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**UNITED NATIONS DEVELOPMENT PROGRAMME
PROJECT OF THE GOVERNMENT OF INDIA
Project Document**

Sub-programme Budget Number: IND/03/041/01/99

Sub-programme Title: National programme on promoting conservation of medicinal plants and traditional knowledge for enhancing health and livelihood security

Sub-programme Short Title: Conservation of medicinal plants for health and livelihood security

Estimated start date: 20 August 2003
Estimated End Date: 31 December 2007

Executing Agents: Ministry of Environment & Forests (MoEF)

Implementing Agent(s): Foundation for Revitalization of Local Health Traditions and partner agencies

Sub-programme Site: 9 states - Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, West Bengal (Sundarbans), Rajasthan, Maharashtra, Madhya Pradesh

Programme Support Title: Sustainable Environment & Energy Division

Classification Information:

ACC sector & sub-sector: Natural resources.	Primary type of intervention: Direct support.
Primary of Area Focus: Medicinal plant conservation for poverty eradication and sustainable livelihoods.	DCAS sector & sub-sector: Local health traditions.
Primary target beneficiaries: The poor.	Secondary target beneficiaries: Policy makers.

Brief Description: The National Programme on promoting conservation of medicinal plants and traditional knowledge for enhancing health and livelihood security is planned for 16 states in the country in a phased manner. This project will cover 9 states out of CCF II funds. The remaining seven states will be covered through GEF support, and additional resources will be mobilized from bilateral donors and government programmes. The project has four major goals, which include biodiversity conservation, revitalization of local health traditions, generation of rural livelihoods and south-south cooperation. Efforts will be made to ensure that gender concerns are integrated in the project strategy as well as in the activities. This project will also ensure inter-ministerial convergence and coordination, which will ensure leveraging of resources from ongoing government programmes and schemes. A major thrust area of this project is to mainstream conservation strategies for medicinal plants and applications of local health traditions and associated traditional knowledge into the existing policies and programmes of the forestry and health sectors.

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United Nations official rate of exchange on the date of last signature of Sub-Programme Document: US\$ 1 = Rs. 45.77

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A. COUNTRY PROGRAMME CONTEXT

I. Background

The Tenth Five-year Plan proposes “a shift in the focus of planning from merely resources to the policy, procedural and institutional changes which are essential for every Indian to realise his or her potential”. This resonates with the overarching goals of the work of the United Nations system in India – to work towards the promotion of sustainable human development and the elimination of human poverty and inequalities – as well as the global mandate of United Nations Development Programme (UNDP) to establish ‘partnerships to fight poverty’. The Government of India (GoI)-UNDP Country Programme for 2003 to 2007 is aligned with these priorities, and is a reflection of the recognition that international co-operation can play a significant role in supporting GoI in addressing these issues.

With an average growth rate in the gross domestic product of 5.8 per cent during the first decade of reforms (1992-2001), India is among the 10 fastest growing economies in the world. India’s steady progress over the last decade towards meeting the goals of human development is reflected in the improvement of the country’s Human Development Index (HDI) from 0.406 in 1975 to 0.571 in 1999. Yet the challenges for human development remain formidable¹. Statistics on critical development indicators such as female literacy, life expectancy at birth, child mortality and incomes show that regional and interstate disparities are increasing². There is growing public consensus on the need for proactive measures to tackle the situation of disadvantaged and vulnerable groups. The pressures on environmental and natural resources and the repercussions of their degradation on low-income livelihoods have become a source of increasing concern. In the context of rapid strides in decentralisation, there is an urgent need to strengthen the capacity of organs of local governance—rural and urban, as also to make public administration more efficient, open and accountable to the public.

Development co-operation in India is also being increasingly premised on human development goals and targets outlined by the Planning Commission, Government of India, in the 10th Five-Year Plan. Most of these are related to and are more ambitious than the Millennium Development Goals. The targets that can be monitored for the 10th plan and beyond are outlined below:³

- Reduction of poverty ratio by 5 percentage points by 2007 and by 15 percentage points by 2012;
- Providing gainful and high-quality employment to the labour force over the Tenth Plan period;
- All children in school by 2003; all children to complete 5 years of schooling by 2007;
- Reduction in gender gaps in literacy and wage rates by at least 50 per cent by 2007;
- Reduction in the decadal rate of population growth between 2001 and 2011 to 16.2 per cent;
- Increase in Literacy Rates to 75 per cent within the Tenth Plan period (2002-3 to 2006-7);
- Reduction of Infant mortality rate (IMR) to 45 per 1000 live births by 2007 and to 28 by 2012;
- Reduction of Maternal Mortality Ratio (MMR) to 2 per 1000 live births by 2007 and to 1 by 2012;
- Increase in forest and tree cover to 25 per cent by 2007 and 33 per cent by 2012;
- All villages to have sustained access to potable drinking water within the Plan period;
- Cleaning of all major polluted rivers by 2007 and other notified stretches by 2012.

¹ <http://planningcommission.nic.in/appdraft.pdf>

² <http://www.un.org.in/CCA2.htm#The state of human development>

³ Tenth Five Year Plan, Planning Commission, Government of India, Vol. 1, Chapt. 1, p. 6.

II. The Country Programme (2003-07) and its Thematic Focus

The United Nations Development Assistance Framework (UNDAF), which is the document expressing the agreement on programme priorities between the United Nations System in India and the Government of India, has as its main focus the promotion of gender equality and the strengthening of decentralisation⁴. These two themes form the underlying thrust of the new Country Programme (2003-2007) and interventions as reflected in the following four inter-linked thematic areas:

Themes for the Country Programme (2003-2007)

Promotion of human development and gender equality	In India, the state human development reports (SHDRs) have been a successful vehicle for promoting the concept of human development as a valid basis for development planning. It is now proposed to build on the credibility and experience-base established through the first CCF to create an interface at the state level between economic policy and social concerns such as gender equality, poverty eradication and people's participation. Strategies proposed include: partnerships with research institutions, civil society organisations and individual experts to support state governments in facilitating integration of social concerns; providing conceptual and methodological support to the process of engendering development; strengthening the state HDR process to make it more consultative and broad-based and; strengthening the involvement in the HDR process of various tiers of the Government and diverse stakeholders, including other members of the United Nations system and bilateral donors.
Capacity-building for decentralisation	Given the cross-cutting focus on decentralisation, strategies proposed include: Capacity-building of panchayati raj institutions (PRIs) in both rural and urban areas; continued support to civil service reform at various levels, with a focus on gender sensitivity, responsiveness, transparency and efficiency of administration; capacity-building for district and village-level planning; facilitating an enabling environment for integration of people living with HIV/AIDS through capacity-building of communities, civil society groups, voluntary organisations and local institutions; research on legal/ethical issues and building new partnerships, particularly with the Indian private sector.
Poverty eradication and sustainable livelihoods	This programme will intensify efforts piloted during the first CCF to facilitate action on human poverty and ensure their sustainability by rooting them within local institutions and mainstream government programmes. Strategies proposed include: strengthening partnerships between PRIs, women's groups, civil society organisations and government agencies to develop, test and disseminate innovative, gender-equitable and community-managed approaches to sustainable livelihoods and environmentally sustainable natural resource management; piloting and testing gender-responsive models of support for traditional artisan communities; supporting production of status reports on poverty in India and; evolving a coordinated strategy to share Indian best practices with other developing countries and accessing lessons from international experience.
Vulnerability reduction and environmental sustainability	This programme will comprise activities designed to reduce the vulnerability of communities to natural disasters and environmental degradation. Proposed strategies include: strengthening state-and regional-level systems for establishment of disaster-preparedness plans and systems for early warning and recovery; developing community capacities to plan and implement gender-equitable disaster-mitigation strategies and post-disaster reconstruction/sustainable recovery; strengthening national capacities for influencing global debates on environment and mainstreaming global environmental concerns (e.g., biodiversity areas, renewable energy, land degradation, desertification, climate change) into national projects, programmes and policies and; demonstrating technologies and approaches, to address linkages between global environment issues and national developmental challenges.

⁴ <http://www.un.org.in/UNDAF/undafstatement.pdf>

Based on specific roles for UNDP development co-operation identified through a comprehensive review and stakeholder consultation process, all projects build on the following qualities:

- A perspective ‘from below’, of low-income households and marginalised communities - rural or urban, in order to strength their self-help and self-reliance capacities through innovative and catalytic, ‘action-research’ type of interventions.
- A common platform to bring a diverse set of development partners (Government agencies at the Central, State and district levels; PRIs, Non-Governmental Organizations {NGOs} and Community Based Organisations {CBOs}, and; other UN system and bilateral donor partners) together to devise innovative solutions to development challenges.
- Emphasis on addressing the multi-sectoral dimensions of development programming and when possible, integrating programming at selected geographical locations/districts.
- Comprehensive monitoring and documentation of development innovations from proven success stories and effective pilot initiatives, and dissemination of lessons of value for policy-makers with regard to the design and implementation of much larger public sector schemes.

The new Country Programme reflects a continued commitment to national direction and ownership. Partnerships with government agencies and civil society partners initiated under the first Country Cooperation Framework (CCF- I, 1997-2002) will be vigorously pursued and alliances with the Indian corporate sector and the voluntary sector built to draw on their experience and expertise.

B. PROJECT BACKGROUND

I. The Development Context

The widespread use of Traditional Medicines⁵ (TM) in developing countries including India is largely due to the diverse medicinal plants resource base, cultural rootedness, flexibility, easy accessibility and affordability, especially for the poorest. The Gol has reported that for 65 percent of its population, TM is the only available source of health care.

Ecosystem specific medicinal plants and indigenous knowledge have a significant role in:

- (a) Promoting self-reliance of local communities in primary health care.
- (b) Supporting livelihoods.
- (c) The creation of knowledge resources.
- (d) Generating rural employment.
- (e) Promoting a pro-poor, gender equitable development focus.
- (f) Advancing the scope for south – south cooperation because of the “common cultural ground” shared between local health traditions in Asia, Africa and South America.

These features make programmes for the holistic management of medicinal plant resources an important area of national and international policy interest, research and concerted action. At the same time, it is becoming evident that the medicinal plants resource base itself is facing threats due to habitat degradation and loss of habitats and over-exploitation of species in specific instances. The need for developing a long-term strategy at the global, national and local levels for conservation of medicinal plant resources and using their rich associated traditional knowledge, for social, cultural

⁵ World Health Organisation defines Traditional Medicine as including diverse health practices, approaches, knowledge and beliefs incorporating plant, animal and or mineral based medicines, spiritual therapies, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness. (Source: WHO Traditional Medicine Strategy 2002-2005, WHO, Geneva).

and economic benefits is therefore urgently required. The multidimensional and inter-linked contexts surrounding medicinal plants in the Indian context are outlined below:

Cultural context: India has one of the richest, medicinal plant related, health cultures in the world. It has both a codified and an oral tradition and over 1.5 million carriers of this tradition. The oral culture has traditionally been rooted in the 4635 ethnic communities in the country. Village communities and particularly tribal groups and women have been the most active carriers of the indigenous knowledge of medicinal plants. The written traditions are documented in thousands of medical manuscripts. The biological properties of around 2000 species of medicinal plants are documented in the manuscripts of traditional Indian medicine systems like Ayurveda, Siddha, Gso-rig-pa and Unani. Over 100,000 herbal formulations are used for a wide range of health conditions by both the local health cultures and the codified systems of medicine. Both the oral as well as the written health traditions are of tremendous contemporary relevance as they can contribute to the self-reliance of millions of households and they also have the potential to make original contributions to the world of medicine.

Resource context: Across various ecosystems, local communities know the use of around 8000 species of plants for human, veterinary and plant health care. This amounts to almost 50 percent of the known flowering plants of India. These medicinal plants are distributed across all the various biogeographic regions, vegetation types and landscape elements in the country from the trans-Himalayas down to the coast and therefore need to be conserved in all these places of their natural occurrence.

Health security context: Empirical evidence reveals that the largest use by communities of ecosystem resources is for maintaining health security of human, livestock and plants (bio-pesticide and bio-fertilisers). The country has over one million traditional village level healers and several millions of knowledgeable households, well versed in traditional home remedies, preparation of health foods and practising a range of health customs as an integral part of local and regional cultures. India also has around 500,000 registered and licensed practitioners of the various codified indigenous systems of medicine, who practice in towns and cities across the length and breadth of the country. For the poor households and in particular women, traditional medicines and village level healers are relatively more accessible in terms of health care costs and proximity than the mainstream primary health care centres.

South–South cooperation context: Even today, in Malaysia, Thailand, Sri Lanka, Nepal, Tibet, and Bhutan traditional forms of native Indian medicines are used extensively. This use has its origin in historical linkages. In China, TM accounts for around 40 percent of all health care delivered⁶. In Africa, and South America, as in Asia, traditional systems of medicine support the health needs of their poorest populations. Thus revitalisation of India's medical heritage is crucial for improving not only the health security of her own people but also for developing meaningful south – south cooperation.

Economic context: Medicinal plants, alongside evolving local knowledge systems have also provided livelihood security to local communities for centuries. The traditional herbal sector has a very large household and physician-practitioner (folk and codified) user segment, which is largely community-based. Micro-level studies indicate that significant savings are made in family health expenditure on account of the use of locally available plants for human and livestock health care. This saving of millions of households if translated in money terms constitutes an enormous economic benefit to the local communities. It is important for policy makers to recognise this socio-economic value of medicinal plants and traditional knowledge.

⁶ WHO Traditional Medicine Strategy 2002-2005, WHO, Geneva.

There are also around 9000 registered and licensed manufacturers of traditional medicines in the country. Of these, 95 percent of them in the cottage and small-scale sector and around five percent in the small and medium scale range. At the end of 2002, the annual turnover of this sector was estimated to be Rs. 4200 crores and the growth rate is projected at 20–30 percent per annum⁷. The global market for herbal products is currently estimated to be US\$ 60 billion per annum, growing at the rate of seven percent per annum⁸. The Indian exports are a modest US\$ 150 million annually. The National Health Policy on Indigenous System of Medicines envisages national production to the tune of 700 million USD in the next five years, with 25 percent annual incremental increase in export earnings⁹. The potential certainly exists because in developed countries, there is a huge resurgence of public interest in cultural pluralism. The dramatic growth of Complementary and Alternative Medicines (CAM) in the West is evidence of this. The rapid rise of CAM is due to concerns about the adverse effects of chemical drugs and greater public access to health information.

The economic potential of this sector both in terms of use values and market values is very promising. The challenge here lies in ensuring that a majority of the market benefits are equitably shared with the rural poor and tribal communities who have been the conservators of both the natural resources as well as the traditional knowledge.

Policy context: There is emerging policy support at the national and international levels for the medicinal plants and traditional knowledge sector. This is evident from a review of the various policies and programmes of different ministries of the GoI and international agencies. International support for this sector is reflected, *inter alia*, through ongoing UNDP-GEF funding to FRLHT for the development of a GEF-funded project on conservation of medicinal plant biodiversity in India, which forms an integral part of this broad initiative. Section B III of this document on 'Indicators of National Priority' provides details on the enabling policy context.

II. Issues to be Addressed

Given the significance of livelihood, health and traditional knowledge dimensions of medicinal plants, and their rural employment potential and given the prevailing policy environment that does seem to favour the development of the medicinal plants and traditional knowledge sector, a range of key issues that need to be addressed have been identified by this project. These are outlined below:

***In situ* conservation of the wild populations of medicinal plants:** This is essential in order to conserve their inter-and intra-specific diversity and to design a conservation programme in such a way that it also becomes a source of genuine and quality planting materials for user groups. The issue is of critical importance as it can ensure the long-term availability of medicinal plant resources of the country. It is well known that a cultivation programme needs the back up of germplasm banks in order to be viable because even if millions of hectares of selected varieties of various species are put under cultivation, the species can still go extinct in the wild. A well-designed community supported *in situ* conservation programme spread across the ecosystems of the country is the most cost-effective way to conserve the germplasm of the country's medicinal plant resources.

⁷ Planning Commission, Government of India, 2001, Task Force Report on Medicinal Plants.

⁸ United Nations Conference on Trade and Development. *Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices*. Background Note by UNCTAD Secretariat, Geneva. 2000.

⁹ Albert Chominot. *Tough Trial: Can Indian traditional medicine transfer their ancient efficacy to the modern era* in Down to Earth, January 31, 2003, pp 52.

It is anticipated that *in situ* conservation activities will be one of the areas to receive significant support from the GEF, in seven of the sixteen states encompassed by the project. This component of the project will have a major focus on ensuring the conservation of threatened species of medicinal plants.

Sustainable harvest of medicinal plants from the wild: This issue is very important as currently, ninety percent of the raw material requirements of this sector are extracted from the wild. This harvest is to a large extent unregulated. Over-harvesting due to intensified local use or to meet commercial demand is becoming a growing problem. It is essential to therefore work towards a future scenario wherein 70 to 80 percent of the medicinal plant requirements will be met from cultivation but around 20 to 30 percent of the resources will still need to be sourced from the wild. In fact one third of the medicinal plants that are in trade involve non-destructive harvest, because the parts needed are fruits, flowers and leaves. A well-designed intervention based on the Joint Forest Management (JFM) system, is therefore needed to replace the current unregulated, illegal and often destructive harvest of medicinal plants from the wild¹⁰.

Regulating trade in threatened and other wild species: India does not yet have an institutionalised mechanism in place for identification of threatened species and their notification and for regulation of wild harvest. The wild populations of around 1000 species of medicinal plants are estimated to be under various degrees of threat. This issue needs to be urgently addressed in order to prevent medicinal plant species from going into extinction. Designing an institutionalised intervention in this regard is in fact an obligation to be met under the requirements of The Biodiversity Act (2002).

Mainstreaming traditional medicine into official primary health care programmes: Today, the content of primary health care services delivered through district rural hospitals, block level primary health care centres and village cluster level primary health care units are all based almost entirely on western biomedicine. Despite the fact that there are safe and efficacious traditional herbal remedies for several primary health care problems, these remedies are not integrated into the primary health care programmes of state governments. This intervention will explore via pilot experiments the scope for judicious complementing of the existing primary health care services by adding inputs from the Indian Systems of Medicine (ISM). This kind of an integrated approach to primary health care has already been established in China and needs to be urgently put in place in India in order to improve the quality and lower the costs of primary health care services. It may also be rewarding to select a few reputed private health centres and work out with them a similar programme for integration of traditional medicine inputs in their health care services.

Revitalising local health cultures associated with medicinal plants: This issue is relevant in the context of both health and livelihood security. It concerns the self-reliance of rural and urban households in dealing with common ailments, preventive and promotive health care without the aid of medical professionals and medical institutions. Today, despite pioneering small-scale NGO efforts there are no mainstream strategies for revitalisation of local health cultures associated with the use of ecosystem specific medicinal plants. These local community-based health cultures despite their widespread presence and enormous potential to contribute to the self-reliance of rural communities via home remedies, traditional health foods, customs and the services of a host of folk healers like traditional birth attendants, bone-setters, *visha vaidyas*, herbal healers, veterinary healers and millions of knowledgeable households are rapidly eroding. They were given no place in official health policy till the recent 2002 policy statement of the GoI. The policy makes a specific mention of the

¹⁰ Related issues also raised in *Healing Forests Healing People*. Report of a Workshop on Medicinal Plants held on 6-8 February, 1995 by Manjul Bajaj and JT Williams. Report published by IDRC, New Delhi, 1996.

need to revitalise local health traditions. There is however an urgent need to translate this recent policy into effective actions as these traditions are weakening in part due to the very marginal state patronage and support and for the other part due to the erosion of their natural resource base. Unless an effective plan and strategy for revitalising local health cultures is undertaken they are likely to be irretrievably lost with consequent debilitating effects both on the health security of millions of households, as well as on the conservation of local medicinal plant resources. It is well accepted today that cultural diversity and biodiversity go hand in hand and if we destroy one, the destruction of the other will follow.

Involving R & D Centres in the service of traditional medicine: This issue is important because certain sections of the public are looking for scientific explanations for traditional medical practices. It is however important to note that in fact traditional theory does provide explanation and validation for traditional practices. The problem however is that there is no bridge between traditional knowledge and modern science. It is therefore important to identify competent R & D laboratories and research centres that are prepared to dedicate a part of their professional services towards the revitalisation of local health cultures. These services are needed in areas such as product development, development of quality control standards, certification of raw materials and finished products and with respect to pre-clinical and clinical studies. It is however important to develop the modern parameters for best traditional practices based on the traditional theory and clinical practice in order to take advantage of the evolved understanding and the centuries of experience that underlie traditional healthcare. The challenge is to use modern tools creatively to explain traditional knowledge in order to improve the communication between the two knowledge systems.

Protection of community Intellectual Property Rights (IPRs) related to folk knowledge of medicinal plants: The relevance of this issue arises from the assumption that sizable economic benefits will accrue from large-scale commercialisation of TM knowledge. This raises the important issue of how best these benefits can be shared between innovators and the holders of Traditional Knowledge (TK). The Traditional Knowledge Digital Library (TKDL) initiative of the GoI has so far only sought to digitise and protect the knowledge of medicinal plants derived from codified traditional medical systems from false IPR claims. Oral traditions of various ethnic communities are at present outside the purview of TKDL. The Biodiversity Act (2002) and the idea of Community Knowledge Register envisaged by it, can provide the opportunity of extending the scope of TKDL to local and community knowledge of medicinal plants. Unless this extension of TKDL is adopted, local health cultures will remain vulnerable to bio-piracy. Their systematic documentation is at this point of their history also an essential step for their revitalisation and use by future generations.

Contributing to broadening of the cultural and intellectual base of curricula: This issue is important with respect to the school system as it can influence thousands of young minds and sensitise them to the contemporary relevance of traditional knowledge of medicinal plants. A similar intervention at another level is also relevant in medical colleges. In several medical schools abroad, education planners have already introduced a module on Complementary and Alternative Medicine into the syllabi. In India, which is home to such a rich medical heritage, introduction of a module on ISM into the syllabi of all medical colleges is perhaps long overdue.

Meeting unrealised rural livelihood potential: Development of livelihoods targeted particularly on women and the rural poor is undoubtedly an important development objective in the context of poverty alleviation. A large rural employment potential through organising collection, cultivation and semi-processing of medicinal plants is latent in the projected growth of the herbal sector. One of the ways this can be realised is through community-owned enterprises. However for this potential to be achieved it needs systematic efforts at the grass roots for organising and training small and marginal farmers and Self-Help Women Groups, (SHWGs) to undertake organic cultivation and collection of

medicinal plants. It is also necessary to build suitable infrastructure and provide quality know-how, under the auspices of a well-designed enterprise. Further, community-owned enterprises need whole-hearted support of the best R & D, financial and marketing agencies in order to function effectively.

Addressing policy issues: Successful interventions on the various issues outlined above will have significant policy implications in the forestry, health, R & D, IPR and rural employment sectors. These policy implications for the various sectors are outlined below:

- Forestry - for *in situ* conservation, for sustainable harvest from the wild and for regulating trade in wild species.
- Primary health care - for recognising the complementary role of Indian systems of medicine in primary health care.
- R & D Institutions - for supporting the R & D needs of community-owned enterprises and local health cultures.
- IPR - for extending IPR protection for informal Traditional Knowledge of local communities.
- Rural employment - for encouraging financial institutions, corporates, fair trade organisations, rural development departments, private foundations and NGOs to proactively support the capacity building, finance and marketing needs of community owned enterprises of the rural poor.
- Education – for enriching syllabi with inputs from Traditional Knowledge.

Promoting South–South cooperation: Several countries in Asia, Africa and South America have rich local health cultures. All these cultures have enormous contemporary relevance for improving the quality of public health. Whereas in most parts of the world the traditional health cultures are only part of an oral tradition, in India and China the health traditions are also codified. There is an urgent need for India to take the lead in promoting south – south cooperation in this field.

III. Indicators of National Priority

In recent years, several policies at the national level refer to promotion of conservation and sustainable use of medicinal plants and associated traditional knowledge. Some of the important ones are outlined below:

Resource Policies: The Planning Commission, GoI, has recognised Medicinal Plants and herbal products as a key area for national focus¹¹.

The Ministry of Environment and Forests, GOI, in the Tenth Five Year Plan has identified Medicinal plants Conservation as one of the thrust areas in its conservation agenda.

The Department of Indian Systems of Medicine in the Ministry of Health, GoI, has recently constituted a National Medicinal Plants Board to promote the cultivation of medicinal plants. The ISM Dept. has also been promoting a) cultivation trials on prioritised plants and b) establishment of herbal gardens in medical colleges.

¹¹ Medicinal Plant Task Force Report (2000) of the Planning Commission, GoI.

The recently completed draft of the National Biodiversity Strategy and Action Plan (NBSAP), supported by the MoEF and UNDP, has underlined the need for both *in situ* and *ex situ* conservation of medicinal plant resources given their enormous social, cultural and economic role and potential.

Threatened Species Policies: The MoEF is required under The Biodiversity Act (2002), to set up an effective mechanism for identifying and notifying “threatened taxa” and to regulate access and trade in threatened species. In this context, medicinal plants also require initiatives in this regard.

R & D Policy: The Council for Scientific and Industrial Research (CSIR), Ministry of Science and Technology (GoI) has recently initiated one of the most ambitious post independence R & D programmes in the country involving 25 CSIR labs to develop herbal products based on traditional medical knowledge. This is the biggest programme of CSIR related to Traditional Knowledge and represents a new policy trend in scientific research.

The office of the Scientific Advisor to the Cabinet has also identified R & D on Medicinal Plants as one of the key areas for their “Incubator Projects”, based on GoI’s vision 2020.

Good Manufacturing Practices Policy: The Ministry of Health, GoI, in June 2002, has notified standards for good manufacturing practices (GMP) that are obligatory under law for all manufacturers of traditional medicine products.

Indian Systems of Medicine (ISM) Policy: The latest National Policy on Indian Systems of Medicine of the GoI (2002) has for the first time in the post independence period identified (under section 9-1) “Revitalisation of Local Health Traditions” as one of the new thrust areas of the National Policy.

It also has an enabling policy for appointment of an ISM doctor, as the ‘second doctor’ in the PHC system. The Directorates of ISM at the state level also support hundreds of rural dispensaries for providing Traditional Medical services to the public. Unfortunately these dispensaries today have no links with the mainstream PHC system or with the National Public Health programmes.

IPR Policy: Under The Biodiversity Act (2002) and under a recent national initiative called Traditional Knowledge Digital Library, the GoI has begun implementing its resolve to protect traditional knowledge of plants from false patents by documenting it in a form that can be understood by patent examiners and regulating its free access, so that benefits arising from its commercial use are shared equitably with the traditional knowledge community.

The Policy of Human Resource Development (HRD) Ministry on Educational Innovation: The HRD Ministry has special schemes for promoting curricula innovations in school education. Developing Indigenous Knowledge content for schools could be supported under these schemes.

Livelihood Policies: The Dept. of Science and Technology has an all India coordinated project for encouraging rural women to engage in cultivation and value addition of medicinal plants. The Ministry of Rural Development has provision to support innovative schemes for ‘Women Self-Help Groups’ to initiate them into activities that will support both their health and livelihood security.

Given this policy context, some of the important plans and programmes of the GoI are:

- TIFAC’s Incubator Projects, which include medicinal plants as a thrust area.

- The 10th Plan (2002-2007) recognises¹² the high growth and employment potential of medicinal plants and under the proposed "Greening the country through agro-forestry" mentions three areas for programme-generated employment: Joint Forest Management, development of medicinal plants and bamboo development.
- MoEF has a centrally sponsored scheme for promoting medicinal plant plantations on degraded forests. Since 1993, it has been supporting an *in situ* conservation programme with DANIDA assistance in Karnataka, Tamil Nadu and Kerala and since 1999 with UNDP assistance under CCF-I in Andhra Pradesh and Maharashtra. In 2002, MoEF endorsed a GEF (PDF-B) planning grant being implemented by UNDP in partnership with FRLHT on medicinal plants for seven new states in north-east, north-west and central India.
- The recently completed draft of the NBSAP has recommended actions for *in situ* and *ex situ* conservation of medicinal plants via establishment of forest gene banks, community herbal gardens and home gardens.

In India, the key agencies involved in medicinal plant work in the country are listed below:

- a. The Central Institute for Medicinal and Aromatic Plants (CIMAP), Lucknow. CIMAP is engaged in standardising the agro technology of around 45 – 50 species.
- b. The Indian Council for Agricultural Research (ICAR). The ICAR is also engaged via a network of agricultural universities in standardising the agronomy of around 45 – 50 species of medicinal plants.
- c. The Department of Bio-Technology (DBT), GoI, has established four cryo-preservation gene banks for medicinal plants and also supports several medicinal plant oriented bio-technology R & D projects.
- d. The Science and Society Division of DST, GoI has thematic programmes on medicinal plants.
- e. A number of universities and research institutes are engaged in tissue culture work related to medicinal plants.
- f. A few private industries have established medicinal plant farms and high-tech nurseries that meet a small fraction of their requirements.
- g. There are around 75 regional herbal gardens established by state governments, forest departments and NGOs in different parts of the country.
- h. There is a small network of NGOs promoting herbal remedies in primary health care and a sub-set of these also focus on work related to the revitalisation of local health cultures.

Apart from these, the Foundation for Revitalisation of Local Health Traditions (FRLHT) based in Bangalore has been spear heading a multi dimensional programmes since 1993 on (i) *in situ* conservation of medicinal plants, (ii) promotion of community and home herbal gardens, (iii) promotion of community owned enterprises related to medicinal plants, (iv) laboratory projects related to pharmacognosy, product development and bio-activity of medicinal plants, (v) developing multidisciplinary databases on medicinal plants, (vi) the development of traditional knowledge databases, (vii) programmes for the documentation and revitalisation of local health traditions.

FRLHT is recognised as a scientific institution by the Dept. of Science and Technology and has been identified as a Centre of Excellence for medicinal plants conservation and traditional knowledge by the MoEF, GoI.

¹² Chapter 5: Employment Perspective. (Annexure 5.19 , pp175)

FRLHT received the Equator Initiative Prize in 2002 and the Norman Borlaug Award in 1998, in recognition of its work in the field of medicinal and indigenous knowledge.

In the global context, the WHO's Traditional Medicine Strategy (2002-2005) underlines the relevance of traditional medical cultures and affirms that they should be strengthened to play an important role in health care.

The Rio Convention on Biodiversity (1992) underlines the need to conserve biodiversity, promote its sustainable use, protect the Intellectual Property Rights of local communities, seek their prior consent, and enter into fair benefit sharing arrangements with them for the commercial use of their Traditional Knowledge.

The Convention on International Trade in Endangered Species of Flora and Fauna (CITES) was set-up in 1975 and now has a membership of 125 countries. Administered by the United Nations Environment Programme, the member countries of the Convention act by banning commercial exploitation of an agreed list of endangered species and by regulating and monitoring the trade.

The World Bank is currently assisting a number of developing countries, including India, with policies and strategies for medicinal plant conservation, cultivation, processing and marketing. Additionally, the Bank operates an indigenous knowledge programme that aims to mainstream traditional knowledge in agriculture, healthcare, food preparation, natural resource management and many other areas of concern to communities.

The World Summit on Sustainable Development (Johannesburg, 2002) in its Plan for Implementation¹³ clearly mentions the need to “promote the preservation, development and use of effective traditional medicine knowledge and practices, where appropriate, in combination with modern medicine, recognizing indigenous and local communities as custodians of traditional knowledge and practices, while promoting effective protection of traditional knowledge, as appropriate, consistent with international law.”

IV. Lessons Learnt from Previous Programmes

With respect to medicinal plants and traditional knowledge sector, the fact of the matter is that there have been very few major efforts in the past oriented towards conservation or the revitalisation of traditional knowledge. The GoI following the Rio biodiversity convention has recently developed a policy focus on traditional knowledge. Hence the lessons outlined below suffer from this handicap of inadequacy of past experiences on all the elements of the CCF-II proposal. Although on some elements of CCF-II, there are significant recent experiences.

1. Given the enormous loss and fragmentation of natural habitats that has occurred during the last century there is worldwide concern about the problem of species extinction. Medicinal plant resources also face this threat and more so because even today 90% of their use is based on harvest from the wild. Whereas cultivation can reduce the pressure on wild populations it cannot conserve the wild germplasm. There is growing understanding of the fact that *in situ* conservation of medicinal plants is the only solution, which can ensure their long-term availability.

In the five States across peninsular India, via a DANIDA – MoEF project, there has been a major community based initiative for the long-term *in situ* conservation of wild populations of the medicinal plant diversity. The peninsular India experience is however still evolving and although it is very

¹³ <http://www.iisd.ca/wssd/portal.html>

significant in that it has shown the country the most cost effective way to conserve wild germplasm in a network of Forest Gene Banks (FGBs), it is still incomplete in terms of developing a fully functional model. The main gaps in the model are a) the network of *in situ* conservation areas have not yet become sources for the reliable supply of planting material and seed to user groups b) the intra specific variability of priority species has not yet been adequately assessed, c) the operational design of species recovery programmes for saving threatened species which involves appropriate application of population biology principles as well as other management practices has not been fully worked out.

2. Forest habitats have been the traditional sources for the supply of raw materials to the traditional medicine sector. Even today this dependency continues. However it is necessary to reduce the dependence of the sector on forests. An outright ban is not feasible or necessary. There are several species, which do not involve destructive harvest because the parts used are fruits and flowers. In fact sustainable harvest regimes can be designed for most species. However given the rapid growth of the herbal industry, it is desirable to visualise a future scenario wherein 70-80 percent of the raw material requirements (in terms of volumes) of the sector will be sourced from cultivation and perhaps 20-30 percent from wild produce. In this context it will be necessary to distinguish between the produce, which are harvested for commercial purposes from that for local self-help uses of the community. The latter kind of use will need to be protected. Experiments need to be initiated on sustainable methods and levels of harvest for specific species and habitats. Experiments are also needed on afforestation of degraded forests with native medicinal plants. This in fact is one of the major recommendations of the Planning Commission, Gol.

The experiences in developing viable strategies for community involvement in afforestation of degraded forests with native medicinal plants and in developing scientific methods for sustainable harvest is very limited in the country. Very preliminary work in this regard has only been very recently initiated in Himachal Pradesh, Madhya Pradesh and Chattisgarh and therefore serious experiments in this field, within the framework of Joint Forest Management principles need to be urgently undertaken.

3. With regard to revitalisation of local health cultures, since 1986, a few NGOs in different parts of India such as the FRLHT (in many states), Rural Communes (Maharashtra), the Deccan Development Society (Andhra Pradesh), Academy of Development Sciences (Maharashtra), BAIF (Karnataka), Bajwasi Seva Trust (Rajasthan), Vigyan Shiksha Kendra (Uttar Pradesh) and others have actively pursued this agenda. These have demonstrated the immense potential of revitalising local health cultures as it builds on traditional knowledge and improves access, particularly for women and girl child to affordable and locally available health care. However, these efforts have remained confined to small rural pockets. Moreover, efforts for scaling-up and mainstreaming these cultures through forging collaborations between State Health Departments, NGOs, CBOs and medical researchers have not been seriously attempted. Consequently, the results of the NGO interventions have remained isolated and sub-critical and outside of the mainstream strategies to tackle the issue of health security.

4. Networking in the medicinal plants conservation field has happened to some extent through small regional networks that exist in a few states. These experiences suggest that NGOs and CBOs are keen to network but for the networks to function viably, they need to be professionally managed, provide relevant demand driven services and engage in effective advocacy to empower local health cultures. Further, networks need some seed support in the initial stages as they cannot be wholly supported by user fees.

5. In 1999, under UNDP's CCF- I, a pilot project for *in situ* conservation of medicinal plants in forest habitats was initiated in Maharashtra and Andhra Pradesh. The project involved a partnership between forest departments and local communities for the purpose of protecting wild populations of medicinal plants in small pockets of forest (average size 200 hectares) in 21 locations across the two states. Community benefit programmes related to activities like home herbal gardens, micro enterprises and *ex situ* cultivation were also initiated on a very small scale. The resources and time devoted to this initiative were too short to draw any significant lessons different from the rest of the peninsular India programme. However a foundation for a future programme has been laid in these two states with a very high commitment of the state forest departments and local NGOs and local communities.

Apart from FRLHT supported NGOs such as the Rural Communes in Maharashtra and the Deccan Development Society in Andhra Pradesh, NGOs in Orissa, Rajasthan and Karnataka have also been involved in conservation and sustainable use of medicinal plants. These initiatives need to be supported in a holistic manner to both deepen the process and to widen the network.

6. From these very limited experiences, the important lessons that have emerged can be summarised as below:

- *In situ* conservation via the strategy of establishing a network of around 15 Forest Gene Banks per state (average size of 200 hectares in tropical areas and perhaps smaller size in high altitude areas) is the most cost effective way to conserve the wild germplasm of the medicinal plants of a state.
- It is essential to involve local communities in selection, protection and management of *in situ* FGBs, as without their co-operation the FGBs cannot be effectively protected or monitored. In return they must derive social, economic and cultural benefits.
- Whereas the FGB programme serves the purpose of germplasm conservation, it can become more fully functional and useful to the public only when nurseries attached to each FGB begin to supply quality planting materials to user groups and when more than one central seed centre is established in every state to supply certified seeds of medicinal plants derived from the FGB network and its surroundings to users. The FGB network in other words should not only serve the purpose of conservation of germplasm but should also engage in transactions, related to the supply of genuine and high quality planting materials to user groups.
- Working with Women Self Help Groups has proved to be an effective strategy in the case of medicinal plants, as it has in other natural resource management and income generation programmes all over the country. However, the role of women in the earlier experience has been restricted to using them to merely implement and thus meet given targets. It is now recognised that FRLHT and its partners should adopt the empowerment approach while working with women's groups. The questions that need to be addressed in any new initiative are as follows:
 - To what extent have women been involved in planning and implementing the project?
 - Has women's involvement been mandated or facilitated by the project framework, or is it an outcome of the perspective and approach of the implementing organisation?
 - To what extent have women been able to claim their share of the benefits accruing from the project?

- To what extent have the gender-related outcomes (if any) visualised in the project been realised?
 - What has been the impact on women of project activities/outputs that were not specifically focused on women?
 - What have been the unanticipated outcomes of the project? What have been their consequences/implications for women? What are the implications for men?
 - To what extent have the project outcomes contributed to the larger goals of women's empowerment and gender equality?
- Partnerships between State Health Departments, NGOs, CBOs and research institutes are critical for integrating traditional medicine in mainstream public health and livelihood strategies.
 - There is a need for well-designed pilot projects in several states where there is both potential and interest in order to demonstrate the effectiveness of these interventions at different levels as well as to impact policy for mainstreaming such initiatives.
 - In the current environment where the commercial dimension of medicinal plants is increasing, there is a need to develop stable models of community-owned enterprises related to medicinal plants in order to broaden the social base and widen the distribution of benefits arising from the sector. These enterprises however need R & D and marketing back up from professionally competent R & D agencies and fair trade organizations. This is a field where innovations of a critical size and scale are needed.
 - One major gap perceived in previous experiences is that the design of the programmes was not sufficiently holistic. Whereas there have been pioneering initiatives on *in situ* conservation of medicinal plants, the links to livelihood and health security and to indigenous knowledge and rural employment were not adequately explored.

V. Reasons for UNDP Development Co-operation

This project fits in very well with the UNDAF (Refer section A.II) and particularly the thematic areas of (a) poverty eradication and sustainable livelihoods and (b) vulnerability reduction and environmental sustainability. Conservation of biodiversity and environmental conservation are major concerns for UNDP and stem from a realisation that human welfare is definitely based on the conservation and proper functioning of the natural environment.

This project on conservation of medicinal plants has extremely strong links to health care, livelihoods and protection of indigenous knowledge and local cultures. It is also in line with UNDP's support to the following initiatives under CCF – I:

- (a) Preparation of the National Biodiversity Strategy and Action Plan for India¹⁴.
- (b) Development and implementation of *in situ* medicinal plants conservation and of a participatory model for community-based sustainable management of Medicinal Plants Conservation Areas (MPCAs) in Maharashtra and Andhra Pradesh.
- (c) The Food Security/Women in Agriculture and community-based pro-poor Initiatives supported in different parts of the country, where working with women's groups and capacity building strategies for local communities, NGOs and government agencies have been effectively demonstrated and widely shared.

¹⁴ <http://sdnp.delhi.nic.in/nbsap/nbsapplan/backcover.html>

C. THE PROJECT

I. Project Context

The richness of Indian medicinal plants (8000 species), the wealth of traditional knowledge about these plants for human health, nutraceuticals, cosmoceuticals, veterinary care and for plant care (e.g. for bio-pesticides and bio-fertilisers) and the growing domestic and global interest in safe, organically grown herbal products, have prompted the MoEF, GoI, to sponsor the designing of a major multi dimensional national programme on medicinal plants with UNDP/GEF assistance. **The national programme being designed is proposed for implementation in a 10-year time frame and across many states of India**, including, Maharashtra, Andhra Pradesh, Rajasthan, Kerala, Tamil Nadu, Karnataka, Orissa, West Bengal (Sundarbans), Madhya Pradesh, Chattisgarh, Sikkim, Meghalaya, Arunachal Pradesh, Himachal Pradesh, and Uttaranchal. This project will cover the initial five-year time frame of the national programme and will operate in nine states.

This programme has made use of lessons learnt from previous pilot experiments related to *in situ* conservation of medicinal plants such as the MoEF–DANIDA (1994–2003) and MoEF–UNDP-CCF-I (1999-2002) projects. However, unlike the previous experiments, the new national-level programme being designed herewith is more holistic in its approach in that it addresses not only issues related to conservation of the resource but also to its utilisation by the community in the context of health and livelihood security and the revitalisation of the traditional knowledge underlying the use of the plants. It also addresses the creation of rural livelihoods via community owned enterprises.

Whereas the 10 year programme across 16 states will need substantial resources estimated to be of the order of 160 million USD, the UNDP project under CCF-II will kick-start the programme in 2003 in nine states – Kerala, Tamil Nadu, Karnataka, Madhya Pradesh, Andhra Pradesh, Rajasthan, Maharashtra, Orissa and West Bengal - which are most prepared for immediate action, with an outlay of 3 million USD. In 2004, GEF is expected to provide further support, particularly to the biodiversity conservation component of the programme. UNDP, GEF, MoEF (GoI) and Department of Economic Affairs (GoI) have committed themselves to leverage the major part of the resources needed for this national programme and strategy from other donors viz. bilaterals, multi-laterals, Indian and international foundations, corporates and various government departments.

The four major stages of this National Programme are:

- a. The conservation of medicinal plants and the revitalisation of local health traditions and traditional knowledge.
- b. Development of community enterprises and sustaining local use.
- c. Development of public-private partnerships and the development of the national market.
- d. Development of the international market and its linkages for the Indian traditional medicines.

The new national programme has the following four goals:

Goal - 1: Forestry sector, biodiversity conservation related:

- a. To secure the conservation of the germplasm of wild populations of medicinal plants via the establishment of a network of Forest Gene Banks in order to ensure its long-term availability to the Indian people and more immediately to supply genuine and high quality planting materials to user groups.

- b. To design and implement a self-financing system for afforestation and sustainable harvest of selected medicinal plant species from forest habitats in both degraded and non-degraded areas, under the Joint Forest Management framework, to replace the present unregulated and often illegal harvest of plants from the wild and gear the forestry sector to meet 20 – 30% of the raw material needs of the user community.
- c. To put in place an institutional mechanism for: a) identifying threatened species, b) undertaking species recovery in order to prevent their extinction and c) for regulating trade in threatened species.

Goal – 2: Indigenous knowledge related:

- a. To document local health traditions in order to protect their Intellectual Property Rights and promote their rapid assessment and promotion.
- b. To contribute to the self-reliance of rural and urban households in primary health care by revitalising sound traditional health practices of households and the folk healing traditions.
- c. To contribute to the broadening of the intellectual and cultural base of the school education system at primary, secondary and high school levels, and in medical schools, by undertaking pilot experiments to introduce modules on traditional knowledge of medicinal plants into the curricula.
- d. To undertake pilot experiments for integration of safe and efficacious traditional remedies into official primary health care programmes in order to improve the quality of primary health care and reduce its long-term delivery costs.
- e. To undertake similar pilot experiments in collaboration with reputed private sector health centres/hospitals/nursing homes.

Goal – 3: Rural livelihood related:

- a. To generate rural livelihoods particularly targeted for women and the rural poor by commercialising medicinal plants and their products in the national and international markets via community owned enterprises engaged in cultivation, collection, processing and marketing of medicinal plants. The lessons learnt with respect to R & D inputs, marketing, and efforts at strengthening gender equality from previous experiences will be incorporated into this component.
- b. Efforts will also be made to develop strong partnerships between rural communities and Indian commercial enterprises dealing with medicinal plants. The project will provide the platform and also facilitate the development of these partnerships while ensuring that it is just and strongly anchored with gender and equity considerations.

Goal – 4: Promoting south – south cooperation:

- a. To establish working links with traditional medicine associations in countries in Asia, Africa and South America in order to exchange experiences and develop joint strategies for a) revitalisation of local health cultures, b) IPR protection, c) community owned enterprise development.

In addition, there are cross cutting goals that are:

R & D related:

To widen the scope of institutions engaged in natural products research by encouraging them to creatively apply modern laboratory tools to reaffirm traditional health theories, practices and products and disseminate their results to the public.

Policy related:

To impact policy in forestry, health, rural livelihood, R & D and IPR sectors and make them more supportive of the medicinal plants and traditional knowledge sectors.

Given the several dimensions of a holistic medicinal plants programme, namely: conservation, traditional knowledge, health and livelihood security, R & D, and rural employment, MoEF facilitated an inter-ministerial co-ordination meeting on 10 April 2003 to seek the suggestions from various Ministries on the ways in which they could contribute to the implementation of this programme. The specific suggestions made by representatives of various Ministries and Departments at this meeting are summarized below:

The representative of the Ministry of Rural Development (MoRD) suggested that the CCF-II project should explore the possibilities of using the Gram Rojgar Scheme to support activities involving women self-help groups. It was also advised that the project could design components, which could be included as special projects for BPL families. The IEC programmes of the MoRD could also support activities like the multilingual website on home doctor. The MoRD suggested the possibility of organising a joint conference of MoRD, MoEF, UNDP and CII to discuss the idea of community owned enterprises.

The representatives of the National Medicinal Plant Board suggested that this project could prepare an interstate co-ordinated programme for cultivation and marketing of medicinal plants involving SHGs. It was also suggested that the project should explore possibilities of developing IEC programmes in collaboration with the Board for the promotion of “good use practices” related to home remedies.

The representative of the Department of Science and Technology strongly recommended that the project should develop an Urban project of home herbal gardens, for major cities in the project states, involving urban WSHGs. He suggested that this project could be implemented in a mission mode in selected cities.

The representative of the Department of Biotechnology suggested that DBT could consider support to project component aimed at assessing genetic variability of prioritized medicinal plants in the proposed Forest Gene Bank network.

The representative of the Horticulture Department, GoI stated that the department could consider support for the creation of herbal gardens.

The representatives of the MoEF, GoI, suggested the preparation of a background paper about different activities related to medicinal plants currently being implemented by different Ministries / Departments. They also emphasized the need for the project to develop programmes for saving “threatened species” of medicinal plants.

This meeting will be followed up with another consultative meeting with potential donors, corporates and stakeholders. The purpose of these consultations is to share the programme objectives widely, seek feedback and refine the long-term strategy; donor framework and action plan for conservation and the sustainable utilisation of medicinal plants and their associated traditional knowledge.

The MoEF will lead and steer this long-term national initiative with FRLHT as a key partner. The national initiative will over time be implemented in collaboration with MoEF and other concerned ministries at the centre and with state forest and health departments, NGOs, community-based organisations, research institutes, schools, corporates and donors.

II. Project Strategy

The key elements of the strategy relate to interventions in four key sectors: forestry, traditional knowledge, rural livelihoods and south-south cooperation.

A. Forestry Sector

Network of Forest Gene Banks (FGB): This involves the creation of a network of 15 FGBs (average size of 200 hectares each in tropical areas and of smaller size in high altitude areas) in each state by the state forest departments in order to ensure the long-term conservation of the wild medicinal plants of the state. These FGBs will be located in the undisturbed forest areas with rich plant diversity, across the different vegetation types and altitudinal ranges within a state so as to capture the maximum species diversity. A network of 240 FGBs will be established and consolidated across sixteen states to serve as *in situ* gene banks of the medicinal plants diversity of the states. Whereas in the long-term, this network will ensure conservation of wild populations of the medicinal plant resources of the states and in the short-run, the network can ensure supply of seed materials and saplings to user groups. The network of FGBs will be linked to one state level seed centre established by the forest department and each FGB will have an attached nursery managed by a local management committee. This network of nurseries and the seed centre is expected to become a reputed source of supply of genuine and quality planting materials to user groups in each state. In selected FGBs conservation education activities will also be established by way of nature trails and interpretation centres that will be managed by trained local eco-tourist guides. Village botanists (para-taxonomists) alongside professional taxonomists will be associated on a long-term basis for vegetation monitoring of the FGBs. Local management committees (consisting of representatives of local panchayats, folk healers, leaders of Women Self Help Groups) will be set up under the JFM framework of the MoEF in the context of non-degraded forests¹⁵ for protection and management (vegetation monitoring) of these FGBs. The benefits derived by them will be from activities like eco-tourism, vegetation monitoring, nursery management and activities like home herbal gardens, low risk cultivation and value addition.

Sustainable harvest of medicinal plants from the wild: To rationalise and streamline a system of wild harvest from forests a careful identification of species and habitats that are feasible for harvest will be made in every state. Furthermore, scientific methods of sustainable harvest will be evolved through field research for every species. A co-ordinated programme at the state level for sustainable harvest of medicinal plants from approved NTFP circles and afforestation of degraded forests with local species of medicinal plants will be taken up on a suitable size and scale, (1000 ha) in order to improve upon the present erratic and illegal harvest. The pricing policy for wild produce is another

¹⁵ Visit <http://envfor.nic.in/mef/mef.html>

very important matter that will be addressed, so that there is equivalence between the prices of wild and cultivated produce.

This strategy will involve the selection of non-degraded as well as degraded forest areas (1000 hectares) in each of the sixteen states where WSHGs will be motivated to sustainably harvest (from the non-degraded area) and afforest the degraded forest area with native medicinal plants and engage in scientific harvesting and where feasible in value addition to the harvested plants. Benefit sharing in this approach will be on the basis of the usual JFM norms.

Regulating trade in threatened species: Identification and assessment of threatened species and undertaking measures for their recovery will be the focus of this strategy. The project will support in every state a competent research institute, centre or a college or university department, to serve as the nodal agency in the state to undertake studies on threat assessments, sustainable harvest as well as species recovery research. The nodal agency should work in close conjunction with the state forest departments. This strategy requires establishing a long-term institutionalised research mechanism in every state to identify threatened species, assess their degree of threat and work towards their rehabilitation. It also calls for creating a regulatory mechanism in state and central governments to notify threatened species, and regulate their trade. At the state level it will also be necessary to train primary collectors and forestry staff in the identification of species. Unless such institutional mechanisms for research, regulation and training are urgently put in place, India will continue to lose medicinal plant species to extinction, perhaps even without being aware of it. On the regulation side the state governments will be supported under this programme to set up Negative list committees to notify threatened species and regulate the trade in medicinal plants.

B. Indigenous Knowledge

Community knowledge registers for Protection of community Intellectual Property Rights related to folk knowledge of medicinal plants: This intervention involves creation of community knowledge registers involving the knowledge-holders (both men and women). These will be implemented in all the sixteen project states and these registers are expected to serve the following purposes:

- a) Documentation of local health practices for transmission of the local health culture to future generations.
- b) Means to protect local knowledge from bio-piracy by establishing proof of prior art.
- c) Serve as the instrument under The Biodiversity Act, 2002, for providing access to Traditional Knowledge and bio-resources, to researchers and commercial users, on fair terms.

This component will be implemented in collaboration with MoEF, GoI, which is the Ministry responsible for the administration of the Biodiversity Act. This programme will include training state level implementing agencies in documentation techniques and methods and in computerising the documented information. It will also include organisation of workshops for rapid assessment of local health traditions. This programme will also support the establishment of folk healer associations in the project states at the Taluka levels. It will also support the establishment of a nation wide network of organisations working for the revitalisation of local health cultures.

Mainstreaming Traditional Medicine into Official Primary Health Care Programmes: This intervention involves selection of five primary health care centres (PHCC) of the State Government in consultation with NGOs and CBOs. In the selected centres a carefully designed package of safe and

efficacious traditional health practices will be introduced. The clinical outcomes of this package will be systematically monitored. This strategy will initially be implemented in two states, Andhra Pradesh and Madhya Pradesh. This will be the first phase of this component of the national programme. Similarly three reputed private sector health centres will also be selected for a similar intervention. The learnings from these pilot experiments will subsequently be extended to the other 14 states. The strategy will include introduction of selected traditional medicine practices (curative, preventive and promotive) relevant in the context of primary health care into the clinical and extension activities of the PHCC/private health centres. The experiences of countries like China and Bhutan will be taken into account in this regard. A formal MoU between FRLHT and the State Government and between FRLHT and the private health centres will be signed. The WHO will need to be involved as a cosponsor of this programme in order that its outcomes may also be disseminated through the WHO network.

Home herbal gardens programmes: This intervention will involve the establishment of home herbal gardens in rural and urban households WSHGs, CBOs, and NGOs. This will be implemented in all the sixteen project states. The capacity of WSHGs will be strengthened to establish and manage decentralised nurseries to supply carefully selected species related to prioritised health needs of humans, livestock and plants as identified by the local households. The WSHGs will also be provided reliable information on the uses of the selected plants. Suitable linkages with the State Women Development Corporations will be developed. A website called Home Doctor in English and local languages will also be set-up, which will serve to answer Primary Health Care and Traditional Medicine related queries of rural and urban households. For this purpose, links with the Information Technology Departments of the State Governments will be explored.

Introducing indigenous knowledge curricula in schools programme: This intervention will initially be supported only in Andhra Pradesh and Rajasthan where partner NGOs are active in the area of educational innovation. Subsequently the lessons from pilot experiments will be extended to all the sixteen states. The programme will involve development of educational modules on medicinal plants and traditional knowledge suitable for introduction into the school curriculum at various levels. This initiative will seek collaboration with the HRD Ministry of the GoI under its schemes for promotion of innovative education in schools. This collaboration will help to subsequently mainstream the successful outcomes of this programme.

Experimental modules on “Introduction to the basic principles and practices of Indian systems of medicine,” will also be developed for medical schools.

C. Generating Rural Livelihoods

Community owned enterprise programme: This intervention involves establishment of model community-owned enterprises based on cultivation, collection and processing of medicinal plants. This will only be initially implemented in Maharashtra and Rajasthan, where Rural Communes and Doosra Dashak have some previous involvement in this kind of efforts. These enterprises may be registered as producer companies, co-operatives or as public limited companies. In all these cases they will be designed in a way that ownership of the enterprises vests with the rural poor and particularly with WSHGs. These enterprises are however expected to employ competent professionals to assist them in planning, production and marketing functions. The project will also seek collaboration with the Department of Science and Technology, GoI, Technology Information Forecasting and Assessment Council (TIFAC) and the CSIR who are engaged in promoting R & D on herbal products and their commercialisation as well as with professional marketing organisations. The Gram Mooligai Company Limited (GMCL) a community owned public limited company promoted

by FRLHT and supported by the Ford Foundation, New Delhi will play a central capacity building role in the implementation of this strategy.

In addition small grants will be provided to NGOs and CBOs working on supporting rural livelihoods through conservation and use of medicinal plants. These grants will be given to NGOs in other states as well in order to both strengthen their work as well as link up to the larger FRLHT network. Once state-level groups build up their capacity, FRLHT will include them in all policy level discussions, both at the state and national levels. Efforts will be made to link up with the Ministry of Rural Development's SGSY programme.

D. South – South Cooperation

This intervention will involve identifying active traditional medicine associations in Asia, Africa and South America and establishing working links with them. The areas for cooperation would be a) exchange visits, b) joint strategies for protection of IPRs related to traditional knowledge, c) training programmes, d) joint action research projects. This intervention could be supported under UNDP's TCDC programmes as well as by other bilateral or multilateral donors.

E. Cross-cutting Programmes

In addition, the strategy will include the following crosscutting centrally coordinated programmes:

Policy studies: These studies will focus on six areas namely:

- Role of local health traditions in contributing to health security of rural and urban households.
- Scope and effect of integrating ISM practices into the official PHC system.
- Scope and effect of introducing indigenous knowledge of medicinal plants into school curricula at various stages (primary, secondary, high school), as well as into the curricula of medical schools.
- Role of forestry sector in the conservation of medicinal plants.
- Rural employment potential of medicinal plant resources.
- Strategies for protection of IPRs of folk and household knowledge of medicinal plants.

The programme will support field studies in the above areas as well as the organisation of national workshops to share the outcomes of the policy studies with policy makers and stakeholders.

R & D programmes: This intervention will support the work of research institutes in areas like product development, certification, assessment of local health traditions and selection of traditional practices for introduction into official primary health care programmes. It will also support organisation of training programmes for research teams in collaborating institutes on inter-cultural research methods for work on traditional medicine. The collaborating institutions may be university centres, government, or private research units.

Training programmes: This intervention will be carried out by FRLHT for capacity building of the staff of state forest departments, state level coordinating agencies and NGOs and CBOs. Training modules will be developed on specific subjects related to:

- a) *In situ* conservation.
- b) Sustainable harvest systems.
- c) Methods of threat assessment.
- d) Para-taxonomy.
- e) Design of home herbal gardens.

- f) Design and purpose of community knowledge registers.
- g) Role of local eco-tourist guides in implementing conservation education activities around the Forest Gene Banks.
- h) Techniques and Methods for documentation and rapid assessment of local health traditions including their computerisation.
- i) Planning and operation of community owned enterprises.
- j) Methods for R & D on traditional medicines.
- k) Traditional Knowledge and school curricula.

The development of these training modules is a very critical aspect for ensuring the quality of the various interventions.

Communication and advocacy programmes: This programme will result in the development of educational materials in multi-media for creating public interest and public support for the entire programme. The outputs of this intervention will be in the form of film, books, posters, booklets, and manuals. This programme will also organise mass communication in the form of media campaigns, exhibitions and melas.

Development of multi-disciplinary databases on medicinal plants and traditional knowledge: Access to reliable information on different aspects of medicinal plants will be essential for the effective implementation of this multi-faceted programme. It is therefore proposed to build databases on the following subjects:

- I. Checklists of native medicinal plants of each of the project states.
- II. Natural distribution of medicinal plants of project states.
- III. Trade information on medicinal plants.
- IV. Agro-technology information on nursery techniques, seed storage and agronomy of medicinal plants.
- V. Traditional knowledge of medicinal plants based on codified Indian medical knowledge systems.
- VI. Database on *vriksh* ayurveda related to the application of plants in agriculture.
- VII. Database on *pashu* ayurveda related to veterinary care.

This programme will provide database support in all these areas to implementing agencies in the project states.

Multi-lingual website programme on Home Doctor: This website will be designed to provide an educational backup to the movement of home herbal gardens in rural and urban areas of the sixteen project states. This website is expected to provide reliable information related to nutrition, home remedies, preventive and promotive health care, veterinary and plant health care, self-help cosmoceuticals and gardening based on medicinal plants and traditional knowledge. It will need to be fine-tuned to providing region specific advice on the above subjects. This initiative will need to establish working links with village internet programmes that are being promoted by IT departments of state governments and other non-government agencies.

Pro-poor, Equity and Gender Focus: Under the CCF-I project, FRLHT worked with women's groups (SHGs) and sought their participation and involvement in medicinal plant conservation. A

gender impact assessment was carried out for the CCF-1 project¹⁶. This assessment as well as lessons drawn from review of other women-SHG based projects shows an urgent need to adopt the empowerment framework while working with women's groups. This is a departure from the largely prevalent instrumental approach that sees women's participation solely as a means to ensuring delivery of outputs.

Given this context, the project activities in all its interventions at the grassroots level will involve participation of poor communities, particularly women. It will build on the expertise of traditional healers and indigenous knowledge holders, both men and women. The project activities and capacity building inputs will be gender-sensitive and seek to empower women. The project will proactively seek women's participation in planning, design of benefit sharing mechanisms, implementation and management of different interventions. It will provide them access to training, knowledge and financial agencies so that they can effectively participate in all stages of medicinal plant conservation and utilisation including value addition, marketing and enterprise development and management. Activities with women's groups such as herbal gardens will be developed in women's lands or where women's groups have a long-term control over land and its produce. This could be land leased by women's groups collectively or lands over which women have joint pattas on ownership. The logical framework, which will be developed as the first activity under the project will ensure that gender concerns are an integral part of the project.

The programme also seeks to promote wider use of traditional medicine, including mainstreaming it into primary health care. Apart from contributing to revitalising local health cultures, promotion of traditional medicine also offers greater diversity, flexibility, easy accessibility and affordability, especially for the poorest.

Decentralised Governance: As mentioned earlier, the crosscutting focus of UNDP under CCF II on decentralisation includes strategies for capacity building of panchayati raj institutions (PRIs) in both rural and urban areas, with a focus on gender sensitivity, responsiveness, transparency and efficiency of administration. Under this project, greater attention will be given to strengthening more democratic and sustainable governance and institutional arrangements. Making *gram sabhas* a party to the agreement to allocate certain forest areas exclusively to women's groups could be one way of securing their entitlements beyond the project period and increasing the accountability of the Forest Department. JFM would, wherever possible, will be through the Panchayats in tribal areas and provisions of Panchayats (Extension to Scheduled Areas) Act (PESA) 1996 will be used for securing community ownership of medicinal plants. PESA bestows NTFP ownership to gram sabhas/panchayats.

III. Project Area

As mentioned earlier, the specific components of the national programme will be implemented in sixteen states of India. Of these, nine states will be included in the present project, and seven will be funded by the proposed UNDP-GEF medicinal plants project. Key partners in each state will include the state forest department, NGOs and CBOs. The programme will also support networking and collaborations with research and scientific institutions, other relevant departments such as health, education and rural development, civil society organisations, national and international advocacy

¹⁶ Review by Sarojini Thakur of the gender dimension of the GoI-UNDP support under CCF-I to development and implementation of *in situ* medicinal plants conservation and of a participatory model for community-based sustainable management of Medicinal Plants Conservation Areas in Maharashtra and Andhra Pradesh.

groups on protection of indigenous knowledge and revitalisation of local health cultures, and the media agencies.

IV. Project Results

Given this long-term vision for the sector and strategy, the following matrix presents the expected outcomes, outputs and indicative activities. **These relate specifically to activities to be supported under the UNDP CCF-II support over five years (2003-2007).**

Project Results Matrix

Baseline	Target	Intended Output	Indicative Activities
<p>Outcome 1: A range of effective community-based and gender-sensitive models for <i>in situ</i> conservation of medicinal plants demonstrated in nine states and promising approaches and lessons recognised at national level for wider adoption/adaptation.</p>			
<p>Increasing threat to medicinal plants species and diversity due to forest degradation, unsustainable and destructive harvesting practices and unregulated trade.</p>	<p>Promoting community-based <i>in situ</i> conservation of medicinal plants in forest areas.</p>	<ul style="list-style-type: none"> • Community-based interventions and approaches for <i>in situ</i> conservation tested, refined and widely demonstrated and shared in project states and beyond. • Local institutional arrangements along Joint Forest Management principles tested and demonstrated for both disturbed and degraded forest areas. • A set of replicable capacity building approaches and activities for <i>in situ</i> conservation developed. • Policy implications and activities and approaches for wider adoption of tested conservation actions, identified for advocacy and design of new programmes. 	<ul style="list-style-type: none"> • Establish 135 FGBs (15 per project state) in undisturbed forest areas in each of the nine project states. • Establish 9 conservation (1 per project state) sites in degraded forest areas. • Set-up local management committees including WSHGs for management of <i>in situ</i> conservation sites. • Initiate local communities into income generating activities like eco-tourism, vegetation monitoring, nursery management, home herbal gardens, low-risk cultivation and value addition. • Design management and benefit sharing systems for the <i>in situ</i> conservation sites. • Build capacity (including training, exposure visits) of local communities and committees in designing, establishing, managing and monitoring of conservation sites. • Develop and operationalise documentation, research, communication and advocacy plan at different levels.

Baseline	Target	Intended Output	Indicative Activities
Outcome 2: The immense potential of strengthening access of poor communities to livelihood and health security through conservation and sustainable utilisation of medicinal plants is effectively demonstrated.			
<p>Reduced access and increased expenditure on health care, especially for the poor, due to rapid resource degradation and gradual erosion of local health traditions from mainstream health care systems.</p> <p>Not enough attention paid to the high potential offered by medicinal plant conservation in terms of livelihood generation, income from trade and improved access to health care.</p>	<p>Demonstrating the potential of conservation and enterprise based initiatives for improving livelihood and health care needs, particularly of the poor and women.</p> <p>Testing and demonstrating approaches for revitalising local health traditions in the mainstream primary health care system.</p>	<ul style="list-style-type: none"> • Plans for community-based income generation activities and enterprises based on medicinal plants designed, tested and refined for wider adaptation/ adoption. • Capacity of local communities, particularly of women's groups, enhanced for deriving livelihoods and meeting health care needs from medicinal plant based activities. • Improved access to medicinal plants for meeting primary health care needs leads to revitalisation of local health traditions, improved health security, particularly for poor and women, and reduction in health-related expenditure. • Potential and strategies tested for introducing and integrating traditional medicine in mainstream primary health care and health delivery systems. 	<ul style="list-style-type: none"> • Develop gender-sensitive models for income generation from medicinal plant cultivation, collection, processing and sale. • Establish a network of about 2,70,000 (30,000 in each project state) home herbal gardens in rural and urban areas. • Provide training to WSHGs and other groups in techniques for collection and processing of medicinal plants and in enterprise development and management. • Explore and streamline pricing, financing mechanisms, quality standards and marketing channels for medicinal plant products/enterprises. • Develop a handbook on Standard Operating Procedures for community-owned enterprises. • Design and operationalise a pilot plan for integration of traditional medicine in mainstream health care strategies in five primary health care centres in Andhra Pradesh and Madhya Pradesh.

Baseline	Target	Intended Output	Indicative Activities
<p>Outcome 3: Lessons learnt from the project and its impact, influences the policy and funding environment for enhanced support to conservation of medicinal plants for strengthening the health care and livelihoods needs of the poor communities and for effective participation of traditional practitioners and local communities in the emerging traditional herbal and health sector.</p>			
<p>The need to locate medicinal plant conservation within the larger framework of revitalisation of local health traditions, access of the poor to health care, the huge livelihood potential and the emerging national and global trade.</p> <p>The need for a national strategy for the sector.</p>	<p>Contributing effectively to development of a national strategy and action plan for the sector.</p>	<ul style="list-style-type: none"> • Improved and accessible information systems to generate awareness at different levels on the uses, conservation techniques and sustainable utilisation practices related to medicinal plants for meeting health and livelihood security needs. • Networking, experience sharing and lesson learning activities of the project generate a demand for conservation of medicinal plants from policy-makers, relevant development sectors (e.g., health, rural development, environment, education, traditional knowledge), government agencies, and local communities. • Project learning contributes to the implementation of national level long-term strategy and to the design and funding of more programmes in related key areas. 	<ul style="list-style-type: none"> • Develop an overall documentation, research, communications and advocacy strategy at different levels to address a variety of stakeholders, which could include the following activities: <ol style="list-style-type: none"> I. Create an internet site in vernacular and English languages to provide information on the different uses of medicinal plants and to respond to queries on primary health care needs. II. Raise awareness on the need to create community knowledge registers involving knowledge holders, both men and women. III. Undertake capacity building of local communities in developing, maintaining and effective use of community registers (e.g., against bio-piracy, for protecting intellectual property rights and knowledge). IV. Test on pilot basis in Rajasthan and Andhra Pradesh interactive educational modules on the need for conserving medicinal plants and associated traditional knowledge systems and cultures. V. Support state-level partners in preparation of communication materials. VI. Support creation of databases for validating local health practices. VII. Establish a baseline monitoring and review

Baseline	Target	Intended Output	Indicative Activities
			<p>system for generating sex disaggregated impact of different project activities on both men and women and lessons from implementation.</p> <p>VIII. Support documentation, research and analysis of key project interventions and processes.</p> <p>IX. Support networking and information sharing between project partners at different levels.</p> <p>X. Support and facilitate state and national level workshops, seminars, meetings and media events to seek feedback and to share experiences, research findings, policy implications emerging from implementation, impact of different activities, and best practices and approaches.</p>

V. Sustainability

It is expected that effective implementation of the following elements of the project strategy will contribute to its sustainability:

- Strong women's groups and enhanced capacities of local communities involved in medicinal plant conservation and its utilisation for meeting their livelihood and health security needs will result in a demonstration-effect, thereby leading to more people to engage in such activities.
- Wider dissemination of lessons learnt from the project and proactive efforts on the part of project agencies contribute to policy influence and result in more support for projects that adopt a holistic approach for this sector.
- Strong partnerships develop between the Forest Departments, NGOs, CBOs and related research and government agencies to take forward tested approaches and interventions.
- Enhanced support from donor and other development agencies to enable local communities to engage in medicinal plant conservation and utilisation.

VI. Social, Gender and Equity Considerations

Mainstreaming UNDAF Focus Areas

The Government of India has identified promotion of gender equality and strengthening decentralization as the two priority goals for coordinated action by the UN System in India under the UN Development Assistance Framework (UNDAF). As the UNDAF is a central pillar of the GOI/UNDP Country Programme (2003-2007), all UNDP-supported projects are required to mainstream strategies towards achieving these goals. The table below presents an overview of the underlying principles, policy framework and project cycle management strategies that must guide all stakeholders:

Project Cycle Management Strategies	UNDAF Goal: Promoting Gender Equality	UNDAF Goal: Strengthening Decentralization
Principles	<ul style="list-style-type: none"> • Equal gender relations. • Equity in participation and benefit sharing. 	<ul style="list-style-type: none"> • People's participation, their influence and control on matters important to their lives; equal access and fair representation for all social groups. • Responsive, open, transparent and accountable public mechanisms.
Policy Framework	<ul style="list-style-type: none"> • National goal of promoting gender equality and women's empowerment, and improvement in conditions of women through removal of barriers to their development. 	<ul style="list-style-type: none"> • The 73rd and 74th Constitutional Amendments on democratic decentralization. • Panchayats (Extension to Scheduled Areas) Act for self-governance by the tribal community.

Results Framework	<ul style="list-style-type: none"> • Transform unequal gender relations. • Strengthen equity in participation and benefit sharing (at least 50% share to women under employment opportunities created through the project). 	<ul style="list-style-type: none"> • Strengthen decentralization as an essential pre-requisite to people's-centered development. • Support <i>panchayati raj</i> institutions – both rural and urban – directly (building their capacity or working with them on specific issues such as natural resource management, sustainable livelihoods or disaster management) or indirectly strengthen the decentralization process by supporting social mobilization and preparing communities or other civil society actors to actively participate in <i>panchayati raj</i> institutions.
Project Management	<ul style="list-style-type: none"> • Involve Women stakeholders and gender resource persons with sector-specific competence in project development, work planning and monitoring. • Provide at least 30% membership of women in all community organisations and local level management/ implementing committees, and a similar ratio in chairing of such committees. Minutes of community meetings to separately record attendance of women members. • Include at least one female member (a representative of a local women's group, a woman academic or civil servant, or a woman community leader) in Project Advisory Committees at local level. • Ensure strict application of the principle of 'equal wages for equal work'. • Maintain separate muster rolls and payment records for women beneficiaries. • Ensure at least 50% participation of women in training/learning opportunities (skill training at grassroots level, study tours, exposure visits, issue-based workshops and specialized professional courses). Provide appropriate support towards this (training programmes for community representatives organized at 	<ul style="list-style-type: none"> • Create multi-stakeholder groups at appropriate levels to promote community management of services and resources. • Support effective social mobilisation, improved access to information and greater sensitivity among development administrators. • Support flexible and locally appropriate institutions and systems to address development concerns at different levels – within the community, at the district level and at the State level. • Evolve a structured mechanism that will allow community groups, <i>Gram Sabha</i> the <i>Panchayati Raj</i> Institutions to complement the work of Government Departments at suitable levels. • Establish suitable mechanisms to facilitate participation of representatives from local government structures in project management. Similarly, facilitate solicitation of views from NGOs. • Ensure incorporation of decentralized assessment indicators in work planning processes. • Ensure that capacity building activities (structured training, exposure visits, etc.) include representatives of PRIs/CBOs/ NGOs to strengthen their decision-making skills. • Implement measures for perspective building of Implementing Agencies and other project stakeholders in the philosophy of decentralization and implications of various decentralization amendments.

	<p>local level, Crèche/childcare and health).</p> <ul style="list-style-type: none"> • Ensure that at least 30% of project staff are women by instituting non-discriminatory recruitment procedures. 	<ul style="list-style-type: none"> • Ensure a democratic and decentralized decision-making process within the implementing organizations.
Project Monitoring and Evaluation	<ul style="list-style-type: none"> • Carry out a gendered baseline survey to benchmark basic indicators of women's development, including population, education, health status, work participation and issues/problems specific to the area. Use data from secondary sources such as the Census 2001, National Sample Surveys and previous research studies. • Collect data on women's situation through informant interviews, focus group discussions, and household sample surveys, and from local women's groups/NGOs working in the area. 	<ul style="list-style-type: none"> • Ensure benchmarking of the identified districts/specific regions with regard to the status of PRIs/CBOs/NGOs as part of the baseline survey. • Mid-term/final evaluation/any other final assessment should also assess the contribution of the project to the decentralization objective.

This has two implications:

- All UNDP-supported projects should contribute to the goal of promoting gender equality, either directly through actions to transform unequal gender relations, or indirectly through actions to empower women and/or creating an enabling environment for the transformation of unequal gender relations.
- Women should be equal participants, and should be able to claim an equal share of benefits and outcomes in all aspects of UNDP-supported projects.

The project has a strong equity including gender equality focus as in all its interventions at the grassroots level; it seeks to involve poor communities and WSHGs. It also seeks to build on the expertise of traditional healers and indigenous knowledge holders, both men and women, who over time have been marginalised. The project activities will be gender-sensitive and seek to empower the marginalised poor communities by building their capacity in planning, design of benefit sharing mechanisms, decision-making, implementation and management of different interventions. It will provide them access to training, knowledge and financial agencies to ensure their effective participation in all stages of medicinal plant conservation and utilisation as well as in wider experience sharing and policy advocacy. By seeking to promote wider use of traditional medicine, including in mainstreaming it into primary health care, the project will enable the poor to gain better access to affordable health care.

VII. Risk Analysis

Risks	Rating	Risk Minimisation Measures
A. Risk of outputs failing to translate into outcomes		
The MoEF is not able to fulfil its counterpart obligations.	Medium	Regular review meetings will be held between MoEF, UNDP and FRLHT and proactive steps will be taken to create an enabling environment for fulfilling all obligations.
The MoEF is not able to generate interest and participation of key departments and donors in supporting the long-term national strategy on medicinal plant conservation.	Medium	An inter-ministerial advisory group will be created under the project to facilitate participation of key departments. Both GoI and UNDP have committed themselves to hold consultations with donors and keep them apprised of the progress on the different dimensions of the project.
B. Risk of outputs not being produced		
State Forest Departments are not able to provide forest land for the <i>in situ</i> conservation.	Low	The MoEF and state forest departments are committed to medicinal plant conservation and provision of land for the purpose is not considered as an impediment to the process. Further, the JFM framework provides an enabling environment in all the states for participatory and community-based resource conservation and management.
State Health Department rejects the idea of the pilot experiment to integrate traditional medicine into primary health care system.	Low	The pilot experiments will be carried out to test different approaches for a buy-in from the primary health care system.
NGOs are not willing to work for empowering CBOs.	Low	Selection of NGO partners will be based on their past track record of working with communities and involvement in empowering CBOs.
Schools are not interested in introducing students to a co-curricular module on 'medicinal plants and traditional knowledge'.	Medium	Different approaches to promote this will be piloted under the project and approaches that work will be identified for wider replication.
CBOs disinterested in enterprise activity or in health security benefits based on traditional knowledge and medicinal plants.	Low	FRLHT's own experience in the past has demonstrated that CBOs (such as women self-help groups and federations in Tamil Nadu) have participated effectively as FRLHT has taken care of forward and backward linkages.

VIII. Partnerships

- The project strategy critically involves partnerships between the MoEF, MoRD, Ministry of Health, Department of Science and Technology, Ministry of Agriculture, UNDP, State Forest Departments, FRLHT, NGO partners and participating CBOs. The broader initiative will also include an important partnership with the Global Environment Facility (GEF), through a parallel UNDP-GEF project currently under development.
- Given the multidimensional nature of activities associated with the use of medicinal plants, the project will support networking and collaborations with research and scientific institutions, other relevant departments such as health, education and rural development, civil society organisations, national and international advocacy groups on protection of indigenous knowledge and revitalisation of local health cultures, and the media agencies.
- The project will feed into MoEF's long-term strategy for this sector and contribute to effective partnership building with donors, related departments, NGOs and other institutions.

IX. Project Geographical Coverage

The national programme will be implemented in sixteen states. The chart below gives a picture of the field components to be implemented in the nine states by only this project.

	<i>In situ</i> conservation	Health security - Home Herbal Gardens	Integrating Traditional Medicine into government's primary health care system	Community owned enterprise	School programme	Community knowledge Register
Kerala	✓	✓		✓		✓
Tamil Nadu	✓	✓		✓		✓
Karnataka	✓	✓		✓		✓
Maharashtra	✓	✓		✓		✓
Andhra Pradesh	✓	✓	✓	✓	✓	✓
Rajasthan	✓	✓		✓	✓	✓
Orissa	✓	✓		✓		✓
West Bengal	✓	✓		✓		✓
Madhya Pradesh	✓	✓	✓	✓		✓

D. IMPLEMENTATION ARRANGEMENTS AND ROLES & RESPONSIBILITIES OF PROJECT PARTIES

I. Prior Obligations and Pre-requisites

- The MoEF, GoI, will closely monitor the implementation of the project and assist in linking this project with other externally and centrally sponsored projects related to medicinal plants and traditional knowledge in the Ministries of Health, Department of Science and Technology including TIFAC, CSIR and Department of Education.
- The State Forest Departments of all nine states will ensure the effective implementation of the *in situ* project component of the project and provide necessary staff on deputation.
- FRLHT, which is an autonomous public trust will be empowered to implement the project with autonomy and will fulfil the legal requirements necessary to accept this project. It also will work with partner organisations in each Project State. It will establish in consultation with partners a participatory monitoring and review system and streamline procedures to ensure timely release of funds to partner organisations. FRLHT will commit to playing a proactive role in policy and programme formulation at the State and Central levels.
- UNDP assistance will be provided subject to the satisfactory fulfilment of the above pre-requisites. If anticipated fulfilment of one or more pre-requisites fails to materialise, UNDP may, at its discretion, either suspend or terminate its assistance.
- FRLHT will designate a National Project Coordinator who will be responsible to GoI and UNDP for implementation of the project.

II. Implementation Arrangements – Institutional Mechanisms & Monitoring

Government Co-ordinating Agency: The Department of Economic Affairs (DEA) in the Ministry of Finance, the Government aid co-ordinating agency will be responsible for the overall co-ordination of the Country Programme activities. In order to guide and support the Executing Agencies towards meeting the Country Programme goals, DEA will participate in the Project Management Board. DEA will also catalyse consultations on broader development co-operation issues emerging out of different programmes supported by UNDP as well as programmes assisted by other agencies. As a part of its overall mandate of resource mobilisation, DEA in collaboration with the concerned government departments and UNDP will also assist in raising additional resources to support Project objectives.

National Executing Agency: In line with the National Execution Guidelines (July 1998) issued by the Department of Economic Affairs (DEA), Ministry of Finance and the UNDP corporate procedures as outlined in its Programming Manual (May 2000), this project will be executed nationally. The MoEF, GoI will be the Executing Agency for the project, and will be responsible for its overall management including achievement of planned results and for the use of UNDP funds. The main institutional mechanisms for guiding the Project at this level would be the Programme Management Board (PMB) and an Empowered Project Standing Committee, chaired by the Joint Secretary, MoEF.

Programme Management Board (PMB): The PMB will be chaired by Secretary Ministry of Environment and Forests, Gol, with representation from MoEF, DEA, all other related ministries like MoRD, HRD, Agriculture, Health and related departments like DBT, DST and ISM, UNDP, Secretary Forests, from all the concerned State Governments, FRLHT and other partners. The functions of PMB are described below:

- Identifying policy lessons from the project those are replicable to other national initiatives including the need for review of laws, rules and regulations as well as guidelines for major national programmes.
- Linking organically broader human development strategy/ achievements and innovative approaches in multi-sectoral development programming at the grassroots.
- Reviewing progress of the project through participatory mechanisms and based on lessons learnt on key indicators such as ownership, participation, equity and empowerment.
- Explore areas of convergence and coordination in the programmes and policies of various departments and ministries of Gol and the concerned state governments.
- Explore ways of leveraging funds from the programmes of various ministries and departments for carrying out some of the activities identified by this project.

Empowered Project Standing Committee

This committee will be chaired by the Joint Secretary, MoEF and consists of representatives of UNDP, FRLHT, and four other members nominated by the MoEF, Gol. This committee will meet twice a year. It will approve the annual budget and review the achievement of planned targets. The budgets approved by this committee will be released by UNDP to FRLHT. The Joint Secretary, MoEF will also be the National Programme Director of this initiative.

Implementation Arrangements: The implementation arrangements for the Project under CCF-II are as follows:

National Coordination: The project will be co-ordinated and technically guided at the national level by the Foundation for Revitalization of Local Health Traditions, Bangalore, an autonomous body. An MoU defining the roles and responsibilities, reporting structure and related details, will be signed between the MoEF (the Executing Agency) and FRLHT (the Implementing Agency). FRLHT shall appoint a project co-ordinator and team who will be responsible for day-to-day management of the project activities. A project management unit is also being setup in the MoEF to manage all the three UNDP projects (Sundarbans, Medicinal Plants & Biodiversity Conservation) under CCF II. Further, the main institutional mechanism for monitoring the project would be the Project Management Board, and the Empowered Project Standing Committee, at the national level and state level Project Management Committees at the State level.

At the request of the Executing /Implementing Agency, UNDP will also provide support for implementing specific activities under the project. These activities termed as UNDP Country Office support services.

State level nodal agency: In every state, there will be a state level nodal agency. The role of state level nodal agencies will be:

- a. To take responsibility for the effective implementation of specific project components being implemented in the state.
- b. To release funds as per approved budgets to partner organisations in the state.
- c. To cooperate with FRLHT in implementing:
 - i. R & D programmes.
 - ii. Policy studies.
 - iii. Training programmes.
 - iv. Communication and advocacy programmes.
 - v. Development of databases and websites, and
 - vi. The participatory monitoring and evaluation exercises.

The State nodal agency is expected to constitute a state level project management committee of 7–9 members who will represent the key stakeholders of the project. This committee is expected to play a role, at the state level similar to that of the Project Management Board, at the central level.

UNDP Collaboration: UNDP will support the management of this project and towards this participate in various project advisory committees. UNDP will support drawing and up scaling of development lessons. UNDP will provide support from its IEC programme to support the communication needs of the project. UNDP will also provide support (termed as UNDP Country Office support services) for sub-contracting and for monitoring and evaluation. Country Office support may be provided in other areas also as agreed between UNDP and the Executing Agency/Implementing Agency. Such support activities will be carried out in accordance with UNDP rules and regulations and in consultation with GoI.

UNDP will recruit a National UN Volunteer to assist in the financial management of the project. This person will be responsible for timely disbursement of funds, preparation of financial reports and providing the same to GoI, FRLHT and other partners.

III. Fund Flow Arrangements and Financial Management

As per the GoI-NEX Guidelines, the Union Ministry of Environment and Forests, the Executing Agency, shall make suitable provision for UNDP funds in its annual budget. At the request of the Executing Agency, UNDP will make direct payments to the Implementing Agency and other implementing partners and suitable accounting entry will be made in the budget of the Ministry and the Controller of Aid, Accounts and Audit to reflect receipt of such funds by GoI. UNDP will release funds only on receipt of utilisation certificates from the Implementing Agencies and after the approval of the workplans and budgets by the Empowered Project Standing Committee chaired by the Joint Secretary, MoEF.

The Implementing Agency and participating NGOs shall maintain a separate bank account in order to receive and disburse UNDP funds. Separate books of accounts on cash basis of accounting shall also be maintained in order to ensure accurate reporting of expenditure and providing a clear audit trail. In all cases, fund transfers will be on the basis of MoUs/contracts between the National Project Co-ordinator and the NGOs. The terms and conditions of all MoUs/sub-contracts will be discussed and approved by the Empowered Project Standing Committee.

The National Project Co-ordinator through the MoEF as per the UNDP Financial Report Format will make requests for release of funds by UNDP. The Financial Report will contain, in addition to the information on funds required, information on annual budget, year-to-year expenditure and available budget.

The National Project Co-ordinator will send an annual work plan and budget to the Empowered Project Standing Committee. Upon receiving written authorisation from the Executing Agency, UNDP will release funds in advance every quarter, based on the approved annual work-plan. The Project Co-ordinator will report disbursement to the MoEF and UNDP on a quarterly basis, in the Financial Report Format referred to earlier.

IV. Audit

As per the Gol NEX Guidelines, the project shall be subject to audit in accordance with UNDP procedures. In order to meet the UNDP requirement of covering 90% of the annual NEX expenditure under audit, an annual audit plan will be drawn up in consultation with DEA. The project shall be informed of the audit requirements by January of the following year. The audit covering annual calendar-year expenditure will focus on the following parameters: (a) financial accounting, documenting and reporting; (b) monitoring, evaluation and reporting; (c) use and control of non-expendable equipment; and (d) UNDP Country Office support.

The auditor shall be appointed in consultation with DEA. In line with the UN Audit Board requirements for submitting the final audit reports by 30th April, the auditors during February/March will carry out field visits. Detailed instructions on audit will be circulated by UNDP separately.

E. MONITORING & EVALUATION, RESEARCH, COMMUNICATIONS & ADVOCACY

I. Monitoring and Evaluation

The different committees as discussed above, will monitor the progress of the project. The PMB will give an emphasis to reviewing the activities of the project in a more holistic manner i.e., for its objectives, achievement of outputs as per the success indicators mentioned in the proposal document and will also ensure a closer examination of substantive issues of the Project. In general, UNDP is trying to practice Outcome Evaluation. This entails assessment of a cluster of projects instead of a single project in order to evaluate relevance, performance and success in the broader context of agreed outcomes. The project will be guided by this approach in their decisions regarding the evaluation of its activities and impact.

The project's monitoring and evaluation strategy should be built around the principles of mutual learning and stakeholder participation. Evaluations will be interpreted as "shared reflections" and the process of monitoring would also be of "revising" strategies in the light of freshly acquired knowledge through group reflection. These "evaluations" will look at both quantitative and qualitative dimensions and will be adopt gender-sensitive and participatory tools and processes.

A gendered baseline survey will be carried out before initiating project activities. Information on basic indicators of women's development, including population, education,

health status, work participation and issues/problems specific to the area should be collected. Data from secondary sources such as the Census 2001, National Sample Surveys and previous research studies, should be supplemented with data from informant interviews, focus group discussions and household sample surveys. Data on women's situation should also be collected from local women's groups/NGOs working in the area.

Systems for routine monitoring will be developed and streamlined by the partners in each state and by FRLHT. This will enable reviewing the project in a holistic manner i.e., for its objectives, achievement of outputs as per the success indicators and for a closer examination of substantive issues. In terms of processes, the project will encourage the use of participatory processes of monitoring and learning such as peer reviews, self-evaluation, social and development audit, event track, and group feedback.

A mid-term review of the project will be undertaken to track progress on gender mainstreaming and suggest mid-course corrections.

A gender impact assessment will be carried out on completion of the project. The following broad parameters will be reviewed.

- Women's participation in planning and implementing project activities.
- Direct benefits accruing to women from the project, and resulting changes in women's material condition.
- Impact of the project on women's access to resources, access to information, autonomy within the family, ability to access public services, ability to participate in social/economic/political decision-making and vulnerability to violence.

Appropriate project-specific indicators will be evolved for measuring changes in women's situations along the above parameters.

II. Research Agenda

In the project states, it is planned to carry out field research on focussed subjects, which can feed into the policy interventions to be made by this programme. The subjects visualised for field research are:

- a) Status of local health traditions and their contribution to health security of local communities.
- b) Role of FGB networks in conserving the inter and intra specific species diversity.
- c) Design and performance of JFM programmes for management of medicinal plant sites on non-degraded and degraded forest areas.
- d) Role of women self-help groups in the management of community owned enterprises.
- e) Design and management of community-knowledge registers for IPR protection and folk knowledge.

III. Communication and Advocacy, Lessons Learnt, and Upscaling

The project supported under CCF-I as well as the recent formulation of a national level long-term strategy by MoEF makes it clear that this project can contribute significantly to the experience of applying a holistic approach to medicinal plant conservation sector.

Given this context, a concrete action plan will be developed at the beginning of the project along with budgetary outlays, to document and disseminate best practices for greater cross learning between project partners as well as for wider learning. The roles of different agencies – MoEF, FRLHT and UNDP - will be defined and the workplans will reflect the different activities related to documentation (e.g. commissioning case studies, process documentation, issue-based studies, reviews, working papers) and wider dissemination through publications, inputs into websites, monographs and mass media coverage on a regular basis.

The Project will encourage effective communication that covers information gathering and sharing documentation with all Project partners. It will encourage documentation of baseline (with sex-disaggregated data) as well as key milestones during the Project period through use of video and print media; coverage of key events, processes and outputs by journalists and others; training of project partners in communication tools and skills; success stories with a strong human element and; linkages, wherever possible, with communication staff of the government at state/district/block levels. It will proactively support design and creation of mechanisms such as workshops to share and review experiences and lessons learnt at different levels within the project as well as implications for programme and policy formulation.

It will also seek to strengthen integration of medicinal plants in policy dialogue and programme design for health and natural resource management sectors. The project will support and facilitate networking between policy makers, women's groups, NGOs and experts on key issues through supporting state, national and international level workshops. The project could serve as a platform for advocating the revitalisation of local health cultures and traditions and protection and promotion of indigenous knowledge holders and for highlighting the strong livelihood security dimension of the sector.

The project will link up with the IEC divisions of both MoRD and MoEF so that materials prepared by the project could be shared through the Grameen Bharat programme on Doordarshan sponsored by MoRD and the Bhoomi Programme sponsored by MoEF. Since these programmes have a national outreach and are in more than 11 regional languages, these communication linkages will facilitate the wider sharing of experiences across the country. Wherever feasible the project will link up with organisations working with community radio so that programmes could be developed in local languages on the need to revitalise local health traditions and practices.

The project will encourage monitoring and evaluation of project processes and outcomes jointly with policy makers, implementing groups and subject specialists. The project will facilitate the travel of independent journalists and government and other agencies to see the work in the field. It will provide funds to local partners to video document the process in the field. It will also facilitate media coverage by international TV and organise annual thematic workshops on issues raised through the research studies.

G. LEGAL CONTEXT

This project document shall be the instrument envisaged in the Supplemental Provisions to the Project Document attached hereto.

The following types of revisions may be made to this document with the signature of the UNDP Resident Representative only, provided he or she is assured that the other signatories of the Project document have no objections to the proposed changes.

- Revisions in, or addition of, any of the Annexes of the project document (with the exception of a Standard Legal Text for non-SBAA countries which may not be altered and agreement to which is a pre-condition for UNDP assistance);
- Revisions which do not involve significant changes in the immediate objectives, outputs of activities of the Project but are caused by the re-arrangements of inputs already agreed to or by cost increases due to inflation; and
- Mandatory annual revisions, which rephase the delivery of, agreed project inputs or increased experts or other costs due to inflation.

The Executing Agency and Implementing Agency shall, at all times, ensure compliance with the NEX Guidelines annexed hereto and also comply with the requirements contained in the UNDP Programming Manual to the extent they do not conflict with the said NEX Guidelines or extant rules and provisions of Government of India.