Department Govt. of Karnataka Vidhana Soudha Bangalore-560001			

Name of the Participant with full Address	Telephone No.	Cadre	Year
28. Shri. Shabong, H P Secretary, Animal Resources Development Dept. Govt. of West Bengal Writers' Buildings Calcutta-700001	Res: 25-7616 Off: 42-2352	W B	1962
29. Shri. Shenoi, P V Spl. Secretary Govt of India Director Tech Mission on oil seed Prodn. Ministry of Agriculture Khandi Bhawan, New Delhi	Res: 672616 Off: 383830	W B	1958
30. Shri. Sinha, R C Jr. Secretary Min. of Information & Broadcasting, 660 A-wing, Shastri Bhawan New Delhi	Res: 384785 Off: 38135	Maharashtra	1962
31. Shri. Vijayakumar, K K Director of Industries Trivandrum, Kerala	Res: 62774 Off: 60957	Kerala	1976
32. Shri. Vijayaraghavan B Vigilance Commissioner & Commissioner for Admini- strative Reforms Fort St. George, Madras-600 009	Res: 61493 Off: 560204	TN	1957

TRAINING PROGRAMME ON ENVIRONMENTAL EDUCATION FOR SCHOOL AND
COLLEGE TEACHERS

Venue : Vivekananda Girijana Kalyana Kendra
B.R. Hills
Mysore district

Dates : 3-5 April 1989

Organized by : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

A training programme for high school and college teachers on "Monitoring the status of their environment" was held at Vivekananda Girijana Kalyana Kendra at B.R. Hills, Mysore district from 3-5 April 1989. Seven school teachers from 3 schools and 8 college teachers from 2 colleges participated in the training programme. The programme was very successful. The teachers expressed keen interest and were confident of carrying out environmental education programmes in their respective colleges and schools.

REPORT

NAMES AND ADDRESSES OF THE PARTICIPANTS

I. From Babruingeshwara High School, Masur-Lukkere, Kunta Taluk, Uttara Kannada district :

1. Shri H.H. Patgar, Head Master
2. Shri D.S. Bhat, Asst. Teacher, Science
3. Shri M.G. Bhat, Asst. Teacher, Science
4. Shri Deshbhandari, Asst. Teacher, Arts

II. From Vidyodaya Composite High School and Junior College, Yadahalli, Sirsi, District Uttara Kannada

1. Shri R.S. Hegde, Principal
2. Shri R.V. Hegde, Lecturer
3. Shri M.R. Hegde, Lecturer
4. Shri G.N. Hegde, Asst. Teacher, Science

III. From Dr. A.V. Baliga College of Arts and Science, Kunta, Uttara Kannada district :

1. Shri M.D. Subash Chandran, Reader in Botany
2. Dr. S.V. Kamath, Reader in Chemistry
3. Shri P.V. Naik, Lecturer in Economics
4. Shri P.K. Bhat, Lecturer in Zoology
5. Shri R.G. Nayak, Lecturer in Botany

IV. From Sanabaghata High School, Kunigal taluk, Tumkur district :

1. Shri G.D. Ramachandrappa
2. Shri K.G. Jayaram

V. Faculty and staff from Centre for Ecological Sciences, Indian Institute of Science, Bangalore and Sirsi field station :

1. Prof. Madhav Gadgil
2. Dr. N.H. Ravindranath
3. Shri D.M. Bhat
4. Shri P.R. Bhat
5. Shri C.M. Shastri

TRAINING PROGRAMME ON ENVIRONMENTAL EDUCATION FOR
HIGHER PRIMARY SCHOOL TEACHERS

Venue : Babrulingeshwara High School
Masur, Kunta Taluk
Utara Kannata District

Dates : May 1989 (1st and 2nd week)

Organized by :

Centre for Ecological Sciences
Indian Institute of Science
Bangalore 5600012

NAMES AND ADDRESSES OF THE PARTICIPANTS :

I. Teachers from Kumta taluk :

1. Shri G.S. Bhat
H.P.S. Valagalli
Post Valagalli
Kumta

2. Shri D.N. Patgar
H.P.S. Bargi
At and PO Bargi
Kumta

3. Shri T.N. Naik
Model Primary School
Kagal, Kumta

4. Shri H.D. Naik
H.P.S. Hanawalla
Kumta

5. Shri V.M. Naik
H.P.S. Masur
Kumta

6. Shri G.L. Bhandari
H.P.S. Lukkari
Kumta

7. Shri R.N. Bhatkari
H.P.S. Kodkani
Kumta

8. Shri R.G. Hegde
I.O.S
A.E.O. Office, Kumta

II. Teachers from Sirsi Taluk

1. Shri D.G. Adpekar
H.P.S. Dhorangiri
Sirsi

2. Shri P.G. Hangodi
H.P.S. Gudnappur
Sirsi

3. Shri N.C. Bedkani
H.P.S. Mujagunt
Sirsi

Faculty Members from Indian Institute of Science who conducted the Training Programme :

1. Dr. N.H. Ravindranath
 2. Dr. R. Shailaja
 3. Shri D.M. Bhat
 4. Shri P.R. Bhat
 5. Shri H.I. Somashekhar
 6. Shri Mohan Naik
4. Shri R.B. Nayak
H.P.S. Adaili
Sirsi
 5. Shri P.C. Mangalore
H.P.S. Ajjara
Sirsi
 6. Shri D.B. Nagarkatte
I.O.S.
A.E.O. Office
Sirsi
 7. Shri T.N. Bhat
H.P.S. Bhavikar
Sirsi
 8. Shri S.M. Naik
H.P.S. Sugavi
Sirsi

Organized by : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

Dates : May 1989 (2nd and 3rd week)

Venue : Ungra Centre Of Astra

TRAINING PROGRAMME ON ENVIRONMENTAL EDUCATION FOR
HIGHER PRIMARY SCHOOL TEACHERS

NAMES AND ADDRESSES OF THE PARTICIPANTS

1. Shri M. Nagaraja
Govt. Urdu H.P.S. Fort
Kunigal

2. Smt. Usha
Govt. M.P.S. Amruthur
Kunigal

3. Shri a.B. Chidananda
Head Master
G.H.P.S. Markonahalli
Kunigal

4. Shri P.N. Ravindranatha
G.M.P.S. Nidasale
Kunigal

5. Shri M.K. Gangadharatah
H.P.S. Halevoor
Kunigal

6. Shri Marcilia
St. Peters H.P.S.
Kunigal

7. Shri Venugopal
H.P.S. Keelara
Kunigal

8. Shri Shivanna
G.H.P.S. Halepete
H. Durga
Kunigal

9. Shri M.S. Rajashekaratah
G.H.P.S. Santhemavathur
Kunigal

10. Shri Riyaz Belg
Govt. Urdu H.P.S.
Kunigal

11. Shri H.R. Ramachandraiah
H.P.S. Thardakuppae
Kunigal

12. Shri P. Venkataiah
H.P.S. Yedvani
Kunigal

13. Shri Y.M. Chandrashekaratah
G.M.H.P.S. Ujiani
Kunigal

FACULTY MEMBERS FROM INDIAN INSTITUTE OF SCIENCE

1. Dr. N.H. Ravindranath
2. Dr. R. Shailaja
3. Shri H.I. Somashekara
4. Shri C.R. Dinesh
5. Shri Mohan Naik

14. Smt. Kanakamma
H.P.S. Amruthur
Kunigal
15. Shri R. Shivanna
H.P.S. Basavamathikere
Kunigal
16. Smt. D.T. Kanakamma
H.P.S. Jinagara
Kunigal
17. Shri Raghunatha Rao
H.P.S. Settigere
Kunigal
18. Shri N. Gopala Krishna
G.H.P.S. Kagere
Kunigal
19. Shri R. Thirumalajah
H.P.S. chowdanakuppae
Kunigal
20. Shri Panchaksharajah
G.K.B.M.S.
Kunigal

DISCUSSION MEETING ON PEOPLE ORIENTED FOREST POLICY

Venue : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

Date : 3 June 1989

Organized by : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

A discussion meeting on moulding people oriented forest policy and evolving concrete programmes of peoples' involvement in forest management was held in Centre for Ecological Sciences on 3rd June 1989. Several sections from Prof. Madhav Gadgil's article entitled "Deforestation : Problems and Prospects" were discussed. This meeting also helped to prepare an action programme as a follow up of the "Save Western Ghats March". Several members from various voluntary organizations attended the meeting.

REPORT

NAMES AND ADDRESSES OF THE PARTICIPANTS

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10. Shri Prabhu Dandavathimath
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Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

12. Shri P.R. Seshagiri Rao
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Indian Institute of Science
Bangalore 560012
13. Mrs. Geetha R. Gadagkar
Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

MEETING ON PEOPLES' PARTICIPATION IN FORESTRY

Venue : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

Date : 4 July 1989

Organized by : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

A drafting committee was constituted to prepare projects under the chairmanship of Dr. A. Kabbur. Shri K.M. Hegde, Shri Narendra Hegde and Shri Prabh Dandavathimath were chosen as members. In addition, following persons were identified to prepare projects region-wise on specific topics :

This meeting was held to finalise the proposals to be discussed with Zilla Parishats, Forest Department and other departments. It was decided that main aspect to be considered must be "Peoples' participation in developing and managing the natural resources of Western Ghats". This would include issues relating to improvement of economic conditions of the people and preserving the biological diversity in the management of natural resources in Western Ghats.

This meeting was a follow-up of the meeting of 3rd June held at Centre for Ecological Sciences, IISc. and the discussion following the meeting on Integrated Development of Forests of Western Ghats held at Dharwad on 6th June. The meeting on 6th June was called by the Forest Department for which experts and members from voluntary sector were invited. It was felt by many representatives from the non-forestry agencies that the project suffers from the lack of peoples' involvement. It was decided that voluntary sectors should come up with detailed proposals for the involvement of people in forestry activities to be taken up by the Forest department.

REPORT

1. Shri Giritjashankar and Shri Gajendra Shri R.N. Bhide
 2. Shri R.N. Bhide
 3. Dr. Kusuma
 4. Shri K.M. Hegde and Shri M.D. Subash Chandran
 5. Shri Sreekanth and Dr. H. Sudarshan
 6. Shri Anant Hegde Ashesar
 7. Shri Chikkappa
 8. Dr. M.V. Nakkarni
 9. Dr. N.H. Ravindranath
 10. Shri M.D. Subash Chandran
 11. Shri Roy David and Shri A.C. Subbaya
- Chikmagalur
 - South Canara on involvement of schools and teachers
 - Forest protection
 - Uttara Kannada
 - Tribals in Mysore region
 - Shimoga
 - Dharwad
 - Economic issues
 - Tumkur, Energy Conservation
 - Sacred groves
 - Forest Panchayats
 - Mangroves, Coastal regions.
 - Coorg

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Organized by : Centre for Ecological Sciences
 Indian Institute of Science
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Dates : 18 - 21 July 1989

Venue : Hotel Harsha
 11, Venkataswamy Naidu Road
 Bangalore 560051

TRAINING PROGRAMME ON DECENTRALIZED PLANNING FOR INTEGRATED
 MANAGEMENT OF NATURAL RESOURCES

1. PROGRAMME SCHEDULE

VENUE:

HOTEL HARSHA
11, Venkataswamy Naidu Road,
Bangalore - 560 051.

Tuesday 18 - 7 - 1989

Time	Topic	Faculty
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9:00 - 9:30 AM	Registration	
9:30 - 9:35 AM	Introduction to the Workshop	
9:35 - 10:30 AM	Inaugural Lecture: Methodological considerations	Prof. Madhav Gadgil Centre for Ecological Sciences, Indian Institute of Science Bangalore 560012
10:30 - 11:00 AM	Tea	
11:00 - 11:30 AM	Integrated development of two intercultural - case study of Uttara Kannada	Shri K.M. Hegde Sahyadri Parshara Vardhini, Srsti Dist. Uttara Kannada
12:00 - 1:00 PM	Study of soil and land use Planning	Shri. Shivarajasingham Hon. Consultant Madras Institute of Dev. Studies, Gandhinagar, Madras
1:00 - 2:00 PM	Lunch	
2:00 - 3:00 PM	Agroforestry strategy for wasteland management	Shri. A.S. Kolarakar Central Arid Zone Research Instt. Jodhpur
3:00 - 3:15 PM	Tea	

Time	Topic	Faculty
3:15 - 4:15 PM	Integrated watershed development -with reference to wastelands	Dr. S Subramanya Director, Watershed Devt. Programme Visweswaraya Centre Bangalore 560001
4:15 - 5:00 PM	Forest Mapping	Dr. A K Gulati Forest Survey of India, Dehra Dun-248001

Wednesday, 19 - 7 - 1989

9:00 - 10:00 PM	Forestry strategies for revegetation of wastelands	Shri. Ramachandra Chetty Chief Conservator of Forests, Karnataka Aranya Bhawan, Malleswaram, Bangalore 560003
10:00 - 11:00 AM	Estimation of biomass requirements for growing biomass on wastelands	Dr. N.H. Ravindranath Centre for Ecological Sciences, Indian Institute of Science Bangalore 560012
11:00 - 11:15 AM	Plant species selection for growing biomass on wastelands	Shri. M.D. Subash Chandran Reader, Dept. of Botany Dr. Balinga College of Arts and Science Kumta
11:15 - 12:00 AM	Micro-planning of physical natural resources - leading to sustained productivity and livelihood	Dr. D C Das Director, Biosphere Reserves, Ministry of Environment & Forests New Delhi
12:00 - 1:00 PM	Lunch	
1:00 - 2:00 PM	Briefing regarding field visit	Shri. Raghotham Rao Project Director Watershed Development Project, Kallambella
2:00 - 2:45 PM		

Field Visit:

Watershed development project at Kallambella led by Shri. Raghobham Rao, Project Director, Watershed Development Project, Kallambella.

Thursday, 20 - 7 89

Time	Topic	Faculty
2:45 - 3:15 PM	Use of remote sensing in mapping of wastelands	Dr. C B S Dutt I S R O, Regional remote sensing service centre, Sanjay Nagar Bangalore
3:15 - 3:30 PM	..... Tea	
3:30 - 4:00 PM	Soil and water management practices for wasteland development	Dr. A M Krishnappa University of Agricultural Sciences Hebbal, Bangalore
4:00 - 4:30 PM	Comprehensive land use management	Shri. Zafar Saifulla Development Commissioner Vidhana Soudha Bangalore 560001
4:30 - 5:15 PM	Watershed development: an economic analysis	Dr. R.N.R. Sastri Economist, Watershed development programme Govt. of Karnataka
5:15 - 6:00 PM	Minor Irrigation tanks and water management	Shri. Somshankara Reddy Indian Institute of Management, Bangalore-560 076

Friday, 21 - 7 - 1989

Time	Topic	Faculty
9:00 - 10:00 AM	Ecological perceptions and ecosystem approach in forest management	Shri. J.B. Rai Director, Forest Survey of India Dehra Dun-248 001
10:00 - 10:45 AM	Wasteland development: Planning & monitoring in Almora district	Dr. A K Gulati Forest Survey of India, Dehradun 248001
10:45 - 11:00 AM	..... Tea	
11:00 - 12:00 AM	District level planning for watershed development	Dr. Y P Baid Retd. Chief Soil Survey officer & Jt. Commissioner Dept. of Agri. & Coopr. Govt. of India
12:00 - 1:00 PM	Wasteland development and its monitoring involving educational institutions	Dr. R. Shalaja ASTRA, Indian Institute of Science Bangalore-560 012
1:00 - 2:00 PM	..... Lunch	
2:00 - 2:45 PM	General discussion Conclusion of the workshop	

Study of soil and land use planning
 Description and classification of wastelands, formation of
 soil and the parameters responsible for the formation of soil,
 soil erosion and humus depletion.

SHRI S. SHIVARAJASINGHAM

Development of Masur-Lukkeri and Sirsimakki microcatchments,
 Peoples' involvement in afforestation activities and fodder
 development.

Uttara Kannada

Integrated development of two microcatchments - case study of

SHRI R.M. HEGDE

Inaugural lecture : Methodological considerations
 Major resources like ground-water, agricultural soils,
 grazing lands and fuelwood are being used non-sustainably. There
 is urgent need for new development strategy. Decentralisation of
 management of wastelands would be part of such a holistic systems
 approach.

1. PROF. MADHAV GADGIL

18-7-1989

2. ABSTRACT OF LECTURES

SHRI A.S. KOLARKAR

Resource survey for wasteland development

Categorization of lands as wastelands. Integrated survey of wastelands taking into consideration geological and biological factors. Details about Guhlya catchment plan.

DR. S. SUBRAMANYA, I.A.S

Integrated watershed development with reference to wastelands

Detailed description of various watersheds in Karnataka and watershed development programme of the Government of Karnataka.

DR. A.R. GULATI, I.F.S.

Forest Mapping

Introduction to forest mapping by remote sensing.

19 July 1989

SHRI RAMACHANDRA CHETTY, I.F.S.

Forestry strategies for revegetation of wastelands

Revegetation techniques, selection of species for wastelands, and soil working techniques.

Briefing of the participants about the field visit to Kallambella watershed. Various measures employed by the watershed Development Board in order to prevent soil erosion, water run off and details of gully checks, bunding were discussed.

Field visit schedule

SHRI RAGHOTAM RAO

Broad framework of microplanning of natural resources.

Microplanning of physical natural resources leading to sustained productivity and livelihood

DR. D.C. DAS

Revegetation of the wastelands must be undertaken with a focus on ecorrestoration. Local demands of fuel, fodder and medicine and minor forest produce like gum, fruits, spice etc. Trees indigenous to the habitat must be given due importance.

Plant species selection for growing biomass on wastelands

SHRI M.D. SUBASH CHANDRAN

Estimation of availability of biomass versus requirement in the village. Sampling methodology, estimation of fuel for cooking, fodder, timber requirements etc.

wastelands

Estimation of biomass requirements for growing biomass on

DR. N.H. RAVINDRANATH

DR. C.B.S. DUTT

Use of remote sensing in mapping of wastelands

Application of remote sensing techniques for wastelands mapping and development. 182 districts are critically affected and could be called wastelands. The techniques give the extent, location, nature and watershed details of a particular area.

DR. SOMASHEKAR REDDY

Minor irrigation tanks and water management

Traditional systems of water resource management based on principles of equity and local initiative.

DR. A.M. KRISHNAPPA

Soil and water management practices for wasteland development

Importance of soil and soil nutrients. Urgent need for soil conservation measures.

SHRI ZAFAR SAIFULLA

Comprehensive Land Use Management

Details of the Karnataka Government's Comprehensive Land

Use Management Project.

DR. K.N.R. SASTRY

Watershed Development : An economic analysis.
Economics of watershed management and maintenance.

21 July 1989

SHRI J.B. LAL

Ecological perceptions and ecosystem approach in forest management

Land use in India, degradation of forests, biogeochemical cycles, primary production estimates, fundamental parameters in forest management, involvement of socio-cultural problems during management.

DR. A.K. GUPATI, I.F.S.

Application of geomorphic information system for watershed management with special reference to Almora district (U.P).
Planning, implementation and monitoring of watershed programmes with particular reference to Almora watershed.

DR. Y.P. BALI

District level planning for wasteland development

Details of the data bases available on wastelands in the country.

Several participants described in detail their experiences in their own project areas and highlighted a number of issues, especially relating to the need to motivate people to participate in the programmes.

GENERAL DISCUSSIONS

Involvement of students in Ungra village in activity based programmes like maintaining nurseries, planting trees etc. has been very successful. Students were taught basic ecological principles and afforestation techniques.

Kolo of educational institutions in monitoring wasteland development

DR. R. SHAILAJA

3. FIELD TRIP

20 July 1989

Shri Raghotham Rao, Project Director, Watershed Development Project, Kallambella arranged a field trip to Kallambella watershed via Tumkur. On the way the party visited fields treated with small section bunds at Nagenahalli. As a part of inter-bund management, Khus was planted on the bunds to check soil erosion. At Huchbasavanahalli, plantations of fodder, fuelwood and fruit yielding trees, farm ponds for collecting surface run-off water, contour bunds and check dams were examined. A fodder farm with *Styloxanthus hemata* and *S. scabra*, green panic and fodder trees like Subabul, *A. anura*, neem was visited. Growing of Agave on bunds was also studied. Lastly, at Seebi, a horticultural nursery and a check dam were visited.

1. The duration of the training programme should be of one week.
2. Two field trips should be arranged.
3. Participation of senior officials from NWDB, experienced Deputy Collectors, IAS personnel is essential.
4. More practical aspects, especially fodder development should be discussed.
5. More discussions should be on peoples' involvement in the programmes.

4. FEEDBACK FROM PARTICIPANTS

Following suggestions were given by the participants :

One of the main aims of wasteland revegetation would be to meet the biomass requirements of the local community. Though this aspect has been recognized, it has not received adequate attention. Revegetation plans for wastelands do not seem to be based on any systematic study of the requirements or needs of different types of biomass by the local communities.

2. Biomass estimation studies :

1. The importance of field data :

The information provided by NRSA maps, the All India Soil and Land Use Survey Reports and aerial photographs have limited use for microllevel planning required for wasteland development. NRSA maps of wastelands (1:50000) cannot be used for detailed land use planning or for planning soil and water conservation measures at the ground level as these maps show no contours and an error of as much as 0.5 to 1 km in comparison with the cadastral maps. Information from these sources will therefore have to be substantially augmented by intensive field studies.

2. The importance of field data :

The presentations made and the discussions held during the training programme and the opinions expressed by the participants and the resource persons have led to identification of some critical issues that will have to be given adequate attention in the ongoing programmes of wasteland development. Some of the issues are highlighted below :

5. OUR REACTION

5. Involvement of educational institutions :
 The local high school and college students should be involved in generating the data base at the microlevel for planning and for monitoring the status of natural resources. Preparation of detailed manuals giving the approaches and methods

4. Involvement of people :
 There is adequate awareness of the need for involvement of people for the success of any wasteland development programme. There is however a need to devote much more thinking to the appropriate institutional mechanisms and to develop clear guidelines for involving the local community at various stages of wasteland development programme. Experience from the successful programmes of people's involvement must be passed on to the field staff. The field workers will have to be trained on the approaches for involving the local community.

3. Lack of consideration of biomass conservation option :
 It is well known that it is much cheaper to conserve one tonne of biomass than to produce one tonne of biomass. Given the fact that the extent of wasteland available in majority of the villages is inadequate to meet all the biomass requirements of the community it is necessary to consider the options for conservation. The biomass produced on the wastelands must be efficiently used. Thus there is a need to make the biomass conservation options a part of the wasteland development programme.

shepherds of Rajasthan. needs of nomadic populations such as Gujars of Himachal Pradesh and species for planting. Thought will also have to be given to the biomass needs of artisans should get priority in selecting depend on the availability of biomass. It is suggested that the poorer section of the community and their employment level in revegetation of wastelands. These artisans generally belong to weavers will also have to be considered in planning for Biomass needs of artisans like potters, basket weavers and mat the fuel needs and occasionally the fodder needs are considered. While planning for revegetation on wastelands normally only etc. :

7. Adequate importance for biomass needs of artisans, shepherds

guidelines may have to be developed for the field staff. implementation of wasteland development programmes. A set of of considering social and cultural parameters in planning and parameters. However there is inadequate stress on the importance There is an adequate stress on geographic and physical

6. Importance of social and cultural aspects :

soil, water and tree vegetation. requirements and for monitoring environmental parameters like surveys, monitoring land use patterns, estimating biomass developed. Students could be effectively used for conducting land school and college teachers in the selected areas has to be for involving students is necessary. A programme for training the

There is a need to prepare guidelines and detailed manuals including some of the issues mentioned above for use at various levels like planning, conducting field studies, implementation of the programme. Training programmes for personnel involved at various stages are obviously necessary.

9. Preparation of guidelines and manuals for wasteland development :

Selection of species for planting on wastelands does not seem to be based on any systematic approach. More often monocultures have been preferred for planting on wastelands. There is a need to develop guidelines for selecting the species and species - mix for planting on wastelands to meet the various biomass needs of the community preferably through the use of indigenous species.

8. Systematic approach to species selection for different locations :

1. Decentralised planning for natural resource management.
By, Madhav Gadgil.
2. On designing survey schedule / questionnaires for farming systems research.
3. Rapid rural appraisal and agroecosystem analysis : a case study from northern Pakistan. By, Gordon R. Conway.
4. Maps drawn by farmers and extensionists. By, Anil K. Gupta and IDS workshop.
5. Suggested format for finalization of case study.
6. Survival under stress : understanding the dynamics of diversified research use strategies for poor households in different contexts.
7. Why are we studying women's perspective in homestead utilization.
8. Greening the commons. By, M. Gadgil and R. Guha.
9. Final report of the study group on fuelwood and fodder, Planning Commission, Government of India.
10. District - wise data on various ecological parameters.
11. Uttara Kannada : a case study in hill area development.
By, M. Gadgil, K.M. Hegde and R.A. Bhoja Shetty.
12. Studies on model and village agricultural ecosystems.
By, A.K.N. Reddy et al.
13. Biomass based energy system for a south Indian village.
By, N.H. Ravindranath and H.N. Chanakya.
14. An operational research programme for integrated development of microcatchments in Uttara Kannada district : a proposal.
By, M. Gadgil
15. Watershed development programme for rainfed agriculture. By, State watershed development Cell, Government of Karnataka.
16. Basic data needs and utilization for development activities in agriculture. By, Y.P. Bali
17. Data acquisition and criteria for site selection for afforestation plantations and pasture development. By, Y.P. Bali.

6. LIST OF BACKGROUND MATERIAL

18. State-wise summary of area covered under priority delineated surveys carried out by all India soil and landuse survey. By, Y.P. Balli.
19. State-wise summary of area covered under detailed soil surveys carried out by all India soil and landuse survey (based on soil survey reports issued from Apr. 1969-Feb. 1986) Department of Space, Govt. of India, Balanagar, Hyderabad.
16. Guidelines to use wasteland maps - NRSA, Hyderabad. (A presentation).
17. Wastelands development - A new perspective (A presentation).
18. Resource survey for wasteland development. By, A.S. Kolarikar.
19. Comprehensive land use management project - a profile - 1988.
20. Wasteland development - Tumkur district. Kalambeella watershed project proposal.
21. Microplanning of physical natural resources leading to sustained productivity and livelihood - an overview for India. By, D.C. Dahi.
22. Ecological perceptions and ecosystem approach in forest management. By, J.B. Lal
23. Forest biomass estimation. By, J.B. Lal.
24. Pani Panchayat - Gram Gromar Pratishtan, Pune - 1983.
25. Total landuse strategy. By, S.B. Salunke.
26. Application of geographic information system for watershed management with special reference to Almora district (U.P.).
27. Soil and water management practices for wasteland development. By, A.M. Krishnappa.

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PEOPLES' PARTICIPATION IN THE MANAGEMENT OF NATURAL RESOURCES

Venue : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

Dates : 21 - 22 September 1989

Organized by : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

1.1 There is obviously an increasing awareness in the country of the need to involve people actively in managing the soil, water and biomass resources of their locality. This has been mooted in a number of contexts including social forestry, watershed development and management of minor irrigation tanks. There has however been little progress in actually involving people; in

-----Report of the Steering Group on Environment, Forests and Wastelands Development for the formulation of the Eighth Five Year Plan (1990-95). Planning Commission, Government of India, July 1989, pp. 134.

solutions." can get together to discuss their problems and find common to protect, care for and use this as an open forum in which all settlement in the country must have a clearly defined environment participation at the village level as much as possible. Every way to achieve this objective would be by deepening democracy and environment, specially the ecologically fragile regions. The only India, today, i.e., regeneration and restoration of the must ultimately end up in solving the most vital problem facing decentralisation and involvement of Panchayat Raj institutions be brought out in laws. The entire process of political to protect, care for, improve and use. If necessary, changes can locally defined environment and natural resource base of its own village level and ensure that each settlement will clearly have "It is necessary to empower the local community at the

1.3 There are several reasons why the involvement of local

meeting on 22nd September 1989. document reports the broad consensus arrived at during the last provide further details of these deliberations. The present meeting on 22nd September 1989 at Bangalore. Annexures A and B experts; as well as news media. This process culminated in a Government officials, workers of voluntary agencies and technical of meetings involving Zilla Parishat members and office bearers, and wastelands Development for the Eighth Plan, and a in series the Planning Commission Steering Group on Environment, Forests subsequently been widely debated in a number of forums including English as well as Kannada newspapers from Bangalore. This has management of village forests was published on 5th June 1988 in these meetings a concrete proposal to involve people in from January to April 1988. Based on the consensus arrived at in a series of village level meetings in Uttara Kannada district Vardhini. Working together this group of organizations conducted Movement and an environmental voluntary agency, Sahyadri Parishara for Rural Development (Karnataka), the Save the Western Ghats active collaboration with Federation of Voluntary organizations of Science, Bangalore has been involved in such an attempt in 1.2 The Centre for Ecological Sciences at the Indian Institute

part, because the nature of such involvement remains to be worked out explicitly. The voluntary sector and academic institutions can play a most useful role in defining the manifold ways in which such involvement could be fruitful.

people could contribute to better management of natural resources. These include :

(a) The quality of life of local people is intimately linked to the health of the resource base. Hence they are likely to be better motivated than any impersonal machinery operating from a distance to manage the resources well.

(b) The local people have considerable location specific knowledge of the resource base of value to its good management.

(c) The local people can continuously and closely monitor what is happening to the resource base, and how the various interventions are affecting the environment.

(d) Involving the people in a proper sharing of the benefits of good resource use is vital to alleviation of rural poverty, our most serious social problem.

(e) Involving local people actively in managing resources of their locality could help get them out of the syndrome of dependency on government handouts for everything and confer on them some community responsibility and personal dignity.

1.4 The possibilities of such involvement will have to be worked out in terms of the following six parameters :

(a) Nature of resource element : degraded hilly land, irrigated farm land, ground water trapped by bore well, small irrigation tank, bamboo, bhabbar grass, fish stocks, oyster beds etc.

- (b) Form of control over access to resource : private farmland, state controlled reserve forest, roadsides controlled by PWD, temple land, tank controlled by minor irrigation department etc.
- (c) Activity in which people could be involved : digging farm ponds on private land, planning of soil conservation works, deciding on the location of irrigation tanks, collection of forest produce like myrobolan controlling fuelwood harvest from a forest area, processing of a minor forest produce such as pine resin, managing a community biogas plant, monitoring the performance of minor irrigation department in supplying irrigation water, marketing eucalyptus poles, etc.
- (d) Kind of human social group involved : individual landless labourers, nomadic shepherds, basket weavers, village youth club, forest labourers' cooperative, farmers' co-operative sale-purchase society, countryboat fishermen's union, Mandal panchayats, Zilla Parishats etc.
- (e) Mode of involvement : As daily wage labourers outside their own locality, daily wage labourers on their own land, joint managers of fuelwood plantations, watchdogs on execution of works such as nala bunds, planners of land use etc.
- (f) Expected benefits of such involvement : Wage earnings, better management of fuelwood plantations, better availability of alternative cooking fuels such as biogas, reduction of grazing pressure, opportunity to put traditional indigenous knowledge to good use etc.

(b) Community based management systems for various categories of public lands such as C and D class revenue lands, protected forest lands, minor forest lands etc.

(a) Individual or collective tree patas or sanads for use of wood or non-wood usufruct for roadside trees and for trees on various categories of Government lands including C and D class revenue lands, minor forest lands, reserve forest lands.

1.6 Given below is an illustrative list of possibilities of involvement restricted to productive use of plant biomass from common lands and reserve forest lands and conservation of biological diversity. This is an incomplete list which needs to be added to; it also requires to be fleshed out by providing the details along the six dimensions listed above.

(g) Biological diversity including crop genetic resources.

(f) Fish and shellfish stocks and

(e) Livestock and their fodder resources

(d) Reserve forest lands

(c) Common lands such as C and D class revenue lands, protected forests, Panchayat lands etc.

(b) Irrigation

(a) Soil and water conservation

1.5 Evidently, there would be very many ways in which people could be actively involved in managing resources of land, water, vegetation and animal life. The most significant contexts in which this would be relevant would include :

- (c) Tree nurseries for planting on private, community or reserve forest lands through kisans, youth clubs, mahila mandals, schools etc.
- (d) Forest labourers co-operatives / tribal LAMP societies for plantation work, harvest, marketing and distribution of forest produce, production of forest lands etc. on wages or on contract as piece work.
- (e) Forest labourers, or artisans, co-operatives to process forest produce for making baskets, agricultural implements etc.
- (f) Co-operative societies for sophisticated processing of forest produce such as preparation of strychnine from Strychnos nuxvomica.
- (g) Local forest protection forces for guarding reserve forests against fire, smugglers etc.
- (h) Continuation of traditional protection to sacred trees, sacred groves etc.
- (i) Organizing protection of crops against damage by wild animals such as pigs and elephant.
- (j) Educational institutions for developing data base on utilization and management of forest lands, traditional resource use practices etc.

Villagers depend on forests for their day-to-day needs like fuelwood, fodder, timber for house construction and agricultural implements. While farmers owning large tracts of land meet these demands through their agricultural by-products, small farmers and landless have to depend on Government owned land for these needs. The land designated to meet the needs of the people come under Revenue Department, Forest Department and Panchayat. Often the land controlled by the Forest Department is looked after fairly well; however the lands under Panchayat and Revenue Department tend to be neglected due to lack of funds and necessary facilities. There is nowhere any proper plan for growing fodder on Government land. Therefore landless people doing animal husbandry always suffer from scarcity of fodder. People below the poverty line are provided with cattle from various village development projects. But if fodder is not available, the purpose of removing poverty through these projects is defeated. Therefore it is necessary to reserve large area of land and develop them to meet the day-to-day needs of poor villagers. Such land may be

villagers

2.1 Village forest and grazing land to meet the biomass needs of

this note is based.

We explore below possibilities of involving people in managing forest and grazing lands in some detail. not because other issues such as management of irrigation tanks are not significant, but because the resource elements mentioned above have received considerable attention in the exercise on which this note is based.

2. VILLAGE FOREST, RESERVE FOREST AND PASTURE LANDS

We believe that for the cooperation of villagers is essential in the development of the village forests and grazing lands working side by side with the Government departments. The social unit appropriate for this purpose would be much smaller than the area under the jurisdiction of a Mandal Panchayat or a revenue village. These latter units are too large in extent of area and include too large and heterogeneous a population to be effective in the management of common lands and it would therefore be desirable if relatively small homogeneous units of settlement such as a hamlet or a village are identified in which all the people are in regular face to face contact. Places of common lands close to such a unit settlement should then be

forests and grazing lands

2.2 Village level committee for the development of village

agricultural lands and Government lands.

after calculating how much of these should be drawn from be decided. Village forest and grazing lands should be created livestock, the requirement of fuelwood, fodder, manure etc should the population of the village, and number of cattle and other while creating village forests or grazing lands. Depending on The various needs of the local population should be kept in view

there are Government lands.

to create such village forests and grazing lands in all places where At present all villages do not have such lands. It is necessary

called "village forest or grazing land".

2.2.2 Election of members to the village committee

be more than one committee.

If there are more than 1000 families in a village, there should

Number of families	Number of members in the committee
100 and below	9
101 to 300	11 to 13
301 to 600	13 to 15
601 to 1000	15 to 17

Depending on the size of the families in the village, it is suggested that this committee should have 9 to 19 members in it.

2.2.1 Composition of the Committee

Committees working at such village levels should play an active role in the development and preservation of these lands as well as in taking decisions regarding the distribution of the produce. committees should particularly involve landless agricultural labourers, and small and marginal farmers as members since they depend mainly on these lands. If the region includes tribal populations who are particularly dependent on forest lands then they should also be given a special role in these committees. It is also suggested that women who do lot of gathering should be given high level of representation.

identified to fulfill the biomass needs of the concerned population.

1. There was some difference of opinion as to whether the members of such a committee should be elected or nominated in some fashion. Some believe that any elections would introduce an element of political and should be avoided. They suggest that workers of local voluntary agencies should play an important role in these committees. Others believe that it would be better if the members are elected by the whole Grama Sabha, perhaps once every three years on the basis of a one person one vote system. However, it is felt that the membership should be reserved according to different categories with higher weightage for the people more intimately dependent on the common lands. The membership could include :

(i) If there are tribal people in the area, several members including women from amongst them.

(ii) One or more members from the landless agricultural labourer group and same number of women. Number of these members should be decided depending on the percentage of landless in a village population and number of members in the committee.

(iii) One or more men from amongst small and marginal farmers and same number of women.

(iv) One member from landowners.

(v) One member from village artisan group.

(vi) One member amongst the other citizens of the village like shopowners, workers etc.

(vii) One member from Mandal Panchayat.

(viii) One member from the association of milk producers if the village has such an association or union.

All these members should be residents of the village. In

1. Development and protection of village forests and grazing lands, distribution of forest produce and planning and grazing projects on Government's guidelines.
2. Growing fodder yielding plants and trees, arranging programmes with the help of range and division level committees to create awareness regarding wasteland development amongst people.

2.2.4 Responsibilities of the village level committee

necessary towards remuneration. Land. At the initial stage some Government inputs may be fuelwood, fodder etc. supplied to the villagers from the common ultimately from the revenue derived by collecting fees for the to time. The committee should pay the salaries / honoraria The secretary should submit his report to the committee from time for watch and ward and carry out any maintenance work required. the field assistants may be full-time employees who would serve nominated. The secretary should work on an honorary basis while secretary and if needed a field assistant should be elected / To implement the decisions taken by the committee a

2.2.3 Staff of the Committee

representatives of the village. The president of the committee should be elected from the

- (i) Forester. In his absence, forest guard can represent him.
- (ii) Village livestock inspector.

members of the committee. addition, following Government officials should be ex-officio

1. Implementation of forest development work based on committee's decisions.
 2. Protecting the village forest from fire, animals and thieves.
 3. Catching the thieves and handing them over to forest officials and reporting such matters to the secretary.
 4. Reporting any illegal activities in the forest to the
- Following are the responsibilities of the field assistants :

(b) Field Assistant

Field assistants may be chosen on the recommendation of the secretary. Depending on the area of the village forest, the number of staff members should be decided.

1. Sending meeting notices as directed by the President.
 2. Keeping records of the activities of the committee.
 3. Executing the decisions taken in the meetings. Supervising the work of the field assistants.
 4. Distribution of forest produce based on the committee's decisions and instruction.
 5. Maintenance of accounts and reporting them in meetings.
- (a) Secretary

2.2.5 Responsibilities of the staff of the committee

3. Training the local people about forest development and tree planting with the help of higher level committees.
4. Supervising the work done by the committee's staff.
5. Based on the report submitted by the committee's staff, reporting of people who have violated the rules to forest officials for taking appropriate action.
6. Reporting any illegal activities in the village forest or grazing land to the forest officials and cooperating with them to prevent such activities.

Funds needed for protection and development of village forests during the first five years should come from the Government. There should be a gradual decline in the financial support from the Government in the next two years so that in seven years' time the committee would become self supporting.

2.2.8 Finances of the village committee

2. Giving technical advice on growing fodder plants in the village forests and helping in activities of the committee in creating awareness amongst people on such matters.
1. Giving suitable suggestions regarding animal husbandry, treatment for sterile cattle and sale of cattle in the meetings.

2.2.7 Responsibilities of the village livestock inspector

5. Reporting the activities of the village committee to the higher level committee.
4. Reporting the events during the visit to the forest to the village committee.
3. Visiting the village forests now and then and giving guidance on technical matters to secretary and field assistants.
2. Advising on technical matters and forest rules in the meetings.
1. Taking appropriate action when there is theft or any activity that violates the rules.

The responsibilities of the local foresters/field assistants who are the ex-officio members of the committee are as follows :

2.2.6 Responsibilities of the forester/field assistant

secretary.

1. Only these poor people will be willing to work as labourers in forest development activities. If they are convinced that the Forest Department because, the working, development and preservation of reserve forests by It is important to involve people below the poverty line in

the development and protection of reserve forests as well. care of the village forests, villagers' cooperation is needed in In addition to their cooperation and participation in taking

OF RESERVE FORESTS

3. ROLE OF VILLAGERS IN WORKING AND DEVELOPMENT

should be used for village improvement programmes. case some funds remain after utilizing for development work, they development work of the village forests and grazing lands. In the urban poor. Money thus obtained should be utilized for the to depots of forest department for sale in other villages or to If there is surplus of the forest produce, it should be sent educating and training programmes.

this period, support from the Government should be taken only for with staff salaries and forest development activities. Beyond the produce of village forests to meet the expenses connected By seven years, enough money should be obtained by selling

be paid by the Government. poor people. Whenever the rebate is given, the difference should should be fixed. Rebate should be given to green card holding Based on the guidelines, prices for all the forest produce

- 3.1 Aims of developing the reserve forests
 1. Conservation of water and soil nutrients of the forest land.
 2. Preservation of diversity of plants.
 3. Growing plants which yield the kind of fruits, flowers, leaves, seeds etc. that promote employment opportunities for the poor villagers. Villagers would be more enthusiastic in protecting such plants that continually yield usufructs without having to cut them periodically.
 4. It is necessary to use some forest land to meet the fuelwood demands of the urban poor and for special occasions. It is also necessary to take steps to reduce the urban people's dependence on fuelwood. This could be achieved by providing stoves that consume less fuel and financial support for getting cooking gas. In addition encouragement could be given for growing timber and fuelwood yielding trees in urban government lands. With proper planning pressure on reserve forests for supply of wood by felling trees should be reduced as much as possible.
3. In view of social justice also, these people should get benefits of produce from the reserve forests.
2. Their dependence on the forests is more as they have little land of their own.
3. they will be benefited by working for the forest Department, the expenses involved in their participation can be brought down.

1. Ownership of reserve forests should continue to be with the Forest Department.
2. A society or association of poor people who are willing to work in cooperation with the Forest Department for the protection and development of reserve forests should be formed. Only landless agricultural labourers, small farmers and village artisans should be members of such societies.
3. At present, formation of such societies is possible only under the rules and regulations of co-operative societies. Under these rules, it becomes difficult for the poor people to run such co-operative societies. Moreover, it is a difficult task to interact with different kinds of government departments dealing with different matters. Therefore, simple guidelines should be formulated for the working of such peoples' societies. Forest development projects should have provisions for the formation of such societies.
4. Forest Department should give contracts to these societies instead of to individuals.
5. Contract for collection of minor forest produce should be given to such societies. The societies should be allowed to sell the minor forest produce only after paying the forest Department the contract amount.
6. Processing of the minor forest produce should also be done in the villages as far as possible. Other Departments of the Government should help in this matter. The government Departments, research institutions and voluntary agencies should play an important role in identifying minor forest products that help in creating employment to poor villagers.
7. The traditional occupation of the villagers should be taken into consideration while deciding about the types of plants to be grown in reserve forests. The plant species that yield raw materials needed for them and those that might offer newer jobs should be planted. The poor villagers' societies should take active part in taking such decisions.
8. The chairmen of these societies should be from the respective villages. The ex-officio members should be the forest officials. An advisory committee should be

Suggestions

3.2 Involvement of villagers in the development, working and protection of reserve forests.

There was considerable discussion about the constitution of higher level committees to oversee and help in the work of the village level committees / organizations such as forest labourers' societies. One view was that any structure thought of has to be compatible with the Mandal Panchayat and Zilla Parishad system. It was therefore suggested that special committees should be constituted at the Mandal and district level to discharge this function. There was also debate on whether this responsibility should be taken on by the appropriate standing committees of the Panchayat and Zilla Parishad or whether special committees need to be constituted. Experience with the village forest protection committees of Midnapore district of West Bengal, suggests that it might be useful to have a further hierarchy of committees between the Panchayat and Zilla level at the forest range and

4. HIGHER LEVEL COMMITTEES/S

9. It is estimated that about hundred lakh tonnes of fuelwood is being transported to cities as headloads at present. A union of people who sell headloads may be created and made to get involved in growing fuelwood yielding trees and cut plants. They should be trained to grow and scientifically transport fuelwood through vehicles and to sell fuelwood to poor people at fixed price. After first five years, these societies should be able to grow and sell fuelwood on their own. Lands will have to be specially earmarked for this purpose.
 10. Forest dwelling tribals should also be brought together to make societies which could be involved in growing, gathering and processing and selling minor forest products.
- constituted with heads of the Departments of Forests, Animal husbandry, Agriculture and Industry as its members. Representatives from Voluntary organizations should also be part of the committee.

division level. If this is to be implemented the following structure is suggested :

4.1 Range level committee

The range level committee may have the following composition:

1. Five members from each Mandal. They should be representatives of the following groups : One from landless agricultural labourers group; one from amongst women; one from the artisans; one farmer and one of the members of Mandal panchayat.

These members should be elected by the representatives of the village level committees of each Mandal. For example, if there are 10 village level committees, all landless agricultural labourers of these committees should elect one amongst them as a member to range level committee.

2. One of the members should be elected as the President.

The range forest officer should be the Secretary of the committee while other forest officials may be ex-officio members.

4. Heads of the Department of Animal Husbandry, Horticulture, Agriculture and Development at taluk level should be ex-officio members.

Voluntary agencies, educational institutions and research organizations of a particular range should send representatives as ex-officio members of the committee.

6. Number of representatives from village level committees in range level committees should not be more than 30. In a committee of too many members, it becomes difficult for proper discussions to take place. Therefore it is suggested that if there are more than 6 mandals in a range, there should be more than one committee.

7. Government officials of the range level committees are expected to pay frequent visits to the villages, supervise the functioning of the village level committees. They should also visit the forests and submit reports on the status of the forests to range level committee.

1. 5 village level representatives from each range. They should be : One from landless agricultural labourer group; one amongst women; one village artisan, one member of the Mandal Panchayat and one from other categories. The range level members should elect them.
 2. Range forest officers should be members.
 3. Heads of the Departments of Animal Husbandry, Agriculture, Horticulture at district level should be members.
 4. Two members from the Zilla Parishat of the division elected by the Zilla parishat members.
 5. Representatives from voluntary organizations, educational
- 4.1.1. Responsibilities of range level committees
1. Provide guidance and technical advice on rules and regulations to village level committees.
 2. Arrange programmes to create awareness about forest development and growing fodder yielding plants and trees in private lands amongst people.
 3. Train the staff of village committees and local people.
 4. Review the complaints received from village committees and local forest officials and recommend suitable action.
 5. If any village committee fails to function properly, report the matter to division level committee with a recommendation for proper course of action.
 6. Supervise and direct the developmental activities of the village forests which are far from the concerned villages.
 7. Take steps to increase the participation of poor villagers societies in the development of reserve forests. Discuss with local poor about the types of plants to be planted.
- 4.2. Division level committee
- A division level committee may be formed to guide and advise range level committees on technical matters. The composition of this committee may be as follows :
1. 5 village level representatives from each range. They should be : One from landless agricultural labourer group; one amongst women; one village artisan, one member of the Mandal Panchayat and one from other categories. The range level members should elect them.
 2. Range forest officers should be members.
 3. Heads of the Departments of Animal Husbandry, Agriculture, Horticulture at district level should be members.
 4. Two members from the Zilla Parishat of the division elected by the Zilla parishat members.
 5. Representatives from voluntary organizations, educational

President of the Zilla Parishat should be the president of the committee and the Chief Secretary of the Zilla Parishat should function as the secretary. In addition, the committee may be consulted with the following members :

4.3.1 Composition of the Committee

Since the development, planning and administration would now focus on the district as a unit, it would be necessary to coordinate the activities of the lower level committees beginning with the village committees at the district level. This committee would work closely with the Zilla Parishat and the district level set up of the government development machinery.

4.3 District Level coordination committee

1. Provide guidance to range level committees.
2. Arrange to give technical advice to range level committees.
3. Review the recommendation and complaints received from range level committees regarding village level committees and take suitable decisions.

4.2.1 Responsibilities of the division level committee

6. From amongst the representatives from the village, one should be elected as president.
 7. Deputy Conservator of the Division should act as the Secretary of the committee.
 8. 3 representatives from the poor villagers' societies.
- institutions and research organizations of the division:

We believe that such formal local level management must be put into place to effectively involve the people and to ensure that the weaker segments of our population who are concentrated

1. Form subcommittees to coordinate activities of different division level committees.
2. Look into the developmental activities of forest and wastelands of the district.
3. Guidance for future work.
4. Allocate funds earmarked for forest and wastelands and environment improvement projects to different divisional committees of the district.
5. Sanction funds for relevant research activities.
6. Arrange for periodic examination and review of the forests and wastelands of the district and evaluation of the developmental activities.

The committee should meet at least once a year.

committee

4.3.2 Responsibilities of the district level coordination

1. Conservators of forest of the district.
2. Deputy Conservators of Forest of the district.
3. Ten members from division level committees from different groups of village societies with different occupations.
4. Heads of the departments of Animal Husbandry, Agriculture, and Horticulture at district level.
5. Representatives from voluntary organizations working in the district.
6. Representatives from educational institutions, research organizations working in the field of environment, agriculture and forestry. If such institutions are not found in the district, representatives may be invited from institutions outside the district.

In the rural areas derive substantial benefits from the natural resource base. To quote once again, the steering group on Environment, Forests and Wastelands Development for the formulation of the Eighth Five Year Plan (1990-95), strengthening community effort is perhaps the only hope for enriching rural resource base.

ANNEXURE - A

BACKGROUND DISCUSSIONS

1. January - April 1988
Village level discussions on the management of common lands in the Uttara Kannada district of Karnataka.

2. 5th June 1988
Publication of articles in English and Kannada in popular newspapers from Bangalore on a system of management of common lands based on these discussions. These articles were widely circulated and drew considerable response especially from the voluntary sector.

3. 12th August 1988
A note based on this material was considered by the Steering Group on Environment, Forests and Wastelands Development for the formulation of the Eighth Five Year Plan. There was widespread consensus on the ideas thus suggested. These have been largely incorporated in the final report of the Steering Group.

4. 10th September 1988

The Study Group on Fuelwood and Fodder of the Planning Commission considered this material and largely incorporated it in its final report.

The Karnataka Forest Department organized a seminar on the integrated development of the forests of Western Ghats at Dharwad. This meeting was attended by a number of Zilla Parishat office bearers, voluntary agency workers and district level officials along with the forest department officials. It was decided that a detailed background paper be prepared on common

7. 6th June 1989

An article entitled "Greening the Commons" was published in the periodical Mainstream published from New Delhi. This article was widely circulated especially amongst the environmental activists and academics and provided much feedback.

6. 21st January 1989

A National Seminar on Common Lands was organized as a part of the National environmental awareness campaign. A number of voluntary agency workers, Government officials and others participated in this workshop and considered the issue in depth.

5. 9th and 10th January 1989

A full day seminar on the management of the common lands for the members and officials of the Uttara Kannada Zilla Parishat was convened by the President of the Zilla Parishat. Twenty four of the twenty nine Zilla Parishat members and most of the officials actively participated in the discussion. Subsequently, the Zilla Parishat President wrote to the Government of Karnataka endorsing the suggestions in the article of 5th June.

5. 15th November 1988

lands management and be discussed in a meeting involving a broad cross-section of people to decide on an implementation strategy.

8. July 1989

The Steering Group on Environment, Forests and Wastelands Development for the formulation of the Eighth Five Year Plan submitted its final report strongly endorsing the need for involving local communities in the management of common property resources.

9. 4th July 1989

A meeting of voluntary agencies on peoples' participation in forest development considered the various options in depth and constituted a drafting committee to finalize its proposals. The proposals of the drafting committee were ready by end of August and were widely circulated.

10. 21st and 22nd September 1989

A broad cross-section of people including senior Government officials, Zilla Parishad presidents and vice-presidents, technical experts and workers of voluntary agencies met in Bangalore to consider the draft proposals circulated (See Annexure - B for list of participants). Their consensus is reflected in the present note.

ANNEXURE - B

LIST OF PARTICIPANTS
IN THE FINAL MEETING ON 21-22 SEPTEMBER 1989

VOLUNTARY ORGANIZATIONS (21 and 22 sept, 1989)

Ms. Celina Aranha,
Shubadha, Kulamandana,
Lower Bindur,
Mangalore 2.

Shri. Ananth Hegde Ashreesar
Vriksha Laksha Andolan
C/o. Seva Sagar Trust
B H Road, Sagar 577 401

Shri. Ganesh Bhat

P. O. Uppant
Tq. Honnavar
Dist. Uttara Kannada

Shri. R.N. Bhide

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Shri G. Channappa

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Shri. G.K. Chikkappa

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Panaje 574259, Dakshina Kannada

Shri. Prabhu G. Dandavathimath
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Shri. Konure Gowda
Converner, T Z S
C/o. Vivekananda Girijana Kalyana Kendra
B R Hills, Vm Chimmaturjanagar
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Shri. Made Gowda
Upapradan (Tribal)
C/o. Vivekananda Girijana Kalyana Kendra
Kollagal

Shri. K.S. Gurnurthy
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Shri. Narayana Hegde,
Spandana Samudaya,
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Hospet Road, Siri,
Uttara Kannada Dist.

Shri. M.S. Hegde
Sahyadri Parissara Vardhini
Yadahalli
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Shri R.V. Hegde
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Shri Ramiah
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D K Dist

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Mysore Zilla Parishat

Mysore

Shri. J.V. Karumbath

Adhyaksha

Coorg Zilla Parishat

Madikeri

Shri. B. G. Soorana Gowda Patil

Adhyaksha

Dharwad Zilla Parishat

Dharwad

Shri. B. Shankappa Rai

Adhyaksha

Dakshina Kannada Zilla Parishat

Mangalore

Shri. Naregalle Bhimappa Virupakshappa

Upadhyaksha

Dharwad Zilla Parishat

Dharwad

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Area Development Programme
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FOLLOW - UP ACTION

The main committee for future follow-up has been identified as follows :

1. Shri Anant Hegde Asheesar

2. Shri R.N. Bhide

3. Shri Roy David

4. Shri Girijashankar

5. Shri K.M. Hegde

6. Dr. A. Kabbur

7. Dr. G. Pais

8. Shri Rupert M. Rosario

9. Shri Sreena Shetty

10. Shri Somanna

1. Shri R.N. Bhide

2. Dr. G. Pais

Shri Kshirsagar

3. Shri Roy David

4. Shri Girijashankar

Shri Gajendra

5. Shri Anant Hegde Asheesar

Prof. Kumaraswamy

6. Shri Narayan Hegde

Shri N.S. Hegde

7. Dr. A. Kabbur

Shri Ranjan Rao Yerdoor

8. Shri Prabh Dandavattimutt

9. To be identified by

Shri Girijashankar

Dakshina Kannada

Mysore

Kodagu

Chikmagalur

Shimoga

Utara Kannada

Dharwad

Belgaum

Hassan

The Committee on Legal Aspects :

1. Shri Gurnurthy
2. Shri N.M. Hegde
3. Shri Rupert Rosario
4. Shri Sreekanth
5. Shri Ranjan Rao Yerdoor (Convener)

Scientific Resource Personnel

1. Prof. Madhav Gadgil, Bangalore
2. Dr. Gaidav, Channarayana Nagar
3. Prof. Kumaraswamy, Shimoga
4. Prof. M.V. Nadkarni, Bangalore
5. Dr. H.R. Ramachandraswamy, Sringeri
6. Dr. N.H. Ravindranath, Bangalore
7. Prof. Subash Chandran, Kunta

Administrative Resource Personnel

1. Shri V.P. Bhatnagar
Joint Commissioner, Commercial Taxes
2. Shri M.V. Ramachandra Chetty
3. Shri Madan Gopal, Director, Adult Education
4. Shri S. Krishna Kumar
5. Shri P.J. Nayak
6. Shri R.M. Palanna
7. Shri Parthasarathy, C.S., Hassan Zilla Parishat
8. Shri Yellappa Reddy
9. Shri Umesh, D.C., Chikmagalur

1. Shri J.V. Karumbalath, Coorg
 2. Shri Ramnand Nayak, Uttara Kannada
 3. Shri B.G. Sooranna Gowda Patil, Dharwad
 4. Shri Vrishabhadrappa, Mysore
- Zilla Parishad Adhyakshas who could help as resource personnel

Organized by : Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560012

Dates : November 4-6, 1989

Venue : Sathnur
Kanakapura Taluk

TRAINING PROGRAMME ON ENVIRONMENTAL EDUCATION FOR TEACHERS
OF HIGHER PRIMARY SCHOOLS FALLING IN KABBALNALA WATERSHED
DEVELOPMENT PROGRAMME, KANAKAPURA TALUK, BANGALORE DISTRICT.

PROGRAMME SCHEDULE

4 NOVEMBER 1989

10:00 - 10:30	Rural Environmental Aspects	N.H. Ravindranath
10:30 - 11:30	Water and Water Cycle	N.H. Ravindranath
11:30 - 12:30	Water Flow	N.H. Ravindranath
1:30 - 2:30	Soil : Structure and Role	H.I. Somashekar
2:30 - 3:30	Soil Erosion	Mohan Naik
3:30 - 4:15	Siltation in ponds and watersheds	Mohan Naik
4:15 - 5:00	Rural Livestock	H.I. Somashekar
		N.H. Ravindranath

5 NOVEMBER 1989

9:30 - 10:30	Trees : Diversity and uses	H.I. Somashekar
10:30 - 11:30	Forests	H.I. Somashekar
11:30 - 12:30	Causes of deforestation: Impact of deforestation on man and environment	N.H. Ravindranath
12:30 - 1:15	Use of plant products as green manure	N.H. Ravindranath
2:00 - 2:45	Fuel for cooking	Mohan Naik
2:45 - 3:30	Use of plant products as fodder	H.I. Somashekar
3:30 - 4:15	Conservation of natural resources	Mohan Naik
		H.I. Somashekar

6 NOVEMBER 1989

Field visits to various soil, water conservation and related activities in the watershed.

NAMES AND ADDRESSES OF THE PARTICIPANTS :

1. Shri M. Lakshmana
H.P.S. Honnaganahally
Kanakapura Taluk
2. Shri Rajashekara
H.P.S. Honnaganahally
Kanakapura Taluk
3. D. Venkataiah
H.P.S. Arekatteoddi
Kanakapura Taluk
4. Shri Puttaswamy
H.P.S. Chikkalahally
Kanakapura Taluk
5. Shri B. Karappa
H.P.S. Chikkalahally
Kanakapura Taluk
6. Shri S. Narasimhaiah
H.P.S. Thatahally
Kanakapura Taluk
7. Shri A. Venkataswamy
H.P.S. Achalu
Kanakapura Taluk
8. Shri A.V. Sarvesh Murthy
H.P.S. Thatahally
Kanakapura Taluk
9. Shri K. Bavarajiah
Inspector of Schools
Kanakapura Taluk
10. Shri Basavanna
H.P.S. Dalimba
Kanakapura Taluk
11. Shri Badanna
H.P.S. Dalimba
Kanakapura Taluk
12. Shri M.S. Krishnamurthy
H.P.S. Kappal
Kanakapura Taluk

- 1. Prof. Madhav Gaddil
- 2. Dr. N.H. Ravindranath
- 3. Shri Mohan Naik
- 4. Shri H.L. Somashekara

FROM INDIAN INSTITUTE OF SCIENCE

- 13. Shri Venkateshiah
H.P.S. Athihally
Kanakapura Taluk
- 14. Shri Hanumanth
H.P.S. Athihally
Kanakapura Taluk
- 15. Shri K. Channiah
H.P.S. Guruvihapura
Kanakapura Taluk
- 16. Shri Dasiah
G.M.S. Sathnur Hobli
Kanakapura Taluk
- 17. Shri Ningiah
G.M.P.S. Sathnur Hobli
Kanakapura Taluk
- 18. Shri H. Mudhol
H.P.S. Kadahalli
Kanakapura Taluk
- 19. Shri Kalappa
H.P.S. Arekalle Dodd
Sathnur Hobli
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- 20. Shri Syed Ibrahim
Agricultural Officer
Kanakapura
- 21. Shri B.J. Chikkaputtegowda
A.H.O., Kanakapura
- 22. Shri H. Chandrashekar
Statistician
State Watershed Development Cell
Govt. of Karnataka

DISCUSSION MEETING ON

HUMAN ECOLOGY AND CULTURAL HERITAGE

Venue : Department of Studies in Ancient Indian History

and Epigraphy

Karnatak University

Pavate Nagar

Dharwad 580003

Date : 30th November - 2nd December 1989

Organized by :

Centre for Ecological Sciences

Indian Institute of Science

Bangalore 560012

Department of Studies in Ancient Indian

History and Epigraphy

Karnatak University

Pavate Nagar

Dharwad 580003

and

Indira Gandhi National Centre for Arts
New Delhi

The discussion meeting began with a field visit to the Dharwad and Yellapur talukas. This covered a range of natural and man-made habitats including thorny scrub, dry and moist deciduous as well as semi-evergreen forests, cotton, jowar, paddy cultivation and arecanut orchards. This region harbours a number of human communities pursuing a variety of subsistence strategies which include gathering of forest produce, buffalo and cattle keeping, subsistence and cash crop agriculture and artisanal activities such as mat weaving. The field visit involved detailed discussions about the ecological setting and cultural heritage of two of the most interesting communities namely, Siddis and Gavis at the village Kirawale. The Siddis are a community of African origin derived from slaves brought to India by the Portuguese and subsequently escaped from Goa. They live deep in forest and depend a great deal on hunting gathering along with some subsistence agriculture and labour in orchards. The Gavis are a pastoral group of the Western Ghats forests whose primary subsistence is based on marketing of dairy products from cattle and buffaloes supported by forest grazing.

The other focus of the field trip was a study of the deities and elements of nature worship including sacred trees and groves. A number of sites were visited, these included :

30th November 1989

REPORT

1. Sitanjan Bhattacharya Ecological organization of village communities of Uttara Kannada and Dharwad districts
2. M.D. Subash Chandran A case study of the sacred trees and sacred groves of the Uttara Kannada district
3. B. Mohan Reddy The fishing communities of Karnataka coast
4. Raghunath Bhat Antiquarian remains of Siddapur taluk

included :

1. Madhav Gadgil Cultural and Ecological Diversity
2. A. Sundara Studies of antiquarian remains, literature and folklore in relation to ecological setting of the human communities.

The two overviews included :

supplemented by two overviews.

The morning session of the second day included a number of presentations on research programmes already under way which are relevant to the two major themes under consideration namely, an area study of the district of Uttara Kannada and a study of the fishing communities of the west coast. These presentations were

1 December 1989

Village	deity	sacred tree/grove etc.
Hukand	Ishwara	
Malgajon	Hulidevaru	Golikkan
Bedthi bridge	Hulidevaru	

The afternoon session was devoted to formulation of concrete research programmes on the two identified themes of an area study of Uttara Kannada and the fishing communities of the west coast. This discussion was chaired by Kailash Malhotra who stressed value of the holistic and multi-disciplinary approach being pursued. A number of participants commented on the possible content of the research programme from the perspective of their own special expertise. These included :

1. P.R.J. Mathur - Technology, economics, environment and the knowledge system of the marine fishing communities
2. S.N. Rajaguru - Environmental history
3. M.D. Kajale - Archeobotany and pollen-analysis
4. G.L. Badam - Acheozoology
5. J. Handoo - Folklore
6. V.D. Vartak - Ethnobotany
7. J. Pouchepadass - Agrarian history

Prof. Baidyanath Saraswati then explained the broad framework of the Janapada Sampada Programme of the Indira Gandhi National Centre for Arts. He stressed the important role of peoples' perception and the need to combine this with the scientists' interpretations of the environment.

2 December 1989

The group met together to formulate a broad coordinated research programme on the theme of human ecology and cultural heritage which would have as its two sub-components an area study of Uttara Kannada and a study of the fishing communities of west coast of India. It was decided that the overall programme will be coordinated by Mahav Gadhil of the Centre for Ecological Sciences, IISc. Kailash Malhotra of Indian Statistical Institute will serve as the coordinator for the study of fishing communities and A. Sundara of Department of Studies in Ancient Indian History and Epigraphy of Karnatak University as the coordinator of the Uttara Kannada area study. The participant institutions and the themes that they would tackle under each of the two programmes would be as follows :

(a) Fishing communities of west coast

1. Indian Statistical Institute
Calcutta
 2. A. Iyer International Centre
for Anthropological Studies
Palghat
 3. Karnatak University
Dharwad
 4. Deccan College Post-graduate
Research Institute, Pune
 5. French Institute, Pondicherry
- Human Ecology
Technology, Environment,
Economy and Knowledge
Systems
Antiquarian remains and
folklore, marine biology
Environmental History
History of Mangrove
Vegetation, Cartography

(b) Uttara Kannada Area Study

1. Karnatak University Dharwad
 2. Dr. Baliga College, Kumta
 3. Indian Institute of Science Bangalore
 4. Deccan College, Pune
 5. French Institute, Pondicherry
- Antiquarian remains, folklor and ethnobotany
Sacred trees and Groves
Resource use patterns of hu communities
Environmental history
Forest history

This overall programme would be overseen by an advisory committee with the following constitution :

1. Dr. Ramachandra Guha
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University Enclave
Delhi 110007
 2. Dr. Arun Parulekar
National Institute of Oceanography
Dona Paula
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 3. Prof. Vivek Rai
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 5. Prof. Surjit Sinha
Department of Anthropology
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 6. Dr. B.S. Somayajulu
Physical Research Laboratory
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Ahmedabad 380009
- Ecological History
Marine Ecology
Folklore
Plant Ecology
Anthropology
Oceanography

Final proposals to reach IGNCA.

31 March 1990

review of the initial proposals to reach all the investigators.
Feedback from Baidyanth Saraswati and Madhav Gadgil after a joint

28 Feb 1990

IGNCA, New Delhi.

First draft of all the projects to reach IISC, Bangalore and

30 Jan 1990

of the detailed research proposals :

The following timetable was chalked out for the formulation

would publish a series of monographs resulting from the work.

pertinent to the programme for use by the entire team. IGNCA

programme as well as develop a collection of journals and books

The Indira Gandhi National Centre for Arts would fund this

investigators.

involving the advisory committee along with all the

a newsletter, a number of bilateral visits and an annual workshop

The programme will be coordinated through the production of

- 7. Prof. Romila Thapar
Centre for Historical Studies
Jawahar Lal Nehru University
New Delhi 110067
- 8. Dr. V.D. Vartak
Maharashtra Association for
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Ethnobotany

Ancient Indian History

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2. Mrs. Vijayageetha Gadagkar
3. Ms. Prema Iyer
4. Shri Y. G. Kanade
5. Shri M.B. Naik
6. Shri S.G. Patgar
7. Shri C.M. Shastri

In addition the following staff members of Centre for Ecological Sciences, Indian Institute of Science also participated in the field work and workshop :