

Coorg – An alternative model

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Abstract

The Western Ghats range is internationally acknowledged as an environmental "hot spot" because of its biological diversity and the effects of human depredation. Within this mountain chain lies Kodagu a micro-hotspot. Kodagu, commonly known as Coorg is the second smallest district in Karnataka, occupying an area of 4108 sq.km. in the Western Ghats. The many diverse kinds of vegetation found in the district make Kodagu one of the micro hotspots of biodiversity within the larger hotspots of the Western Ghats. Kodagu has approximately 65 per cent of its geographical area under tree cover, making it one of the most densely forested districts in the country.

The district is not only unique in the types of vegetation but also in respect of the management of tree growth in the different land tenures of which there are 38 types. Kodagu, also has all the environmental problems associated with an ecologically, culturally and economically conducive place of human settlement. The major issues are related to a) Lack of a Comprehensive Forest Policy for Kodagu b) Monoculture and Exotic tree Species c) Depletion of Soil Nutrients d) Water Pollution e) Solid Waste f) Human-Animal Conflict g) Declining Number of Devarakadus; and h) Tourism induced problems.

Recognising these issues, Centre for Environment Education (CEE) initiated an intervention programme for Kodagu called "Coorg – An Alternative Model" mainly to create awareness among the people of Kodagu and visitors on the relative importance of conserving and protecting fragile ecosystems along with sustainable development.

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1. Introduction

Kodagu, commonly known as Coorg is the second smallest district in Karnataka, occupying an area of 4108 sq.km. in the Western Ghats. The Western Ghats range is internationally acknowledged as an environmental "hot spot" because of its biological diversity and the effects of human depredation. Within this mountain chain lies Kodagu a micro-hotspot. The topography of Kodagu district has a mountainous configuration with valleys and ravines. In Kodagu, agriculture is the only significantly developed sector. The main crops are coffee, spices and paddy, with the former two grown in plantations. Ragi, maize, chilies and groundnuts are grown in areas adjoining the districts of Hassan. Fruits such as oranges, guavas, sapotas, limes, pineapple and banana were grown in large quantities earlier. Today with the exception of banana cultivation there is no other fruit that is grown economically. Kodagu has approximately 65 per cent of its geographical area under tree cover, making it one of the most densely forested districts in the country. The many diverse kinds of vegetation found in the district make Kodagu one of the micro hotspots of biodiversity within the larger hotspots of the Western Ghats. The district is not only unique in the types of vegetation but also in respect of the management of tree growth in the different land tenures of which there are 38 types. Kodagu, also has all the environmental problems associated with an ecologically, culturally and economically conducive place of human settlement. The major issues are related to a) Lack of a Comprehensive Forest Policy for Kodagu b) Monoculture and Exotic tree Species c) Depletion of Soil Nutrients d) Water Pollution e) Solid Waste f) Human-Animal Conflict g) Declining Number of Devarakadus; and h) Tourism induced problems.

II objectives and activities

Recognising these issues, Centre for Environment Education (CEE) initiated an intervention programme for Kodagu called "Coorg – An Alternative Model" mainly to create awareness among the people of Kodagu and visitors on the relative importance of conserving and protecting fragile ecosystems along with sustainable development.

To achieve the above-mentioned objective, the interventions were divided into various activities such as a) The Coorg Resource Centre b) Kodagu Heritage Interpretation Centre c) Public Awareness Programme; d) Medicinal plants, Biodiversity and Organic Farming e) Alternative Technology f) School Eco-club activities g) Eco-tourism h) Solid Waste Management i) Other Activities such as Networking, Publications, etc.

1. **Coorg Resource Centre (CRC)** : The objective of setting up CRC was to provide a forum for conducting seminars, training programmes, demonstrations and create collaborations with other organisations working in Kodagu. It also intended to provide information to all segments of society regarding environment-related issues and solutions. Hence a well-equipped CRC was set up at Maggulla Village, Virajpet.
2. **Kodagu Heritage Interpretation Centre (KHIC)** : KHIC is set up to facilitate any visitor or resident of Kodagu to interpret the unique landscape, culture and

consequently the conservatory economic activities of the place. Moreover, the Kodagu Heritage Interpretation Centre will serve as a living exhibition centre to highlight all relevant developmental, environmental issues and cultural activities of Kodagu and its people today. Almost ten years of living in and experiencing Kodagu has culminated in the formulation of a Kodagu Heritage Interpretation Programme (KHIP). The basic objective of this KHIP is to show the local people as well as the visitors the existence of the strong link between culture and environment in Kodagu and its destruction over the years due to changing attitude and infiltration of modernization into the fragile eco-sensitive co-existence. Added to this is the recent slump in the prices of major cash crops such as coffee and pepper affecting the overall economic growth negatively. KHIP is a well planned and thought over remedy for the deterioration of the ecology and culture of Kodagu with an intention to provide health and vigour to the future of the district.

KHIP has been developed considering the potentiality of interpreting heritage of Kodagu in terms of both the natural as well as cultural uniqueness of Kodagu district. KHIP consists of Kodagu Heritage Interpretation Centre at the district headquarters Madikeri, heritage walk at Madikeri, wayside exhibits in different parts of Kodagu, publications, an Eco-tourism and Sacred Groves Interpretation Centre at Virajpet, Kodagu Ecology Centre in Somwarpet taluk promoting Eco-tourism in Kodagu and an indigenous peoples cell. In addition to this, a Geographical Information System (GIS) is also being developed to provide information on Kodagu district.

3. **Public Awareness Programmes :** In continuation to the previous project “Coorg – An Alternative Model” various public awareness programmes were included in the present project CEEDS also. This was mainly to create awareness regarding environment and re-create a conservation-oriented society. The main themes covered under public awareness programmes were eco-friendly natural non renewable resource-saving devices concentrating on rainwater harvesting, promoting solar energy devices, fuel efficient devices, organic farming, medicinal plants and conservation of biodiversity.
4. **Medicinal Plants, Biodiversity and Organic Farming:** Promotion of medicinal plants cultivation, awareness on conservation of medicinal plants, documentation and publication on the existing medicinal plants of Kodagu was another area of activity. Training programmes were organised for college students, Self Help Group (SHG) members and school teachers on usage and conservation of medicinal plants. Seedlings were supplied to schools to raise gardens of medicinal plants. SHG were encouraged to start nurseries on medicinal plants and also take up commercial cultivation. Themes for school eco-club activities were based on biodiversity. A complete programme on sacred groves was carried out for 160 high schools of Kodagu. Related publications were also brought out. Awareness programmes were also based on the theme of conservation of biodiversity of Kodagu. Organic farming was promoted by supporting to establish a demonstrative organic farm with a vermi composting unit in Virajpet Taluk.

5. **Alternative Technology** : The main objective of this activity was to suggest alternative technology which were compatible and conservation-based for a fragile ecosystem like Kodagu. The areas addressed were energy for cooking, garbage management, organic farming, rainwater harvesting, eco-friendly tiny units, women and eco-friendly income -generating activities based on local resources.
6. **School Eco Club Activities** : The main objective under this activity was to educate school and college children on the relative importance of environment and inculcate in them love and respect for the environment they lived in.
7. **Eco-tourism** : The major objective under this activity was to promote eco-friendly tourism and protect the eco-system from degradation through invasive or mass tourism. Various promotional activities were conducted to encourage eco-tourism in Kodagu. Meetings and contacts have been established with the homestay facilitators. Two cycle trails have been developed in Virajpet taluk. A workshop was organised for the stakeholders to form a committee and promote eco-tourism. Efforts were made to declare all tourist zones of Kodagu as plastic-free zones.
8. **Solid Waste Management** : This activity was to address the garbage-related problems of the towns of Kodagu. Excessive and indiscriminate dumping of waste mixed with plastic, toxic elements, glass etc., has resulted in the degradation of soil stopping water percolation and effecting the survival of plant species on the hills.
9. **Other Activities** : CEE is involved in various other activities such as delivering lectures, participating in workshops, seminars and other gatherings for imparting knowledge, understanding the ground realities and also in capacity building of staff to address the issues in a better way. CEE also joins hands with other institutions to organise workshops, seminars etc., related to issues concerning the environment of Kodagu as well as participates in radio and television programmes to spread awareness on the activities of CEE.
10. **Networking** : As part of the activities of CEE in Kodagu, CEE involves in networking with other organisations to formulate institutional or citizens groups for conservation and protection of the environment in Kodagu. CEE also provides technical support for local NGOs and institutions to capacity build.
11. **Publications** As part of the project activities in Kodagu CEE also brings out publications both supportive to the activities and the outcome of the activities. These are displayed and sold from the CRC for disseminating information on the environmental issues in Kodagu.

III. Achievements

1. The Coorg Resource Centre (CRC)

The major activities conducted from CRC consist of training programmes for teachers, eco-volunteers, SHG members, beneficiaries and prospective users of alternative

technology. The other activities carried out include nature camps, seminars and workshops. Several training programmes for teachers and Eco-volunteers were conducted on themes such as Biodiversity, Sacred Groves and Water. Training programmes for SHG members were mainly on income -generating activities, usage and maintenance of smokeless chulahs, biogas units and on organic farming. A demonstrative smokeless chulah, vermi-composting unit and a model medicinal plants garden was established and all the training programmes conducted from CRC had a component of demonstration of these models. Among the activities of CRC, nature camps, cycle tours, and trekking were essential components. Certain networking activities, exhibitions and awareness programmes were also carried out from CRC.

2. Kodagu Heritage Interpretation Centre

Kodagu Heritage Interpretation Centre (KHIC) is set up to facilitate any visitor or resident of Kodagu to interpret the unique landscape, culture and consequently the conservatory economic activities of the place. Moreover, the Kodagu Heritage Interpretation Centre will serve as a living exhibition centre to highlight all relevant developmental, environmental issues and cultural activities of Kodagu and its people today. Almost ten years of living in and experiencing Kodagu has culminated in the formulation of a Kodagu Heritage Interpretation Programme (KHIP). The basic objective of this KHIP is to show the local people as well as visitors the existence of the strong link between culture and environment in Kodagu and its destruction over the years due to changing attitude and infiltration of modernization into the fragile eco-sensitive co-existence. Added to this is the recent slump in the prices of major cash crops such as coffee and pepper affecting the overall economic growth negatively. KHIP is a well-planned and thought-over remedy for the deterioration of the ecology and culture of Kodagu with an intention to provide health and vigour to the future of the district.

KHIP was developed considering the potentiality of interpreting the heritage of Kodagu in terms of both the natural as well as cultural uniqueness of the district. The Kodagu heritage interpretation programme consists of Kodagu Heritage Interpretation Centre at the district headquarters Madikeri, heritage walk at Madikeri, wayside exhibits in different parts of Kodagu, publications, an Eco-tourism and Sacred Groves Interpretation Centre at Virajpet, Kodagu Ecology Centre in Somwarpet taluk promoting Eco-tourism in Kodagu and an indigenous peoples cell. In addition to this a Geographical Information System (GIS) is also being developed to provide information on Kodagu district.

The building of KHIC is complete, the complete exhibit planning and themes has been decided through various interaction programmes with the general public, important citizens and other organisations working in Kodagu. Articles on the KHIC programme were published in the local news papers and advertisements calling for artifacts to be exhibited in the KHIC were put up.

As part of the interpretation programme 17 waysides have been installed at various places in Kodagu explaining the heritage and ecological importance of the place or monument as applicable.

A communities' meeting was organised to identify the important traits of the various communities living in Kodagu to be included in the formulation of themes for exhibits. A detailed survey was also conducted to assess the traits of each community to be included under various themes.

3. Public Awareness Programmes

Various public awareness programmes were conducted mainly to create awareness regarding environment and re-create a conservation-oriented society. The main themes covered under public awareness programmes were waste management, soil conservation, eco-friendly natural non renewable resource-saving devices concentrating on rainwater harvesting, promoting solar energy devices, fuel-efficient devices, organic farming, medicinal plants and conservation of biodiversity.

4. Medicinal Plants, Biodiversity and Organic Farming

Promotion of medicinal plants cultivation, awareness on conservation of medicinal plants, documentation and publication on the existing medicinal plants of Kodagu were also part of the project.. Training programmes were organised for college students, SHG members and school teachers on usage and conservation of medicinal plants. Seedlings were supplied to schools for raising gardens of medicinal plants. SHGs were encouraged to take up establishment of nurseries on medicinal plants and also commercial cultivation.

Themes for school eco-club activities were based on biodiversity. A complete programme on sacred groves was carried out for 160 high schools of Kodagu. Related publications were also brought out. Awareness programmes were based on the theme conservation of biodiversity of Kodagu.

Organic farming was promoted by supporting to establish a demonstrative organic farm with a vermi composting unit in Virajpet Taluk.

5. Alternative Technology

In continuation with the previous project, demonstration training programmes were organised based on the fuel efficient devices established earlier. Awareness programmes were organised to promote various alternate technologies by bringing in mobile exhibitions and conducting demonstrations throughout the district. A major promotional campaign was conducted on rainwater harvesting and organic farming. A demonstrative model rainwater harvesting unit was established at Palangala Primary School premises in Virajpet taluk.

6. School Eco Club Activities

Eco club activities were conducted focusing on themes such as Soil and Water Conservation, Garbage Management, Biodiversity, Sacred Groves and Water. All the high schools and primary schools of the district were covered. Regular teachers training programmes and eco-volunteers training programmes were conducted. A year-long certificate course on EE was conducted for high school teachers of Kodagu. Awareness programmes were also organised involving school children. Training programmes on methods of conducting awareness programmes were organised for high school and college students to capacity build the teachers and students in conducting public

awareness programmes. As part of the school eco-club activities in Kodagu a year-long certificate course on EE for High School teachers was developed and the first course was offered to 13 teachers from various schools in Kodagu. The course was very effective and was appreciated by the participants and also the district public education department.

7. Eco-tourism

Eco tourism is environmentally responsible tourism, which must incorporate the following key elements (i) Nature based,(ii) Ecologically, Socially, Culturally and Economically sustainable (iii) Educational and Interpretative (iv) Locally participatory. Various promotional activities were conducted to encourage eco-tourism in Kodagu. Meetings and contacts have been established with the homestay facilitators. Two cycle trails have been developed in Virajpet taluk. A workshop was organised for the stakeholders to form a committee and promote eco-tourism. Efforts were made to declare all tourists zones of Kodagu as plastic-free zones. A workshop was conducted to obtain feed back from homestay facilitators regarding introduction of eco-tourism in Kodagu and also strategies for introduction of eco-tourism in Kodagu. The brochure “Kodagu – A Pavithra Bhoomi” was reprinted.

8. Solid Waste Management (SWM)

1. The fundamental concepts of SWM such as reduce, reuse and recycle solid wastes were effectively conveyed to the general public, decision makers, school children, panchayat members, SHG members, youth associations, etc. Public events and gatherings were effectively utilized to create awareness.
2. Street-plays, door-to-door canvassing, public meetings, rallies, clean-up programmes, demonstrations, exhibitions, training programmes were organised for various target groups to create awareness and imbibe better waste management practices in them.
3. A survey was conducted to estimate the quantity and quality of solid waste generated in many of the towns and major villages of the district involving the eco-volunteers and the students. Based on the findings of the survey, specific strategies were worked out for improving the garbage management systems in all these towns and villages.
4. A strategy for collecting recyclable dry wastes involving the school children was introduced. The school children segregate garbage generated in their houses and bring the dry wastes to their schools for effective recycling of the same. Sale of these dry wastes collected by the students is generating revenue for the school and this is being utilized for sustaining the school eco-club activities.
5. Likewise the members of many SHGs were motivated to adopt a system for storage, collection and channelising the dry wastes for recycling. These SHG members segregate and store the dry wastes generated in their houses for a month. Then they bring all these segregated dry wastes to the place where they meet once a month. From there, it is sold or given to the recycling agents. These members have also been trained to compost the biodegradable waste in their backyards.
6. The farmers around many of the townships have been convinced to collect and carry the biodegradable market waste to their farms and use the same for composting. This system has reduced the disposal problem for the concerned authorities and helped the farmers to get raw material required for compost making.

7. CEE has established a demonstration unit for recycling paper and plastic bags. This unique recycling concept has provided employment opportunities and is a healthy way of managing paper and plastic carry bags.
8. Use of plastic cups and plates has been effectively banned in a majority of the wedding halls. All these wedding halls have a facility in their premises to compost the biodegradable wastes.
9. Every school has a compost making unit to handle the biodegradable waste generated in their campus and the students are being involved in monitoring these activities.
10. CEE has played a pivotal role in convincing the TMCs and the Grampanchayats to ban the sale and use of polythene carry bags. Kodagu district is going to be the plastic carry bag free district very soon.
11. The issue of SWM is being seriously considered and due importance is given by all the TMCs and Grampanchayats to solve the problems associated with garbage.

9. Other Activities

CEE involves in various other activities such as delivering lectures, participating in workshops, seminars and other gatherings for imparting knowledge, understanding the ground realities and also to capacity build staff to address the issue in a better way. CEE also joins hands with other institutions to organise workshops, seminars etc., related to issues concerning the environment of Kodagu. CEE also participates in radio and television programmes to spread awareness about its activities.

10. Networking

As part of the activities of CEE in Kodagu, CEE involves in networking with other organisations to formulate institutional or citizens groups to involve them in conservation and protection of environment in Kodagu. CEE also provides technical support for local NGOs and institutions to capacity build. As part of the networking activities, CEE joined hands with other organisations working in Kodagu to formulate a proposal to save the Cauvery river catchment areas by protecting the tree cover in the region and also declaring the three existing wildlife sanctuaries and the adjoining reserve forests as a National park. The second networking is the Kodagu Model Forest Trust, wherein CEE has become one of the trustees along with 10 other organisations. The third networking was regarding the protection and conservation of sacred groves of Kodagu. CEE was part of the group, which includes the forest department, Coorg Wildlife Society, Forestry College, etc. CEE took up the awareness campaign on sacred groves and conducted a one-year school activities programme exclusively on sacred groves in 160 schools of Kodagu involving 16 eco-volunteers.

11. Publications

As part of the project activities in Kodagu, CEE also brings out publications which are both supportive and present the outcome of the activities conducted. The publications include booklet on medicinal plants, sacred groves, Coorg Resource Book, poster on sacred groves, audio cassette, etc. Several issue-based pamphlets were also published.

IV : Conclusions, General Experience and Justifications for the intervention

1. The Coorg Resource Centre

The main objective of setting up the CRC was to provide a facility for students, researchers, NGOs, Government and the general public to meet. Several meetings were held with the SHG members, School Teachers, Eco-volunteers, NGOs, Voluntary organisations and the general public. The objective of all these meetings was to create awareness regarding environment. The process and the target groups were different but the final objective was achieved. Most of the networking activities were held at CRC. One of the networking programmes culminated in a proposal requesting the government to declare the three wildlife sanctuaries and the adjoining reserve forests as one national park to protect the catchment areas of river Cauvery. This proposal was presented to the Honorable Chief Minister of Karnataka for further action. The government has considered to convert the proposed area into a larger wildlife sanctuary. The district administration continuously requests for information on various environment related issues. The CRC was used to provide training on vermi-composting, azola cultivation, rainwater harvesting etc., through developed and maintained demonstration units.

2. Kodagu Heritage Interpretation Centre

The KHIC building itself is currently acting as a major attraction to the visitors and passers by. There are many enquiries regarding the KHIC. In a nature- blessed district like Kodagu, tourist rush is a well justifiable phenomenon. Lack of a proper information centre is a major drawback. KHIC is expected to act as a focal point for providing information and also organise training programmes for various target groups to create awareness on the fragile ecosystem of Kodagu. The building is ready and once the activities are initiated, more participation is expected from the district administration and also citizens of Kodagu.

3. Public Awareness programmes

The public awareness programmes conducted at various places through various media has started yielding its results. People have become conscious about the concept of waste management. Many towns in Kodagu have banned the use plastic carry bags. There has been a complete ban on usage of plastic carry bags in festivals and gatherings. Some of the *kalayana mantaps* and *choultries* have also banned the use of disposable plastic cups and plates. The district administration along with the city municipal corporation have jointly banned the usage of plastic carry bags below 20 microns thickness in the district head quarters.

With respect to rainwater harvesting, organic farming and usage of renewable energy resources also, the awareness programmes have been very effective. There is good demand for solar energy devices along with biogas units and fuel efficient wood burning devices like smokeless *chullahs* and *priyagni* stoves.

The current awareness campaigns were on the relationship between culture, wildlife and environment in Kodagu. This is mainly to highlight the historic eco-cultural concept adopted by the people of Kodagu for conservation of the rich biodiversity of the district. The inherent concept of conservation and respect for nature and its prominence in the

cultural attributes of Kodagu is being highlighted mainly as part of the Kodagu Heritage Interpretation Programme. The response from the campaign was very positive. Hence it could be safely concluded that the public awareness programmes conducted by CEE on various themes have been quite effective and are earning the necessary results.

4. Medicinal Plants, Biodiversity and Organic Farming

The awareness training programmes conducted for SHG members on medicinal plants have been very effective. The queries on medicinal plants cultivation and seedlings are a proof of the effectiveness and the relevance of this part of the project. Some of the training programmes conducted for the college students on identification and uses of medicinal plants have been very effective. The students themselves have set up medicinal plants gardens in their school/college campus. Most of the locally available medicinal plants are collected and are cultivated as garden plants in schools to create awareness on the availability of a large variety of medicinal plants in the district.

The school eco-club activities conducted on the theme biodiversity and sacred groves have given the school teachers and the students a first hand information on the rich biodiversity of Kodagu, the richness of sacred groves and their contribution in the conservation of the rich flora and fauna of Kodagu. The cultural richness and beauty of peoples involvement in the tradition of conservation has also been highlighted.

Seminars, workshops and interactions organised for various target groups have contributed in the creation of awareness and also large-scale adoption of organic farming in Kodagu. The model organic farm established at Virajpet taluk with vermi composting has been functioning very effectively and some of the training programmes were organised on farm visits.

5. Alternative Technology

In continuation with the projects undertaken in the previous project “Coorg – An Alternative Model”, certain training programmes were conducted with on field demonstration. The beneficiaries of the previous project were made resource persons for the current training programmes and they were made to share their respective experiences and benefits gained in using biogas units, *astra chullahs* (smokeless chullahs) and *priyagni* stoves. There were also training programmes organised on the advantages and benefits of the solar devices. There is a continuous demand for solar devices. The awareness programmes organised along with the mobile exhibition of KREDL was also very effective. The enquiries after the awareness programmes regarding various renewable energy devices exhibited clearly indicates the demand for and also the interest of the people in going for such devices which would indirectly benefit the environment of Kodagu.

6. School Eco-Club Activities

The school eco-club activities initiated during the previous projects were continued. The themes selected during the CEEDS project were biodiversity, sacred groves and water. As an outcome of these activities a complete resource kit was developed on sacred groves

of Kodagu. The publication is well accepted by students, teachers and research organisations. This also influenced the forest department to invite CEE as one of the members to discuss and plan the village eco-development committees. As an outcome of the continued teacher training programmes a certificate course on EE for high school teachers was developed and conducted with funds from local funding agencies. This clearly shows the acceptance and importance laid on the school eco-club activities. The understanding and the expression of the student participants during the competitions conducted at the end of eco-club activities, during the World Environment Day Celebrations and Wildlife Week Celebrations clearly justifies the eco-club activities and the methods used in creating awareness on environment.

7. Eco-tourism

Various promotional activities were conducted to encourage eco-tourism in Kodagu. Seminars, public presentations, meetings and discussions were organised with various stakeholders involved in the tourism industry. Contacts have been established with the homestay facilitators. Two cycle trails have been developed in Virajpet taluk. A workshop was organised for the stakeholders to form a committee and promote eco-tourism. Efforts were made to declare all tourist zones of Kodagu as plastic-free zones. A workshop was conducted to obtain feed back from homestay facilitators regarding introduction of eco-tourism in Kodagu and also strategies for introduction of eco-tourism in Kodagu. The brochure “Kodagu – A Pavithra Bhoomi” was reprinted. Waysides have been established at various places in Kodagu explaining the ecological and also cultural importance of the respective places. The establishment of KHIC has also acted as an incentive for promotion of ecotourism in Kodagu. NABARD has come forward to sponsor the eco-guides training programme. The concept of ecotourism has been well understood by all the stakeholders of the tourism industry in Kodagu, which in itself could be considered as a major achievement.

8. Solid Waste Management

As far as SWM is considered, the continued and persistent efforts by CEE to create awareness on the garbage menace through various approaches such as schools, gram panchayats, zilla panchayats and the district administration has finally achieved the objective. This is clearly evident from the recent ban on use of plastic carry bags below 20 microns in the towns of Madikeri, Siddapur, Murnad, Gonicoppal, Polibetta, etc. The public rallies organised by the town/gram panchayats are all indications of the awareness created by CEE in this respect. Understanding the value of composting the vegetable waste from village markets, several planters have started lifting vegetable market waste to their respective estates for composting and using as manure. Some of the marriage halls have developed their own composting units.

9. Networking, Other Activities and Publications

As part of the Networking done by CEE the following events and organisations have been established in Kodagu:

- a) Kodagu Model Forest Trust (CEE is one of the trustees) : The objective of this organisation is :

1. To protect and conserve the integrity of forest ecosystems in Kodagu while promoting Sustainable Management of Forest (SMF) in Sacred Grooves (Devarakadu), Parks, Private Holdings and Public Land. This includes maintaining the quality of land and water, floral and faunal diversity, while promoting socio-economic development, public awareness and education about the importance of community participation in accomplishing the objectives.
 2. Eventually the long-term objective is to have Kodagu District declared as one of the many United Nations World Heritage Sites.
 3. Co-operate in implementing various Schemes of the Government pertaining to planning, protection, conservation, regeneration, development and management of the forest resources in Kodagu District.
 4. Implementing various Schemes of the Trust pertaining to planning, protection, conservation, regeneration, development and management of the forest resources {including Sacred Groves (Devarakadu), Parks, Private Holdings and Public/Government Land} in Kodagu District.
 5. To establish such institutions including Educational Institutions to impart knowledge, conduct research, provide assistance to persons and organisations involved in Forest Conservation, and for other similar objects.
- b) **Save Cauvery Movement** : The major objective of this movement was to request the government to take measures to protect and conserve the river cauvery catchment area by converting the three wildlife sanctuaries and the adjoining reserve forests into a national park to stop all tree-felling activities in this region.
 - c) **Sacred Groves Movement** : CEE along with Forestry College, Karnataka Forest Department, Kodagu Circle and other organisations jointly conducted several seminars, festivals and interactions to formulate a development strategy for protection and conservation of sacred groves of Kodagu. A district level federation for sacred groves of Kodagu was formulated wherein CEE is also one of the members
 - d) **NGOS meet** : The main objective was to consolidate the various activities conducted by other NGOs in Kodagu.
 - e) Collaborative activities with Coorg Wildlife Society, Forest Department and Coorg Foundation with respect to wildlife, nature camps and teacher training programmes.
 - f) **Publications** : Brochure on Sacred Groves, Booklet on Sacred Groves, Booklet on Medicinal Plants, Coorg Resource Book, Audio cassette and other pamphlets. (A Booklet and a Poster on sacred groves of Kodagu : “Sacred Groves of Kodagu – A Tradition to Conserve”; An Audio cassette in Kannada “Bhengadagade Iraly Nadu”; A Booklet on medicinal plants of Kodagu “Medicinal Plants of Kodagu- A booklet on common medicinal plants of Kodagu and their traditional uses; A resource book on Coorg; A Brochure on Kodagu “Kodagu – A Pavithra Bhoomi”.

V Evaluation of the project

Certain activities of the “**COORG PROJECT**” were evaluated through an internal participatory approach. All the staff involved in implementing the project individually evaluated the project with a pre-designed questionnaire. The results of the evaluation were analysed and the results are as follows:

PART A : Biodiversity

1. The goals and objectives of the project were clearly understood by the team. Their reports indicate that both general and specific objectives have been well communicated to them. Further, each of them has also added aspects and components into the objectives that have evolved directly or indirectly through their course of work.
2. The problems of the district have been well elucidated by the team. When compared to the original document at the beginning of the project, a deeper and more complete understanding of the problems of conservation have been elucidated.
3. Most team members feel that their work is yet not complete.
4. The information generated so far, the team members feel, can be put to great use by the District Administration. With adequate training at the district level and perhaps bringing out technical information in a popular publication will ensure that more people understand the importance of biodiversity, its present status in the district and therefore be motivated to conserve the same.

For example, the documentation completed is regarding sacred groves and the publication brought out is useful to the people of Kodagu to understand the richness of sacred groves in Kodagu and the relative importance of these treasure houses of plant, fungi and micro-organisms to the communal harmony of Kodagu. A booklet and a poster on the sacred groves of Kodagu has been published.

5. The work done by the team and the information collected and disseminated through the project has definitely impacted the conservation policy in the district. For example, the formation of EDCs by the Forest Department and an allocation of Rs.48 lakhs for enrichment of sacred groves was a decision based on the activities done with respect to the conservation and protection of sacred groves in collaboration with other NGOs and research institutions.
6. At the village level, local SGs committees have taken interest to survey and fence SGs in their villages.
7. SGs encroachers are being motivated to give back the land encroached by them. Local bodies have started protests against illegal activities and encroachments of the SGs.
8. The Karnataka Forest Department has been convinced to raise and supply indigenous tree saplings to the local planters. The Forest department has established medicinal plants nurseries.
9. A proposal has been put forward to the Government of Karnataka to declare all three wildlife sanctuaries as a Greater National Park to support biodiversity conservation and improve the watershed area of the Cauvery river basin.
10. The team has honestly evaluated their shortcomings and felt that things could have been faster and better had a person with expert knowledge on biodiversity conservation been part of the team. Biodiversity documentation is incomplete. This could have been completed and done efficiently if CEE had recruited expert project staff to undertake this task. Village level biodiversity registers should have

been developed involving the local people and the students. Working plans for biodiversity documentation should have been prepared and followed from the beginning of the project.

11. The team looks forward to making this project a stepping stone into the future for better efforts at conservation – some ideas for future intervention
 - Conservation of indigenous trees
 - Formation of Kodagu Model Forest Trust
 - Submission of a proposal on protection of Cauvery river catchment area
 - Conversion of Devarakadu vedikes to EDCs and implementation of various enrichment programmes formulated.

7. Failures

- The project objectives were too ambitious and hence could not complete the documentation and incorporation of the biodiversity of Kodagu into the GIS maps.

Learning

- The Sacred Groves Movement, Save river Cauvery Movement and the formation of KMFT shows very clearly that networking and collective efforts have been very successful.
- Awareness and information dissemination to the common man has yielded maximum results.
- Re-enforcing the traditional concepts have brought in a good learning to the general citizens of Kodagu.

PART B: Conservation of Medicinal Plants in Kodagu

1. The goals and objectives of the project were clearly understood by the team. Their reports indicate that both general and specific objectives concerned to this section have been well understood by them. Further each of them has also added aspects and components into the objectives that have evolved directly or indirectly through their course of work.
2. The problems of the district associated with the biodiversity and medicinal plants have been well elucidated by the team. When compared to the original document at the beginning of the project, a deeper and more complete understanding of the problems of conservation have been elucidated.
3. Most team members feel that their work related to documentation of medicinal plants is yet not complete.
4. The awareness created regarding the medicinal plants among the school and college students, SHG members and general public can be captured well by introducing policy measures for adoption of large scale cultivation of medicinal herbs. With adequate training at the district level and perhaps bringing out technical information in a popular publication will ensure that more people understand the importance of medicinal plants, its present status in the district and therefore be motivated to conserve through judicious harvesting from nature and promote cultivation.

For example, the publication brought out is useful for the people of Kodagu to understand the richness of medicinal plants and its uses. The demonstration plots at the schools through the school eco-club activities and the training programmes given to the SHGs have developed interests in the people to take up medicinal plants cultivation.

5. The work done by the team and the information collected and disseminated through the project has definitely impacted the conservation policy in the district. For example, the Karnataka Forest department has set up a medicinal plants nursery to supply seedlings to the interested growers.
6. The Kodagu Model Forests Trust formed has taken up a pilot project to conserve medicinal plants and other tree species around the Talacauvery region by initiating a called “Tapovana” for natural regeneration and in situ conservation of medicinal plants.
7. A district level Nativaidya Parishad or an association of traditional health practitioners have be formed.
8. A proposal put forward to the Govt. of Karnataka to declare all three wildlife sanctuaries as a Greater National Park to support biodiversity conservation and improve the watershed area of the Cauvery river basin would also help in the in situ conservation of medicinal plants of Kodagu.
9. Conversion of Devarakadu vedikes to EDCs and implementation of various enrichment programmes along with survey and fencing would help in in situ conservation of the medicinal plants found in the groves. The survey conducted during a training programme for college students have indicated that there are more than 65 varieties of medicinal plants found in SGs.
10. The linking of the prospective medicinal plants growers with a buyback arrangement with private pharmaceutical companies has also motivated cultivation.
11. The team looks forward to making this project a stepping stone into the future for better efforts at conservation of biodiversity with special emphasis on medicinal plants – some ideas for future intervention
 - In situ Conservation through the projects of Kodagu Model Forest Trust
 - Submission of a proposal on protection of Cauvery river catchment area
 - Conversion of Devarakadu vedikes to EDCs and implementation of various enrichment programmes formulated.
 - Demonstration plots at schools and panchayats
 - Buyback arrangements with private pharmaceutical companies
12. Failures
 - The project objectives were too ambitious and hence could not complete the process of identification, documentation and incorporation of the medicinal plants rich areas of Madikeri taluk into the GIS maps.
13. Learning
 - The Sacred Groves Movement, Save river Cauvery Movement and the formation of KMFT shows very clearly that networking and collective efforts have been indirectly very successful in conservation of medicinal plants of Kodagu.

- Awareness and information dissemination to the students, SHG members and the common man through demonstration plots at schools, training programmes etc., have yielded maximum results.
- Re-enforcing the traditional concepts have brought in a good learning to the general citizens of Kodagu.

PART C: Sustainable Income Generation Activity for Community Development

1. The goals and objectives of the project were clearly understood by the team. Their reports indicate that both general and specific objectives concerned to this section have been well understood by them. Further each of them has also added aspects and components into the objectives that have evolved directly or indirectly through their course of work.
2. The problems of the district associated with the alternative technology have been well elucidated by the team. When compared to the original document at the beginning of the project, a deeper and more complete understanding of the problems of conservation have been elucidated.
3. Most team members feel that their work related to creating awareness and disseminating alternative sustainable income generating activities and alternative fuel efficient devices have been successful.

For example:

- Beekeeping, mushroom cultivation, *kachampuli* extraction, vermi composting, poultry farming, piggery, rabbit rearing and paper cover making training programmes were conducted for the SHGs. These income-generation activities have been adopted by various SHGs.
 - Fuel efficient smokeless chulhas gobargas units, solar devices (solar water heaters, solar lanterns, solar lighting) were distributed and promoted among the public. Awareness programmes, demonstrations and exhibitions were arranged. A proposal has been prepared to establish a picohydel power project at Garwale village.
 - Environment-friendly agricultural practices were promoted. Demonstration plots for organic farming, vermi-composting and rainwater harvesting were established.
4. Learning
 - The exposure and knowledge of alternative technologies and sustainable income generating activities were found very effective.
 - There was a large-scale adoption of these technologies.
 - These demonstration units established by CEE had a very good demonstrative effect in spreading the technology. The modified *deena bandhu* model of biogas units were a blessing for the people using the regular drum model units. The people are being convinced about the efficiency and advantage of the modified model.
 - The ill effects of regular traditional chullahs were clearly understood. The beneficiaries themselves have come forward to explain to the prospective users the benefits of the smokeless chullahs and health hazards of the traditional chullahs.

- Large-scale saving of wood (the experience of the users say that the wood requirement has come down by more than one third of the regular usage per annum)

PART D : Kodagu Interpretation Centre

1. The goals and objectives of the project were clearly understood by the team. Their reports indicate that both general and specific objectives concerned to this section have been well understood by them. Further each of them has also added aspects and components into the objectives that have evolved directly or indirectly through their course of work.
2. The site for construction of the KHIC has been given by a local trust. The themes for display has been identified and developed through various interactions, surveys and meetings held with the local communities living in Kodagu and through survey of literature. The strong link between culture and ecology in the sustenance of the fragile eco-system of Kodagu has been well understood and disseminated to the people of Kodagu.

Eg:

- The competitions conducted for the school and college students during the Wildlife Week Celebrations of 2004 was on the theme “relationships between culture, environment and wildlife in Kodagu”. This was well accepted and understood by the children which was reflected through the essays, speeches and the paintings produced during the competitions.
 - Local people have come forward to donate artifacts for display in the KHIC.
3. A complete interpretation programme for Kodagu has been evolved through the process of establishing the KHIC.
 4. Most team members feel that their work related to creating awareness and disseminating information on the concepts of interpretation and the relative need and importance of a KHIC for Kodagu is complete. However, the process of establishment was delayed due to unavailability of land and also delay in the construction work.

Failures

- Delay in construction and putting up of exhibits.

Learning

- Realisation of the relative importance of the cultural traits observed in the festivities of Kodagu and highlighting the conservational attitude of the people.
- The understanding of the fact that culture has a major role in conservation leading to sustenance of the fragile eco-system of Kodagu.
- Acceptance of KMFT to support the Kodagu Interpretation Centre.
- Exposure to concepts at a time when culture and ecological value is on a decline due to economic constraints has resulted in understanding and involvement on part of the people of Kodagu in their traditions for the sustenance of the fragile eco-system .

PART E : Eco-tourism and Eco-clubs

1. The goals and objectives of this part of the project were clearly understood by the team. Their reports indicate that both general and specific objectives concerned with this section have been well understood by them. Further, each of them has also added aspects and components into the objectives that have evolved directly or indirectly through their course of work.
2. The problems of the district associated with tourism have been well elucidated by the team. When compared to the original document at the beginning of the project, a deeper and more complete understanding of the problems of invasive type of tourism have been elucidated.
3. Most team members feel that their work related to tourism is yet not complete.
4. The awareness created on certain aspects of tourism such as hygiene, mass tourism, concept of homestays, etc., have been disseminated well. This is indicated by the acceptance and demand for:
 - The brochure on Kodagu,
 - Booklet and poster on Sacred groves
 - Booklet on medicinal plants of Kodagu
 - Audio Cassette on environmental songs to stress usage of eco-friendly technologies.
 - Brochure on KHIC
 - Two Cycle trails at Virajpet taluk
 - Coorg Resource Book
 - Posters on Kodagu
 - An Ok from the Archaeology for restoring and maintaining some of the monuments of Kodagu
5. The 17 signages have been put up in various places interpreting the cultural, heritage and ecological importance of the places.
6. The work done by the team and the information collected and disseminated through the project has definitely impacted the tourism policy in the district.

For example:

- The spread of homestays through out Kodagu numbering to about 250 is a clear indication.
 - The administrative participation is visible from the ban imposed on plastic usage in major town and tourists places and also directing Nationalised banks to extend loan facilities to the local people to establish homestays.
 - NABARD has come forward to provide financial support to conduct eco-guides training programme.
 - Acceptance of the Eco tourism Committee for Kodagu also clearly indicates the peoples participation in implementing eco-tourism in Kodagu.
12. The information generated so far, the team members feel, can be put to great use by the District Administration. With adequate training at the district level and perhaps bringing out technical information in a popular publication will ensure that more people understand the importance of introducing eco-tourism, its present status in the district and therefore be motivated to participate in the process.

For example:.

- A proposal submitted to the state tourism department for site developments has been accepted and is expected to be implemented through CEE shortly.
 - A detailed proposal was submitted to the archeology department to develop, restore and maintain the monuments of Kodagu and an OK has been received for it.
13. The team feels that the components of women, youth and marginalised sections have been well incorporated
- Women : through formulation of SHGs and training them on eco-friendly sustainable income generating activities.
 - Youth : Training them as eco-volunteers and guides and capacity building to encourage self employment .
 - Marginalised Sections : Providing alternative energy saving devices and also training on eco-friendly sustainable income-generating activity. Besides, supplying bee boxes and other equipment required for initiating activities.
14. The team has very well understood the objectives of the school eco-club activities. The team elucidates the success of this project as follows:-
- School eco-club activities has reached the entire district.
 - The teacher training programmes have culminated in a certificate course on EE with concepts and issues relevant for Kodagu.
 - Demonstrative medicinal gardens, composting units and rainwater harvesting units have been adopted by a large number of schools.
 - Recognising the importance of EE activities in schools, a separate nodal officer has been appointed at DDPI office to look into the eco-club activities.
 - CEE has become one of the members for selecting the best teachers of Kodagu.

Failures

The team feels that the following aspects were not complete :

- Strengthening of the eco-tourism committee
- Interpretative signages at various places of Kodagu
- Directive boards
- Documentaries on the relative linkage of culture and ecology in Kodagu

Learning

- Eco-tourism concepts were well understood by the public and the local people concept was fully incorporated and is reflected through the 250 homestays set up in Kodagu.
- With respect to eco-club activities, incorporation of teaching methods and nature games to teach the EE components in a better way have attracted more schools to attend the training programmes. This is reflected in the invitation to CEE to be a resource for all Teachers Training programmes conducted by the public education department.

PART F : Other Activities

1. The team felt that most of the activities of the project Coorg An Alternative Model were carried forward to CEEDS. For example, Activities related to SWM, Alternative Technology, School Activities, Interpretation, Public Awareness programmes and sustainable income generation.
2. The team members felt that the need for extending the activities to CEEDS project was mainly because :
 - Most of the activities were not complete since it required more time.
 - Some of the activities initiated had to be extended since the activities required acceptance, understanding and implementation programmes such as SWM, alternative technology, training programmes, etc.
3. Finally the team feels that regular interactions with some more awareness programmes incorporating training components on demonstration plots and regular monitoring of the projects initiated is essential for the sustenance of the project.