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

Sub-programme Budget Number: IND/03/031/01/99/A
 Sub-programme Title: Renewable Energy for Rural Livelihoods
 Sub-programme Short Title: RERL
 Estimated start date: July 1, 2003
 Estimated End Date: December 31, 2007
 Executing Agents: Ministry of Non-Conventional Energy Sources (MNES)
 Implementing Agency(s): TBD
 Sub-programme Site:

Summary of UNDP and Cost Sharing: (as per attached budgets)		
UNDP	Approved Budget	Indicative (pls see footnote 1) Budget
TRAC (1 & 2)	\$ 1,700,000	2,500,000
TRAC (3)	\$ -	-
Other	\$ -	-
Cost Sharing:		
Federal Republic of Germany (FRG)*	\$ -	1,000,000
Others	\$ -	500,000
Operational Services:		
SOP 03	\$ -	-
SOP 07	\$ -	-
Other	\$ -	-
Total	\$ 1,700,000	4,000,000

Programme Support Title: Poverty Eradication & Sustainable Livelihoods

Approval Date:

Classification Information:

ACC sector & sub-sector: Employment, Employment Promotion	Primary type of intervention: Generation of Employment & Sustainable Livelihoods Opportunities
Secondary type of intervention: Enhanced of income-earning potential	DCAS sector & sub-sector: Energy/New & Renewable Source of Energy
Primary target beneficiaries: The Poor	Secondary target beneficiaries: Target Groups

Brief Description:

The project objectives are; i) provision of equitable, accessible energy for disadvantaged populations by provision of energy services including electrification of villages through a mix of solar, hydro and biomass technologies; ii) poverty alleviation through additional livelihood opportunities by way of community-led participatory approaches to energy management; iii) networking of renewable energy related research institutions; iv) training for renewable energy professionals, policy makers in different aspects of renewable energy related to livelihoods; v) developing a simulator for training on how to operate small hydro power stations; and vi) setting up of a "Resource Centre for Renewable Energies", addressing, inter alia, renewable energy resources assessment on GIS platform and renewable energy technology mapping and benchmarking.

On behalf of:

Signature

Date

Name/Title

Government

[Signature]

1/9/2003

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Executing Agency

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1/9/2003

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UNDP

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27/8/2003

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Resident Representative a.i.

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

- (1) UNDP's Core Resources are allocated on the basis of three-year roll-forward frameworks, covering the current year plus the next two years. Project budgets covering a longer time frame are thus indicative only, and subject to confirmation. The same would apply to Cost-Sharing Contributions, which are indicative until confirmed by respective donors. (Project documents however provide detailed budget information for both the 'Approved' and 'Indicative' Budgets).
- (2) Germany's contribution is Euro 1 million, including 7% support. Exact value of its contribution will be specified upon receipt of the contribution at the prevailing exchange rate.

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A. COUNTRY PROGRAMME CONTEXT

A.I Background

1. The Tenth Plan document states that 'the decade of the 1990s saw a visible shift in the focus of development planning from mere expansion of production of goods and services and the consequent growth of per capita income to planning for enhancement of human well-being. It is realized that human development is about much more than the rise or fall of national incomes. It is about quality of life, the level of human well-being and the access to basic social services.' 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 poverty – as well as the global mandate of the 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.

2. India's 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 formidable². Statistics on critical development indicators such as female literacy, life expectancy at birth, child mortality and incomes show that regional and interstate disparities are increasing³. 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.

3. 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 the Millennium Development Goals. The monitorable targets are outlined below:⁴

MONITORABLE TARGETS FOR THE TENTH PLAN AND BEYOND

- Reduction of poverty ratio by 5 percentage points by 2007 and by 15 percentage points by 2012;
- Providing gainful and high-quality employment at least to the addition 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;
- 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.

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

4. The United Nations Development Assistance Framework (UNDAF), which is the document expressing the agreement on programme priorities between the United Nations

² <http://planningcommission.nic.in/appdraft.pdf>

³ [http://www.un.org.in/CCA2.htm#The state of human development](http://www.un.org.in/CCA2.htm#The%20state%20of%20human%20development)

⁴ Tenth Five Year Plan, Planning Commission, Government of India, Vol. 1, Chapt. 1, p. 6.

System in India and the Government of India has as its main focus the promotion of gender equality and the strengthening of decentralisation⁵. 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:

<p>Promotion of human development and gender equality</p>	<p>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.</p>
<p>Capacity-building for decentralisation</p>	<p>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.</p>
<p>Poverty eradication and sustainable livelihoods</p>	<p>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. Strategy 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 practice with other developing countries and accessing lessons from international experience.</p>

⁵ <http://www.un.org.in/UNDAF/undafstatement.pdf>

<p>Vulnerability reduction and environmental sustainability</p>	<p>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.</p>
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5. 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, NGOs and 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.

6. 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

B.1 Development Context

7. The dominant development model, with its ever-increasing demand for energy to fuel the industrialization process, has resulted in depletion of traditional fossil fuel resources like petroleum, coal and wood, and has led to degradation of the environment.

8. Since the 1960s there has been growing public awareness that the reserves of fossil / bio fuels are finite and will not last very long at current consumption rates. Even if the figures are revised upwards from time to time as a result of the discovery of new reserves and more efficient means of extraction, the time for total depletion can only be extended to a few decades.

9. Secondly, it has been proved that the use of fossil fuels has a detrimental impact on the environment and ecology of nations - greenhouse gas emissions from energy generating

systems based on fossil fuels is largely responsible for environmental pollution, global warming and climate changes.

10. Thirdly, fluctuating prices of petroleum imports make it difficult for developing countries to depend excessively on this traditional source of energy

11. And finally, use of wood fuel leads to deforestation which result in environmental hazards while inefficient burning of wood causes indoor air pollution and consequent health hazards especially for women and children.

12. This fallout of 50 years of development experience has forced us to redefine development in terms of sustainable development --- a model of economic and social development without degradation of the environment. Since conventional energy, by itself, cannot be the solution for rural energy needs, due to a variety of reasons including those mentioned above, the application of renewable energy technologies is increasingly being looked at as a viable option to traditional energy sources for providing sustainable energy services and improving the quality of life, particularly for the poor and those living in rural areas. It is hoped that this would ensure eco-friendly, sustainable development, as also energy security.

13. In the ninth session of the Commission on Sustainable Development (CSD-9) held in New York during April 16-27, 2001, the emphasis was mainly on key issues relating to sustainable energy. Some of the major recommendations of the CSD-9 were related to the increasing use of renewable energy and provision of better energy services to rural areas.

More specifically, the national governments were encouraged to:

- i) Develop and implement appropriate national, regional, and international policies and measures to create an enabling environment for the development, utilization, and distribution of renewable energy sources;
- ii) Develop domestic programmes to increase the contribution of renewable energies to total energy consumption;
- iii) Encourage the role of the private sector in the development and utilization of renewable energy technologies, through the provision of appropriate incentives and regulation;
- iv) Develop and implement measures to make renewable energy technologies more affordable;
- v) Strengthen financial support to developing countries for the promotion of renewable energy;
- vi) Strengthen and, where appropriate, establish policies on energy for rural development including, as appropriate, regulatory systems to promote access to energy in rural areas;
- vii) Develop, where necessary, specific and targeted energy service delivery structures adapted to rural needs;
- viii) Promote local energy enterprises as employment opportunities, enhance local private entrepreneurs, developing local dealers to sell/maintain equipment building on local retail networks and relationships;

- ix) Promote sustainable use of biomass and, as appropriate, other renewable energies through improvement in the current patterns of use such as management of resources, more efficient use of fuel wood, as well as new or improved products and technologies;
- x) Promote capacity building in local societies and remove barriers in the implementation of policies for renewable energy development in rural areas
- xi) Promote efforts to address the disproportionate burdens experienced by women in rural areas including carrying loads of fuel wood over long distances and suffering adverse health effects from prolonged exposure to open fires.

14. The issue of clean energy services was further discussed in detail at the World Summit on Sustainable Development (WSSD) held during August 26 - September 4, 2002 in Johannesburg (South Africa). In the Summit, a 'Plan of Implementation' was agreed upon wherein: the national governments were requested to diversify energy supply by developing advanced, cleaner, more efficient, affordable and cost-effective energy technologies, including fossil fuel technologies and renewable energy technologies. The governments, were also requested to substantially increase the global share of renewable energy sources with the objective of increasing its contribution to total energy supply, recognizing the role of national and voluntary regional targets as well as initiatives, where they exist, and ensuring that energy policies are supportive to developing countries' efforts to eradicate poverty, and regularly evaluate available data to review progress to this end.

NATIONAL PERSPECTIVE

15. The development and utilization of non-conventional energy sources have been accorded high priority in India for many years as is evident from the creation of a *full-fledged Ministry for Non- Conventional Energy in the year 1992* which symbolizes the country's commitment to providing an impetus to this sector. Renewable energy sources in the long term have the potential to meet the energy requirements of the people in remote rural areas as well as to produce grid quality power to augment the installed power generation capacity.

16. The application of renewable energy has brought about significant changes in the Indian energy scenario. Apart from power generation, the deployment of these technologies has benefited a significant number of rural households by meeting their cooking and other energy requirements in an environmentally benign way. The social and economic benefits include reduction in drudgery among rural women and girls engaged in the collection of fuel wood over long distances and cooking in smoky kitchens, minimization of the risks of contracting lung and eye ailments, reduction in deforestation, decreased pollution levels and hence reduced health hazards, employment generation at the village level and ultimately an improvement in the standards of living and creation of opportunities for economic activities in rural areas.

17. The energy fuel-mix is a mix of commercial and traditional sources with commercial fuels constituting about two-thirds of the total primary energy consumed. From 1980 onwards, the use of commercial energy has increased at an average annual rate of over 6%. More than 65 percent of the population which does not have access to modern energy services is dependent on biomass, animal waste and kerosene for their cooking and lighting needs. In 2001-2002, traditional fuels i.e. biomass and animal waste consumption was estimated at 140 Mtoe, which was about 30 percent of total primary energy consumption in the country and used by around 70 percent of the population.

18. There are around 587,000 villages in India of which around 95,000 villages are yet to be electrified. Of these around 20,000 villages are located in remote and far flung areas, and where grid extension is not likely by 31.03.2012, i.e., the end of the 11th Plan period. Even though over 80% of the villages are treated as electrified, only around 44% of the rural households have an electric connection.

19. The total installed capacity of the country is over 100,000 MW. Thermal power constitutes around 70% of the total capacity. Renewable energy constitutes about 3.5% of total installed capacity. The per capita consumption of electricity in India still continues to be low by world standards and is slightly above 400 KWh per capita per annum as compared to the developed countries' average of around 7800 KWh per capita per annum. The demand for electricity is growing at an annual rate of 8%.

20. The major achievements along with the estimated potential of the use and application of renewable sources of energy are given in Table-1 below.

Table 1: Renewable Energy Potential and Achievements under various programmes of Non-Conventional Energy Sources as on 31.03.2002

	Source/System	Approximate Achievement	
		Potential	(as on 31 March 2003)
1.	Wind Power	45,000 MW	1870 MW
2.	Small Hydro Power (upto 25 MW)	15,000 MW	1509 MW
3.	Biomass Power	19,500 MW*	484 MW
4.	Biomass Gasifier	-	53 MW
5.	Energy Recovery from wastes	1,700 MW	26 MW
6.	Solar Photovoltaic Power	-	2.50 MW
7.	Family-size Biogas plants	12 million	3.48 million
8.	CBP/IBP/NBP Plants	-	3902 nos.
9.	Improved Cook stove	12 0 million	35.2 million
10.	Solar Photovoltaic	20 MW/sq. km.	
	i. Solar Street Lighting Systems	-	43474 Nos.
	ii. Home Lighting Systems	-	235162 Nos.
	iii. Solar Lanterns	-	441481 Nos.
	iv. SPV Power Plants	-	1391 kWp
11.	Solar Water Heating Systems	140 million sq. m Collector area	700,000 sq.m Collector area
12.	Solar Cooking System		
	i. Solar Cookers		5,30,000 Nos.
	ii. Solar Steam Cooking Systems		6 Nos.
13.	Solar PV Pumps		5,527 Nos.
14.	Wind pumps		888 Nos.
15.	Hybrid Systems		193.35 kW

Sq. km. = Square Kilometre Sq. m. = Square meter MW = Mega-watt KW = Kilo watt kWp = Kilo watt peak

* including Biomass Gasifier

21. The deployment of renewable energy technologies provides benefits in terms of employment generation, particularly in rural areas to a large number of skilled and unskilled labour. It is estimated that the biogas and the improved cooking-stove programmes generate employment to the extent of 7 million man-days per annum. The local employment generated in other renewable energy areas such as wind energy, solar energy, small hydro although not as much is also substantial. Employment is also generated in the industries engaged in the manufacture of these systems. It has been estimated that about 4000 personnel are employed on a regular basis in the country for implementing various renewable energy programmes.

22. Non-Governmental Organisations (NGOs) do also provide an important interface between the people and the Government in the planning and implementation of Non-Conventional Energy programmes, particularly in the rural areas. At the same time, the role of the local communities themselves, as users of the locally available energy sources and generators of energy, is crucial in the planning and management of rural energy systems. Considering that a people-centred approach is vital in order to achieve full scope for energy provision in the rural areas, the participation of NGOs is welcome. The creation of Energy Service Companies (ESCOs) as providers of energy services also needs to be encouraged.

23. Technical and financial contributions from multilateral and bilateral agencies have contributed in harnessing the renewable energy potential of the country. International and multilateral organizations like the World Bank, United Nations Development Programme (UNDP), Global Environment Facility (GEF) and the Asian Development Bank (ADB) have provided credit and technical assistance for renewable energy projects, besides technical assistance for capacity building. India has also been assisting other developing countries by providing training and technical support apart from setting up demonstration projects in different renewable energy areas in these countries.

B.III Indicators of National Priority, Government Strategy and Programmes

24. The Ministry of Non-Conventional Energy Sources (MNES), through a network of State-level nodal agencies implements renewable energy programmes. One of the objectives of the programmes initiated by MNES is to improve the quality of life in rural areas through efficient use of locally available energy sources. The Ministry has been implementing a broad based programme covering a wide spectrum of renewable energy sources. Its efforts in rural areas are geared towards:

- meeting rural energy needs like cooking and heating;
- reaching electricity to all remote households by 2012; and
- supplementing conventional power.

The renewable energy programme policy aims at a transition from a fossil fuel-based energy economy to a renewable energy one leading to improved living conditions in rural areas while promoting sustainable growth. The mid-term aim is to achieve a 10% share in additional power generating capacity from renewables. It also aims to electrify around 20,000 remote villages, in which grid extension is not likely by 2012.

25. The Planning Commission in its approach to the 10th Plan (2002-07), has recognized that there is significant potential to meet the basic energy requirement of the people (viz. cooking and lighting), both in the rural and urban areas in an economically efficient manner through non-conventional and renewable sources of energy. It has indicated that, "The emphasis has to be on preparing a time-bound plan for progressive electrification covering groups of users or a village as a whole. Wherever feasible, community systems have to be put up to meet and manage the energy requirements in the villages. People's participation through

Panchayats, other local bodies, cooperatives and NGOs is to be secured in planning and implementation of such programmes. In addition, other energy users would have to be encouraged for using these energy forms for their particular applications. The approach has to be decentralised and based on a judicious mix of public and private investment".

B.IV Lessons Learnt from the Previous Programmes:

26. The lessons learnt from the previous programmes are: i) matching roles & capabilities and allocation of responsibilities between public and private sector institutions for effective implementation of the programmes; ii) Shift in emphasis from supply side management to demand side management; iii) strengthening operations & maintenance of systems by, among others, appropriate training. Communities have a significant role in developing rural enterprises in decentralised energy systems, through participatory approaches, to ensure sustainable management of rural energy services.

27. Although vigorous efforts are underway to create additional power generation capacity and to render energy systems more efficient, there are growing concerns that people in rural areas may still continue to face an energy crunch, unless ways and means are found to harness locally available renewable energy sources. In this context, the main objective of the GOI-UNDP Rural Energy Programme Support under the last programme cycle - Country Cooperation Framework-I - was to support the Government of India's ongoing activities in providing renewable energy to rural areas. The Rural Energy Programme Support specifically addressed the aspects relating to capacity building to manage, plan and implement rural energy programmes and demonstration of decentralized energy interventions in rural areas in the context of integrated development.

28. Under the overall programme framework, three sub-programmes addressing different issues in rural energy were implemented. One of the sub-programmes, entitled "Demonstration of Community-based Solar Energy for Sustainable Development" spread over seven locations in six states, aimed to address the above by setting up a local service infrastructure and was a precedent for a coordinated approach to development. Its primary objective was to demonstrate how solar energy could be used to enhance the quality of life for low-income communities living in remote villages, and how a community-based approach was the key to the success of such programmes. The project successfully demonstrated how solar energy not only provided an appropriate solution for cooking and lighting but also contributed significantly to progress in education, health, agriculture, rural industry and other income-generating activities. It also succeeded in the empowerment of women, by training illiterate and semi-literate women to become village engineers who could install, operate, maintain and repair solar energy systems; at the same time freeing them from the drudgery of walking long distances to collect fuel-wood, and reducing the health hazards associated with indoor burning of wood-fires. The project also demonstrated how the use of solar energy was instrumental in reducing environmental pollution and degradation by reducing the use of fuel-wood, diesel, coal, etc. Specific impacts of the sub-programme are now being considered as a model for large-scale dissemination of renewable energy systems in general, and solar systems in particular, on a sustainable basis.

B.V Reasons for UNDP technical assistance

a. Further testing of the approach

29. MNES has been entrusted with the responsibility of electrification of an estimated 20,000 villages in remote and difficult areas, which are not likely to have access to the state. While this

is being tried through Government agencies, NGOs and the private sector could bring in much needed institutional and financial resources to help MNES meet its commitment. Such an approach has the potential to link up with global environmental priorities by obtaining finance through different mechanisms. Many of the 20,000 target villages are located in states and localities where the approach of the previous project has not been tested and the communities not familiarized with the village-led participatory systems introduced earlier. In these areas, therefore, pilot testing community-based approaches and implementation mechanisms would still be required. In addition, many new needs are sought to be addressed through this next phase.

b. Creating livelihood opportunities

30. The efforts of MNES are in alignment with the UNDP mandate of poverty eradication and providing sustainable livelihoods to low-income households in rural areas. The experience of the Rural Energy Programme under the last programme cycle has established that dealing with subsistence energy issues leads to employment and income generation and hence a better quality of life. It also addresses issues of human development, gender equality and environmental sustainability. The present project on creating livelihood opportunities through the route of providing sustainable, non-conventional energy thus becomes relevant under the new Country Programme.

c. Policy concerns explored

31. The project, therefore, (i) explores the practical difficulties of applying this approach in new socio-ecological situations and seeks fresh solutions; (ii) plans and establishes stronger linkages with the working and living conditions of the poor in these rural areas; and (iii) examines and tests other renewable energy options. These experiences have significant relevance to MNES's programmes and are contributing to the policy dialogue within the Ministry. This approach will provide policy and field input to MNES in developing strategies for a) rural electrification of the 18000 villages in difficult and remote areas, b) movement from a beneficiary approach to a service approach for sustainability, and c) development of local institutional capacity for various local service delivery mechanisms as an alternative to government implementation.

d. An integrated, partnership-based approach

32. It is now a well-established fact that issues of subsistence energy cannot be dealt with in isolation - to address them adequately, one needs to also address issues of human development, gender equality, elimination of poverty and environmental sustainability. Providing subsistence energy in a sustainable manner is central to the range of efforts under the new GOI-UNDP Country Programme (2003-07). The present project on "Renewable Energy for Rural Livelihoods" would thus cover areas of energy management, generation of employment opportunities, provision of basic services through the use and application of renewable energy technology and protection and regeneration of the environment under the broad thematic area of Sustainable Livelihoods for Poverty Reduction, keeping in mind the UNDAF concerns of decentralized development and gender equality. It would also, based on the experiences and lessons from it, provide inputs for framing national policies and programmes in the area of renewable energy and create a common platform and an enabling environment for a diversity of development partners, namely: local communities, a number of Government departments at central, state and district levels; PRIs, NGOs and CBOs, other UN system and bilateral donor partners, working together in devising innovative solutions to the development challenges presented.

33. Efforts over the last few years have demonstrated that the use of non-conventional energy can effect an improvement in the lives of the rural poor, especially those living in remote areas with little or no access to traditional fast-depleting sources of energy. This project thus aims at developing, testing and disseminating (action research) an approach towards creating and sustaining enhanced livelihood patterns for the rural poor that is innovative, gender-equitable, community-led and managed and environmentally friendly through the use of renewable sources of energy. This would involve building partnerships between communities, panchayati raj institutions, women's groups, civil society organisations and government agencies, to apply low cost community based innovative approaches using renewable energy not only for lighting but also for promotion of livelihoods, income and employment generation projects. The use of renewable energy sources would necessitate extensive training of rural youth, men and women in a variety of activities over a period of time, resulting in enhancing their competencies and building capacities within the community. The self-reliance, self-help and self-confidence of the communities would thus be strengthened.

34. The project, therefore, seeks to address the following *key deficiencies* in designing its overall approach:

- **energy-scarce areas** - The rural hinterland of India is characterised by diverse eco-zones - hilly, mountainous, desert, coastal, and the plains - the communities living in these areas are faced with an acute shortage of energy due to the inaccessibility of their location . The majority of these households are not electrified and the lack of access to affordable energy is one of the factors contributing to the relatively poor quality of life in these rural areas. Affordable and accessible energy will have a revolutionary impact on the entire lifestyle and opportunities available to these communities: through lighting and power, improvements in pollution-free cooking, education, health, and employment, through the productive application of energy in various areas, thus leading to an enhancement in the quality of life of these communities
- **dependence on "traditional", non-renewable sources of energy** - rural households continue to depend on fuel-wood, dung, crop residues, kerosene etc for their energy requirements - this has a multiple negative impact : dependence on fuel-woods lead to deforestation ; in addition, the rising demand for fuel-wood (because of a growing population) and diminishing supply because of the deforestation, adds to the drudgery of the rural women in collecting, processing and using biomass ; burning these fuels - for cooking or heating - leads to increased indoor air pollution which has an adverse impact on the health of women and children
- **environmental degradation and pollution** - the unsustainable collection of biomass has major environmental ramifications : dependence on fuel-wood leads to deforestation and depletion of village trees and forest reserves and hastens land degradation through increased pressure on forests and village trees while burning of fossil fuels leads to green house gas emissions and to water and air pollution - a matter of great concern impacting as it does on the environment and the ecological balance of the country
- **The absence of appropriate education, training and awareness** of communities at the grassroots level of the importance of such programmes for their futures; the lack of appropriate and sufficient knowledge about such interventions among the communities themselves and hence their inability to understand , accept and use the benefits, often leads to the non-success of such programmes

- the lack of programme ownership within the community and of participatory decision structures at the grass-roots level. The failure of many programmes is aggravated by the lack of sense of ownership, since such programmes are driven from the "outside" and not from "within" the community. Conventionally, national policies have worked on a top-down basis with communities having no control over programmes initiated and implemented in their favour
- inadequate local capacities within the community, especially among the women - not only in terms of programme management as mentioned above, but also in terms of technical training to set up, operate, repair and maintain alternate energy generating systems to tackle the livelihood issue. Also the need to develop local institutional capacities for local service delivery mechanisms as a complement to government implementation, and to move from a dependent, beneficiary mode, to a self-sustaining mode. The cost of preparation, including building capacities for repair and maintenance, must be seen as an integral part of the design and costing of such systems
- unemployment, poverty and loss of livelihoods - the geographical remoteness of these areas, their inaccessibility and the lack of affordable energy, translates to far fewer opportunities for employment and income generation, and a poorer quality of life for these communities
- absence of a comprehensive compendium of alternate technologies, their appropriateness and application in different situations, cost implications and best practices - to aid in replicating and up-scaling initiatives undertaken and to share and learn from past experiences
- there is also the compulsion today to overcome gaps in knowledge of the Micro-Hydel sector as a source of captive energy for productive applications, particularly in the isolated, out-of-the-grid, hilly and tribal areas of the country. There exists a vast potential for hydel energy in States like Uttaranchal, and indeed all along the Himalayas. It can be utilised in a cost-effective manner in augmenting rural production capacity (rice milling, workshops, food-processing units etc). Also such micro-projects, designed to appropriate scales, offer great scope for work in both decentralised power generation and the judicious distribution of captive power, based on community-determined applications and user charges
- the potential for more effective Inter-Ministerial and Inter-Departmental co-operation and co-ordination in support of renewable energy technologies, is worth exploring through the project, particularly in the following areas:
 - renewable energy power for night schools and running computers (MNES and Department of Education)
 - providing power for lighting and income generating activities in tribal villages (MNES and Department of Tribal Welfare)

C. THE PROJECT

C.1 Objectives

35. This project aims to demonstrate the use and value of renewable sources of energy in applications that provide or strengthen livelihoods and enhance the quality of life of the poor living in different eco-zones (hilly, mountainous, desert and plains areas) of the country.

36. The project has the following objectives:

- (i) the provision of equitable, accessible energy for disadvantaged populations by provision of energy services including electrification of villages through a mix of solar, hydro and biomass technologies and providing energy for cooking needs;
- (ii) poverty alleviation through additional livelihood opportunities by way of community-led participatory approaches to energy management;
- (iii) networking of renewable energy related research institutions in the country;
- (iv) training for renewable energy professionals, policy makers in different aspects of renewable energy related to livelihoods;
- (v) developing a simulator for training on how to operate small hydro power stations;
- (vi) setting up of a "Resource Centre for Renewable Energies" addressing, inter alia, renewable energy resources assessment on GIS platform and renewable energy technology mapping and benchmarking.

37. The project also seeks to attain the following broad policy-related objective, by providing support to the GOI at the central level in designing and framing comprehensive national policies and programmes which:

- Enable accelerated development of power generation based on non-conventional sources in remote rural areas with no access to the grid,
- Build capacity at the community level (of ownership and management) to manufacture, set up / install, operate, maintain and repair systems of generating power from non-conventional energy sources
- Create an enabling environment for participation of local communities, private sector, local/state authorities, NGO's in planning, setting up, executing and implementing these systems
- Create and support sustainable livelihood opportunities for rural communities in these areas through the use and application of non-conventional energy which is accessible, affordable and usable and helps create jobs, increase income generation and enhance the quality of life
- Examine the appropriateness, relevance, impact, accessibility and affordability of energy technologies in rural areas, particularly from the point of view of upscaling and replication of current experimental non-conventional energy interventions. Support a detailed assessment of the economics of different technologies, to assist possible investors in making commercial decisions

38. At the grass-roots level, based on the earlier experience of building community level capacity in installation and maintenance of renewable energy systems through a network of Rural Electronic Workshops (REWs) and trained village engineers, this project will demonstrate the following in the identified villages in the Country:

- Installation of renewable energy systems comprising solar, small hydro and biomass and for home lighting, cooking, education, health and productive applications in agriculture and rural industry. Villages will be identified in a way that equal number of villages are covered through solar, small hydro and biomass route.
- Creation of participatory decision-making structures at the grass-roots level
- Creation of alternative employment opportunities at the local level
- Support to the extension of networks for the right to knowledge and information on energy issues and technologies up to village level, so as to bring about a qualitative change in rural life
- Empowerment of women by training illiterate and semi-literate women to become "village engineers" capable of installing, operating, maintaining and replacing energy systems; also by freeing them from the drudgery of searching for fuel-wood, and by reducing health hazards associated with the burning of wood-fires at home
- Thus; renewable energy systems making key contribution to progress in education, health, agriculture, and rural industry and other income generating activities.

39. The project will be executed by MNES in close co-ordination with leading organizations and agencies identified as Implementing Agency (s). UNDP will systematically associate all relevant UN agencies in the steering/monitoring of this project, so as to facilitate strong UN Country Team co-ordination and collaboration in pursuing comprehensive poverty alleviation strategies. Attention will also be paid to collaboration with other bilateral and multilateral donors working in the same area.

C.II Strategy

40. The programme will have the following major components:

- i) energy services including electrification of remote villages through a mix of solar, hydro and biomass technologies and providing energy for cooking needs;
- ii) renewable energy resources assessment on GIS platform;
- iii) renewable energy technology mapping and benchmarking;
- iv) networking of renewable energy related research institutions in the country;
- v) training for renewable energy professionals, policy makers in different aspects of renewable energy related to livelihood; and
- vi) developing a simulator for training on how to operate small hydro power stations.

The programme thus envisages a strategy where applications of renewable energy sources will provide a vital entry point for poverty eradication and creation of sustainable livelihoods among

low-income communities in remote rural areas and also would provide a long term resources base for renewable energy development in the country.

41. **The key elements of the strategy are as follows:-**

- The project will be community-led, managed and controlled in order to tackle the basic energy service issues, and to promote both sustainable livelihoods and environmentally sustainable natural resource systems;
- A range of renewable energy devices would provide livelihoods and would involve extensive training of rural unemployed youth, men and women in a variety of activities on a long-term basis;
- *Renewable energy plants* shall provide an independent power source; maintained by the village community;
- The project will also pilot and test gender-responsive applications of support to traditional artisan communities such as rural crafts persons, to improve their living and working conditions;
- Villages will be identified in a way that equal number of villages are covered through solar, small hydro and biomass technological route;
- Installation of mini-hydel systems / water-mills and also biomass systems will be undertaken to generate energy and use it productively in a variety of applications, including threshing, milling of wheat / grains and supporting the work of artisans;
- The training of physically- and mentally-challenged rural youth, to encourage them in joining the mainstream shall be a vital part of this exercise. The physically challenged will be trained as "village" engineers, teachers, pathologists, crafts persons and computer programmers in all the States;
- The project should lead to a change in the perceptions and expectations of rural women by creating equal opportunities;
- Indian best practices in this area will be shared with other developing countries, while absorbing relevant lessons from international experience;
- Capacity building at local levels - within the community and across municipal/governmental bodies, NGO's, - and organization of communities and their empowerment will be undertaken to enable them to be self-sufficient and self-sustaining;
- resources assessment of all the renewable energy technologies would be put on a single GIS platform. In this exercise the present experience from ongoing GEF assisted projects will be utilized;
- an exercise would be initiated for benchmarking and mapping of renewable energy technologies;
- all research institutions working in the area of renewable energy will be networked;

- training for renewable energy professional, policy makers in different aspects of renewable energy related to livelihood; and

C.III Geographical Coverage

42. The geographical coverage of this project has been decided keeping in view the need and relevance for the planned interventions. The areas identified represent a range of tribal, hilly, hot & cold deserts and North East regions of the country, as also those which have among the lowest Human Development Indices, and are thus in greater need of interventions that spell progress of any kind.

43. In the new Country Programme, (2003-2007), it is proposed to cover around 60 villages falling in different eco-zones of hilly, mountainous, desert, plains and small island areas. A indicative list of the States and Districts proposed to be covered under this project is as follows:

States	Districts
Rajasthan	Barmer, Udaipur Baran
Gujarat	Panchmahalas
Madhya Pradesh	Jhabua Satna
Chhattisgarh	Bastar
Orissa	Nuapada
Uttaranchal	Chamoli Uttarkashi
Sikkim	North Sikkim South Sikkim
Himachal Pradesh	Lahaul Spiti
Assam	Kokrajhar
West Bengal	S.24 Parganas (Sunderbans) Jalpaiguri (Darjeeling, Kalimpong)

The above listing is indicative and the exact number of villages to be covered will depend upon the resource availability and feasibility of the technological options.

C.IV Project Results

OUTCOME: DEMONSTRATED USE AND VALUE OF RENEWABLE ENERGY SOURCES IN THE APPLICATIONS THAT PROVIDE OR STRENGTHEN LIVELIHOODS AND ENHANCE THE LIVES OF RURAL POOR IN REMOTE ECO-ZONES.

Project Objectives	Activities
Strategies for provision of equitable and accessible energy for disadvantaged populations living in areas beyond grid extension tested and established.	<ul style="list-style-type: none"> • Learning lessons from ground-level interventions in 60 villages in 10 States • Analysis of appropriateness, relevance, impact and pricing of various technologies to assist possible investors in making commercial decisions.
Sustainable Community led participatory (service) approaches, to energy	<ul style="list-style-type: none"> • Sensitising and training communities on different affordable technologies and

management issues and energy applications for expanding livelihood opportunities piloted and demonstrated.	<p>applications.</p> <ul style="list-style-type: none"> • National/Regional/Local Work-shops on information exchange and sharing. • Demonstration of renewable energy technologies through installation of solar, biomass and multi-purpose small hydro systems and local capacity built in operation and maintenance.
Local level institutional capacity built for various local service delivery mechanisms .	<ul style="list-style-type: none"> • Building of capacities of communities in respect of fabrication, installation, operation, maintenance and repair of renewable energy systems. • Community decision-making on generation and utilisation of power for productive applications: fixing of user charges and mobilisation of voluntary contributions" for maintenance / upkeep. • Testing innovative financing mechanism. • Building other community-initiatives around this intervention.
Renewable energy resources assessment in a GIS platform;	<ul style="list-style-type: none"> • Resources assessment of all the renewable energy technologies would be put on a single GIS platform. In this exercise the present experience from ongoing GEF assisted projects will be utilized.
Renewable energy technology mapping and benchmarking;	<ul style="list-style-type: none"> • An exercise would be initiated for benchmarking and mapping of renewable energy technologies.
Networking of research institutions; and	<ul style="list-style-type: none"> • Research institutions working in the area of renewable energy will be networked.
Training for renewable energy professional, policy makers in different aspects of renewable energy related to livelihood.	<ul style="list-style-type: none"> • Training for renewable energy professional, policy makers in different aspects of renewable energy related to livelihood.

C.V Exit Strategy and Sustainability Project-level Sustainability, & Exit Strategy

44. This project aims to address this very issue by setting up self-sustaining systems of renewable energy, and to train women, the youth and the handicapped to install, repair and maintain these systems. It also aims to move from a beneficiary mode to a service-oriented mode that would be self-sustaining, and would enhance livelihoods and quality of life for low-income households in the selected rural areas. Since the thrust of the project is on creating self-sustaining models that draw on local strengths, skills and resources there would be no need for external support once project implementation is complete.

45. The provision of renewable energy has the potential to (a) improve the quality of life (b) improve the income levels of the communities through linkages to locally relevant, productive end-uses and c) accelerate the developmental process. In addition, putting resources assessment in a single GIS platform, networking of renewable energy institutions and benchmarking and technology mapping would provide a basis for developing a long term renewable energy programme.

46. Apart from the direct outputs mentioned above, the following indirect outcomes are also expected at the end of the programme.

- Increased incomes in the community
- Improved organization and better decision-making ability in the community
- Improved capacity in partner NGOs to replicate the successful interventions
- Improved capacity within communities to manage village energy systems
- Improved quality of life in the area as evidenced by more development projects in these areas both by the Government and NGOs

Policy-level sustainability

47. The aims and objectives of the project are in harmony with the Government's policies. In addition to those outputs specifically directed at policy improvements, all other outputs under this project will contribute directly to the objectives of the Government's current policy of creating employment in an environmentally sustainable manner, using non-conventional energy sources to enhance the quality of life of disadvantaged communities

Institutional sustainability

48. The project will be executed under the overall umbrella of MNES. The objective of the project is to create self-sustaining models of livelihood rooted in local activities. As such, the project will involve the full participation of local communities, and Panchayati Raj Institutions (PRIs), in all aspects and at all levels, so that the initiatives undertaken are sustained in their entirety after project support is withdrawn.

Financial sustainability

49. The focus is on building local capacities in terms of training, production, installation, repairs, maintenance and marketing. The project emphasis lies in generating systems of livelihoods that draw upon local resources and skills. There will thus be no additional liability for the Government or UNDP beyond the project cycle for the selected circuits.

50. This programme will lead to improved coordination between the Central Government, State Governments, district administration and civil society and therefore result in more coordinated development. The experience of this programme will be disseminated to all partners for use in designing future energy programmes.

C.VI. Equity Considerations (Social, Gender, and Environmental)

51. The project will pay special consideration to ensure that local communities and the PRIs are involved in all activities. Care will be taken to ensure participation of disadvantaged groups as also women's groups. All interventions under this project will include local communities and the gender dimension. Special emphasis will be laid on environmental issues to address the problems of environmental degradation and maintaining the ecological balance of the rural areas being covered

52. The Government of India has identified promotion of gender equality and strengthening decentralization as the two themes for focused and coordinated action by the UN System in India under the UN Development Assistance Framework (UNDAF). Every UNDP-supported project is expected to contribute to furthering the above goals. Gender mainstreaming is therefore a mandatory requirement for all projects under CP 2003-07.

53. 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.

54. Gender mainstreaming is a mandatory criterion for monitoring and evaluation of UNDP projects. Gender performance audits will be undertaken as part of all financial audits and impact evaluations.

55. The following criteria will be used in assessing the actions undertaken to ensure gender mainstreaming in project activities.

- A **Gendered baseline survey** should be carried out before initiating project activities.
- **Women stakeholders and gender resource persons** with sector-specific competence should be involved in the process of project planning and in developing the workplan and monitoring framework for the project.
- All **community organisations and local-level management/implementing committees** should have at least 30% women members.
- **Project Advisory Committees** at local level should include at least one woman member (a representative of a local women's group, a woman academic or civil servant, or a woman community leader).
- At least 50% of participants in **training/learning opportunities** created under the project (for instance, skill training at grassroots level, study tours, exposure visits, issue-based workshops and specialized professional courses) should be women.
- Women participants should not be excluded from training programmes on the grounds of having children.
- At least 50% of beneficiaries under **employment opportunities** created through the project should be women. The principle of "**equal wages for equal work**" should be strictly applied. Separate muster rolls and payment records should be maintained for women beneficiaries.
- Project offices should be equipped with **physical facilities for women** as appropriate.
- All project staff should undergo a half-day orientation to gender equality issues.

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

57. 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.

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

C.VII Risks

59. The possible risks associated with this project are outlined in the table below :

S.No.	Potential Risk	Risk Rating
1	Lack of co-ordination between the Government and Contract Holder/Sub Contract Holder	low
2	Possible delay in Sub-programme activities due to logistical bottlenecks	medium
3	Lack of partnership amongst rural communities	low
4	Necessity to modify the course of sub-programme to meet ground realities	medium
5	EA/IA unable to fulfil counterpart obligations	Low

C.VIII Planned Links with related programmes supported by UNDP

60. This project will tie-up with the project on "Rural Livelihoods" - also being carried out under the "Livelihoods and Living Conditions" umbrella - in the area of training of local craftspeople and production and marketing of crafts items. It would also link up with the project on "Endogenous Tourism" - also within the ambit of the "Livelihoods and Living Conditions" programme where the tourist sites coincide with the locations of the energy project. Where the Panchayats can be brought in actively to support this renewable energy initiative, especially in the new States, the project also needs to establish links with the project of capacity-building of PRIs.

C.IX Partnerships

61. The Executing Agency for the project will be the Ministry of Non-Conventional Energy Sources (MNES). MNES will closely monitor implementation of this project and provide resources out of its own funds to support sub-programme activities to the extent possible.

62. The designated IA will have the responsibility for their respective part of the project and will monitor the work of the selected NGO partners in all sub-programme activities, ensuring that all necessary management structures are in place for each of them. They will make available the necessary human and other resources to ensure successful implementation of this project.

63. The selected NGOs and partner CBOs will provide sufficient human and community resources for timely project execution, as well as training support for Village Solar Engineers and communities for the relevant components of the project.

C.X Stakeholder Participation

64. The project will involve a large number of stakeholders in its implementation, government authorities at the national, state, district and local levels as also NGOs, CBOs, and grassroots level communities.

65. MNES, DEA, Central and State authorities will be responsible for executing the project at various levels and on different issues, viz. overall management, fund flow, audit, monitoring and evaluation of the project, follow up and corrective actions. Participation of these bodies at workshops and seminars will ensure continuous participation and involvement, and will add value to policy level dialogues and action.

66. The implementing agencies and partner NGOs, will be responsible for the implementation of a substantial portion of the project at ground level in terms of training, and providing human and community resources for project execution. In addition they will be required to provide continuous follow-up on all interventions and take remedial action where necessary. Regular review meetings will be held to keep track of progress in the field. NGO's and CBOs working in different States will be grafted in to work with the national implementing organisations in carrying out this project

67. Community participation is of paramount importance in this project since the objectives are to set up community-based and managed systems of livelihood opportunities - involvement of local grassroots communities will be ensured through training and inclusion of community members in all activities at all levels.

D. IMPLEMENTATION ARRANGEMENTS AND ROLES & RESPONSIBILITIES OF PROJECT PARTIES

D.I. Prior Obligations and Pre-requisites

68. The Government of India will, through its departments and nodal agencies, closely monitor implementation of this project.

69. The Implementing Agencies will make available the necessary human and other resources to ensure successful implementation of this programme.

70. The selected NGO (s) will be responsible to the IAs for carrying out all activities detailed in this document, and will agree to provide up-to-date information to them to facilitate regular monitoring of the programme.

71. The selected NGOs and IAs will ensure that programme management structures are put in place and VEECs (Village Electricity and Energy Committees) and Stakeholder Committees are constituted during the planning phase.

72. UNDP assistance will be provided subject to the fact that the pre-requisites listed above have been fulfilled to the satisfaction of all parties. If anticipated fulfilment of any of the pre-

requisites fails to materialise, UNDP may, at its discretion, either suspend or terminate further assistance.

D.II Implementation Arrangements – Role of Partners

National Executing Agency

73. In line with the National Execution Guidelines (July 1998) issued by the Department of Economic Affairs, Ministry of Finance, and the UNDP corporate procedures as outlined in its Programming Manual (May 2000), this project will be executed nationally. MNES will be the Executing Agency for the project, and will be responsible for its overall management, achievement of planned results, and for the use of UNDP funds. MNES will designate a senior level official of the rank of Joint Secretary as the National Project Director (NPD) to coordinate project execution.

74. A Programme Management Board (PMB) chaired by Secretary, MNES and with representation from stakeholders will be constituted to provide oversight and cross-sectoral linkages at the senior policy-making level.

75. A Project Standing Committee (PSC) headed by the National Project Director will be established to facilitate timely decisions on project management issues such as the budget structure, annual work plan, financial management including advance of funds, implementation issues, audit follow-up and a monitoring, evaluation and research strategy. Opportunities for flexible management, in tune with the ongoing rationalisation in governmental procedures as well as the UNDP reforms initiative, will be fully harnessed.

76. Convergence at the state level with other UNDP-supported programmes will be ensured through a State Coordination Committee (SCC) headed by the Chief Secretary/Principal Secretary in-charge of the Programme. This Committee will also facilitate coordination with the relevant government-funded initiatives and programmes supported by other development agencies including the UN System.

77. At the request of the Executing/Implementing Agencies, UNDP will also provide support for implementing specific activities under the project. These activities termed as UNDP Country Office support services, are specified in Section F of the project document or could be agreed to at a later date through an exchange of letters. These services will be guided by the UNDP rules and regulations which include recovery of costs as well as an indemnity to UNDP for such support.

Implementing Agencies

78. The designated Implementing Agency(ies) will send annual workplans and budgets to the National Programme Director (NPD). They will report on quarterly basis to the NPD and UNDP. Work plans are important management tools for assessing the achievement of the stated objectives and outputs. Annual revisions will be prepared by the IAs and sent to the NPD for consideration and approval of the PSC. Requests for release of funds by UNDP will be made as per the UNDP financial report format. Project Standing Committee (PSC) constituted by the MNES and headed by the NPD, shall perform the functions of the Inputs Approval Committee (IAC). UNDP funds will be released directly to IAs. Request for release of funds will be made, as per the UNDP Financial Report Format by IAs through the NPD. The Financial Reports will contain, in addition to the information on funds required, information on annual budget, year-to-

date expenditure and available budget. UNDP will release funds for the project, in advance, every three months, based on the approved annual work-plan.

79. Monitoring of day-to-day activities at the project level will be the responsibility of the concerned IA which will share, on a regular basis, information that indicates the status of each activity with the NPD, who will in turn report this information to the PSC. Any other periodic and statutory monitoring activities will be carried out by the NPD in consultation and at the directions of the PSC.

A Project Management Unit (PMU)

80. A Project Management Unit (PMU) comprising one National Project Coordinator (NPC), two assistants and one personal assistant will be set up in MNES to assist the Project Management Board and Project Standing Committee in carrying out the day-to-day project related activities. The PMU will also coordinate the activities relating to the "Resource Centre for Renewable Energies" and the "Training" components under the project. The "Resource Centre for Renewable Energies" will provide valuable inputs to the existing policy framework of the Ministry.

Project review & Evaluation

81. A Management Information System (MIS) will be established in MNES. The NPD will report relevant information to the PSC. The project will be subject to annual reviews (joint review of the Executing Agency, the Implementing Agencies, the Department of Economic Affairs and UNDP). The first such review will take place within the first 12 months of commencement of implementation of the project. The SPC will prepare and circulate, two months prior to the meeting, an Annual Programme / Project Report (APR) in the prescribed format. The Implementing Agencies will be responsible for the preparation of a draft terminal report two months prior to convening of the Terminal Tri-partite Review meeting (TPR).

82. The project may be subjected to an in-depth Evaluation 18-24 months after its commencement in addition to a Terminal Evaluation and a Post-project Evaluation.

83. Any other periodic and statutory monitoring activities will be carried out by the NPC in consultation and at the directions of the NPD/PSC.

D.III The Government Aid Coordinating Agency and UNDP Country Office

84. The Department of Economic Affairs in the Ministry of Finance which is the Government aid coordinating agency will be responsible for the overall coordination 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 Programme Management Boards for various projects. DEA will also promote consultations on broader development cooperation 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 agencies and UNDP pursue strategies for garnering additional resources in support of the project objectives.

85. UNDP will provide substantive support for achieving the project objectives, and towards this it will participate actively in project management through the Programme Management Board, Programme Standing Committee, State Coordination Committee, etc. UNDP will help bring in international experience in the concerned spheres through its Regional Bureau, Bureau for Development Policy and Sub-regional Resource Facilities (SURF). UNDP will also facilitate collaboration with UN System partners and provide support to Government for mobilising additional resources in support of project objectives.

D.IV. Funds flow arrangements and financial management

86. In accordance with the GOI-NEX Guidelines, the Union Ministry of Non-Conventional Energy Sources, 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 (IA) and the user groups 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 NGOs.

87. The IAs 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 expenditures and providing a clear audit trail. In all cases, fund transfers will be on the basis of MoUs/contracts between EA and the IAs. The terms and conditions of all MoUs/sub-contracts will be discussed and approved by the State-level Steering Committee.

88. Requests for release of funds by UNDP will be made through the NPD as per the UNDP Financial Report Format. The Financial Report will contain, in addition to the information on funds required, information on annual budget, year-to-year expenditure and available budget.

89. NPD will approve the annual work plans and the corresponding budgets. Upon receiving written authorisation from the Executing Agency, UNDP will release funds in advance every three months, based on this annual work-plan. The IAs will report disbursement to the NPD and UNDP on a quarterly basis, in the Financial Report Format referred to earlier.

D.V. Audit

90. According to the GOI 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 reporting; and (d) UNDP Country Office support.

91. 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 field visits will be carried out by the auditors in February/March. Detailed instructions on audit will be circulated by UNDP separately.

E. MONITORING, EVALUATION & RESEARCH AND COMMUNICATIONS & ADVOCACY

E.1 Monitoring and Evaluation

92. A multi-pronged monitoring, evaluation and action-research(MER) strategy will be implemented in order to ensure effective and results-oriented project implementation, and for drawing out relevant lessons for various stakeholders including development workers and policy makers at the Central and State levels.

93. The matrix below defines the contours of the MER strategy:

Stakeholders	Expectations and information needs	M & E tools	Periodicity	Institutional Arrangement for MER
1. Policy makers/ Planners/ Development Institutions (DEA, Planning Commission, PMB/State Coordination Committee/ UNDP)	<ul style="list-style-type: none"> • Policy lessons based on organic links between human development strategy/ achievements and development programming at the grassroots • Innovative approaches in multi-sectoral development programming 	<ul style="list-style-type: none"> • Action research under different programmes and linked to National and State Human Development Reports; Policy research based on suitable indicators; • Development evaluation approaches, multi-site evaluation, cluster evaluation 	<ul style="list-style-type: none"> • Periodic based on policy research agenda 	<ul style="list-style-type: none"> • UNDP State level teams coordinated by HDRC (collaboration with Planning Commission and Research Institutions) • Programme Management Board (PMB), State Coordination Committees (SCC)
2. Executing Agency	<ul style="list-style-type: none"> • Adequacy of programme results in the context of the Country Programme Results Resources Framework (RRF) and the project document 	<ul style="list-style-type: none"> • Concurrent Evaluation • Rapid Assessments • Review meetings based on results oriented annual reports from projects • Social assessments • Field visits 	<ul style="list-style-type: none"> • Biennial • Periodic • Six monthly/ Annually • As required • Periodic • Quarterly 	<ul style="list-style-type: none"> • Project Standing Committee (PSC), SCC

Stakeholders	Expectations and information needs	M & E tools	Periodicity	Institutional Arrangement for MER
3. Implementing Agencies	<ul style="list-style-type: none"> Smooth programme execution arrangements and continuous follow-up and corrective actions 	<ul style="list-style-type: none"> Financial Reports showing utilisation of funds NEX Audit 	<ul style="list-style-type: none"> Annual 	<ul style="list-style-type: none"> Project level advisory/ technical committees
4. Beneficiaries	<ul style="list-style-type: none"> Continuous follow-up on project activities and outputs and remedial action. Measures for success/ challenges (failures), interrelationships between performance and inputs/ activities, cause –effect analysis. Intended and unintended outcomes /impacts. <p>Relevance of results, equity, empowerment, ownership, participation, access to information</p> <p>Quantitative and qualitative measure of developmental</p>	<ul style="list-style-type: none"> Quarterly meetings to review progress in workplan Field visits Participatory Monitoring and Evaluation Beneficiary survey Focus group 		<ul style="list-style-type: none"> Networks of beneficiaries and focus groups Community animators

Stakeholders	Expectations and information needs	M & E tools	Periodicity	Institutional Arrangement for MER
	changes in terms of the well being of target groups/areas and the society as a whole, using UNDP 's contribution.			

E.II Communication and Advocacy (C&A) and lessons learned.

94. The project will develop a concrete action plan at the beginning of the project, to document and disseminate best practices for greater cross learning between project partners as well as for wider learning. The roles of different agencies – NGOs, CBOs, GOI and UNDP will be defined and the work plans 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 multi-mass media coverage on a regular basis.

95. The Project 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.

96. The project 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.

97. In keeping with the C&A Strategy, this project attempts to record project activities for replicability as also for feeding into the larger issue of having an impact on policy through the following measures:

- Production of advocacy material through traditional media like puppetry and street plays - scripting and performing these plays
- Production of Screen printed posters for dissemination of information at the local level by VEECs
- Production of Audio-visual slide shows, video films and CDs for dissemination of information and for training

98. Documentation will be produced at each stage of the project - with every activity being recorded - this has been visualised to be part of the project activity, to be followed through the entire course of its implementation and execution, at the local level, to emerge as Advocacy material for the project's replicability as a model for dissemination, in the widest context possible

F. PROJECT BUDGET

F.I UNDP Contributions

99. UNDP plans to contribute a total of US \$ 2.5 million towards this project. This reflects the possible level of UNDP Core Resources for the project during the project period in regard to the specific outcomes/activities outlined in this document. However, efforts will be made to seek additional resources (to an extent of about US\$ 1.5m), from other multi-bi donors and public and private sector institutions / organisations for further up-scaling, deepening and widening of the project activities --- including additional activities within the overall framework of the design and objective of the project. Such an expansion in the project activities will be subject to the agreement of the Executing Agency through the National Project Director (NPD).

100. In the event that additional funds can be mobilised from other agencies, the scope of the project will be expanded in terms of geographical coverage as also range/number of activities to the extent of the additional, non-core resources.

101. Government of the Federal Republic of Germany (FRG) has already agreed to cooperate with UNDP for the purpose of supporting this project by way of a monetary contribution of Euro 1 million (2004-06). A separate 'Cost Sharing Agreement' will be signed between FRG and UNDP spelling out the details of the arrangement. Further, the German Contribution will be mainly utilised for the States of Rajasthan and Sikkim, besides partly supporting some of the other interventions at the national level.

F.II. Government contributions :

102. The Government of India's contribution will be in the form of time given by the NPD and other officers of MNES.

104	100.0	100.0	100.0
103	100.0	100.0	100.0
102	100.0	100.0	100.0
101	100.0	100.0	100.0
100	100.0	100.0	100.0
99	100.0	100.0	100.0
98	100.0	100.0	100.0
97	100.0	100.0	100.0
96	100.0	100.0	100.0
95	100.0	100.0	100.0
94	100.0	100.0	100.0
93	100.0	100.0	100.0
92	100.0	100.0	100.0
91	100.0	100.0	100.0
90	100.0	100.0	100.0
89	100.0	100.0	100.0
88	100.0	100.0	100.0
87	100.0	100.0	100.0
86	100.0	100.0	100.0
85	100.0	100.0	100.0
84	100.0	100.0	100.0
83	100.0	100.0	100.0
82	100.0	100.0	100.0
81	100.0	100.0	100.0
80	100.0	100.0	100.0
79	100.0	100.0	100.0
78	100.0	100.0	100.0
77	100.0	100.0	100.0
76	100.0	100.0	100.0
75	100.0	100.0	100.0
74	100.0	100.0	100.0
73	100.0	100.0	100.0
72	100.0	100.0	100.0
71	100.0	100.0	100.0
70	100.0	100.0	100.0
69	100.0	100.0	100.0
68	100.0	100.0	100.0
67	100.0	100.0	100.0
66	100.0	100.0	100.0
65	100.0	100.0	100.0
64	100.0	100.0	100.0
63	100.0	100.0	100.0
62	100.0	100.0	100.0
61	100.0	100.0	100.0
60	100.0	100.0	100.0
59	100.0	100.0	100.0
58	100.0	100.0	100.0
57	100.0	100.0	100.0
56	100.0	100.0	100.0
55	100.0	100.0	100.0
54	100.0	100.0	100.0
53	100.0	100.0	100.0
52	100.0	100.0	100.0
51	100.0	100.0	100.0
50	100.0	100.0	100.0
49	100.0	100.0	100.0
48	100.0	100.0	100.0
47	100.0	100.0	100.0
46	100.0	100.0	100.0
45	100.0	100.0	100.0
44	100.0	100.0	100.0
43	100.0	100.0	100.0
42	100.0	100.0	100.0
41	100.0	100.0	100.0
40	100.0	100.0	100.0
39	100.0	100.0	100.0
38	100.0	100.0	100.0
37	100.0	100.0	100.0
36	100.0	100.0	100.0
35	100.0	100.0	100.0
34	100.0	100.0	100.0
33	100.0	100.0	100.0
32	100.0	100.0	100.0
31	100.0	100.0	100.0
30	100.0	100.0	100.0
29	100.0	100.0	100.0
28	100.0	100.0	100.0
27	100.0	100.0	100.0
26	100.0	100.0	100.0
25	100.0	100.0	100.0
24	100.0	100.0	100.0
23	100.0	100.0	100.0
22	100.0	100.0	100.0
21	100.0	100.0	100.0
20	100.0	100.0	100.0
19	100.0	100.0	100.0
18	100.0	100.0	100.0
17	100.0	100.0	100.0
16	100.0	100.0	100.0
15	100.0	100.0	100.0
14	100.0	100.0	100.0
13	100.0	100.0	100.0
12	100.0	100.0	100.0
11	100.0	100.0	100.0
10	100.0	100.0	100.0
9	100.0	100.0	100.0
8	100.0	100.0	100.0
7	100.0	100.0	100.0
6	100.0	100.0	100.0
5	100.0	100.0	100.0
4	100.0	100.0	100.0
3	100.0	100.0	100.0
2	100.0	100.0	100.0
1	100.0	100.0	100.0

104. When the cost break up of the activities undertaken under the project is available, the identification of implementing Agency (s) and villages, an indicative budget has been prepared and enclosed. In effect the present document will serve as general framework for undertaking renewable energy activities under CCR-II.

G. LEGAL CONTEXT

105. The project document will be the instrument envisaged in the agreement between the Government of India and the Government of Rajasthan. The following types of revisions may be made to this document with the approval of the UNDP Resident Representative only, provided he or she is assured that the cost estimates in the project document have no objection to the proposed changes.

106. Revisions in or addition of any of the Annexes of the project document will be the subject of a separate legal text for non-SBA countries which may not be altered and equivalent to which is a pre-condition for UNDP assistance.

Budget break up

103. The indicative cost break-up of the project activities would be as follows:

Sl.No	Activity	Estimated budget (in %)		
		For US\$ 1.7 million	For US\$ 2.5 million	FRG Contribution
1.	Project Management Unit	8.3	10.0	
2.	Village electrification	41.8	49.4	67.2
3.	Resources assessment on a single GIS platform	11.8	8.0	
4.	Benchmarking and mapping of renewable energy technologies;	11.8	8.0	
5.	Networking of research institutions	2.9	2.5	
6.	Small hydro power simulator	5.9	4.0	
7.	Training	9.9	10.0	23.1
8.	Communication & Advocacy	2.9	2.9	
9.	Monitoring & Evaluation	4.6	5.1	9.7
	Total	100.0	100.0	100.0

104. While the exact cost break up of the activities undertaken would be done at the stage of identification of Implementing Agency (s) and villages, an indicative budget has been prepared and enclosed. In effect the present document will serve as generic framework for undertaking renewable energy activities under CCF-II.

G. LEGAL CONTEXT

105. This project document shall be the instrument envisaged in the supplemental provisions. 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.

106. The Executing Agency and Implementing Agency (s) shall, at all times, ensure compliance with the NEX Guidelines annexed hereto and also comply with the requirements contained in the UNDP Procedures for National execution to the extent they do not conflict with the said NEX Guidelines or extant rules and provisions of GOI.

Sl. No.	Description of Activities	Unit	Quantity	Rate	Total	Year 1	Year 2	Year 3	Year 4	Year 5
1
2
3
4
5
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7
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UNITED STATES OF AMERICA

RENEWABLE ENERGY FOR RURAL ELECTRIFICATION

RENEWABLE ENERGY FOR RURAL LIVELIHOODS

B/L	BUDGET (54 MONTHS)				BUDGET (30 MONTHS)			
	INR (Lacs)	US\$	US\$ (R/o)	%	INR (Lacs)	US\$	US\$ (R/o)	%

UNDP FUNDED ACTIVITIES

START-UP ACTIVITIES

Constitute PMU/National Resource Centre	XXXXX
Set up PMU/National Resource Centre	XXXXX
Constitute Programme Management Board	XXXXX
Constitute Project Steering Committee	XXXXX
Constitute Inputs Approval Committee	XXXXX
Obtain approval of SFC	XXXXX
Brainstorming/start up meeting	32.01
Training in UNDP procedures/areas of concern	32.02

-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
1.0	2,114	2,000	0.1
0.5	1,057	1,000	0.0
1.5	3,171	3,000	0.1

-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
1.0	2,114	2,000	0.1
0.5	1,057	1,000	0.1
1.5	3,171	3,000	0.2

SOLAR ENERGY PHASE I

Identification of sites	XXXXX
Identification of partners	XXXXX
Constitute State Level Coordination Committees	XXXXX
Sensitisation, capacity building workshops	21.01
Set up offices at sites	XXXXX
Provision of IT equipment/connectivity	45.01
Training in UNDP procedures/areas of concern	32.02
Training in Gender Mainstreaming	32.03
On the job-training	32.04
350 Solar Lighting Systems (74 watt panels)	45.02
400 lanterns	45.03
2 Power plants (5kWp)	45.04
2 Solar Passive Houses	45.05
5 Anti-freezing solar water heaters	45.06
5 Solar water heaters	45.07
50 Parabolic Solar cookers & dryers	45.08
1 Solar Clinic	45.09
1 Toys and Tiles making unit	45.10
Creation of 2 REWs	21.02
4 solar shops	21.03
Set up marketing models (e-commerce etc.)	21.04

-	-	-	-
-	-	-	-
-	-	-	-
6.0	12,685	13,000	0.5
-	-	-	-
12.0	25,370	25,000	1.0
2.0	4,228	4,000	0.2
2.0	4,228	4,000	0.2
20.0	42,283	42,000	1.7
70.0	147,992	148,000	5.9
14.0	29,598	30,000	1.2
40.0	84,567	84,000	3.4
10.0	21,142	21,000	0.8
1.5	3,171	3,000	0.1
7.5	15,856	16,000	0.6
3.0	6,342	6,500	0.3
1.0	2,114	2,000	0.1
9.5	20,085	20,000	0.8
3.0	6,342	6,500	0.3
20.0	42,283	42,000	1.7
10.0	21,142	21,000	0.8
231.5	489,429	488,000	19.5

-	-	-	-
-	-	-	-
-	-	-	-
6.0	12,685	13,000	0.8
-	-	-	-
12.0	25,370	25,000	1.5
2.0	4,228	4,000	0.2
2.0	4,228	4,000	0.2
20.0	42,283	42,000	2.5
70.0	147,992	148,000	8.7
14.0	29,598	30,000	1.8
40.0	84,567	84,000	4.9
10.0	21,142	21,000	1.2
1.5	3,171	3,000	0.2
7.5	15,856	16,000	0.9
3.0	6,342	6,500	0.4
1.0	2,114	2,000	0.1
9.5	20,085	20,000	1.2
3.0	6,342	6,500	0.4
20.0	42,283	42,000	2.5
10.0	21,142	21,000	1.2
231.5	489,429	488,000	28.7

RENEWABLE ENERGY FOR RURAL LIVELIHOODS

SOLAR ENERGY PHASE II

B/L	BUDGET (54 MONTHS)				BUDGET (30 MONTHS)			
	INR (Lacs)	US\$	US\$ (R/o)	%	INR (Lacs)	US\$	US\$ (R/o)	%
Identification of sites	XXXXX	-	-	-	-	-	-	-
Identification of partners	XXXXX	-	-	-	-	-	-	-
Constitute State Level Coordination Committees	XXXXX	-	-	-	-	-	-	-
Sensitisation, capacity building workshops	21.01	10.0	21,142	21,000	0.8	-	-	-
Set up offices at sites	XXXXX	-	-	-	-	-	-	-
Provision of IT equipment/connectivity	45.01	15.0	31,712	32,000	1.3	-	-	-
Training in UNDP procedures/areas of concern	32.02	2.0	4,228	4,000	0.2	-	-	-
Training in Gender Mainstreaming	32.03	2.0	4,228	4,000	0.2	-	-	-
On the job-training	32.04	20.0	42,283	42,000	1.7	-	-	-
500 Solar Lighting Systems (74 watt panels)	45.02	100.0	211,416	211,000	8.4	-	-	-
500 lanterns	45.03	17.5	36,998	37,000	1.5	-	-	-
2 Power plants (5kWp)	45.04	40.0	84,567	85,000	3.4	-	-	-
2 Solar Passive Houses	45.05	10.0	21,142	21,000	0.8	-	-	-
5 Anti-freezing solar water heaters	45.06	1.5	3,171	3,000	0.1	-	-	-
5 Solar water heaters	45.07	7.5	15,856	16,000	0.6	-	-	-
50 Parabolic Solar cookers & dryers	45.08	3.0	6,342	6,500	0.3	-	-	-
1 Solar Clinic	45.09	1.0	2,114	2,000	0.1	-	-	-
1 Toys and Tiles making unit	45.10	10.0	21,142	21,000	0.8	-	-	-
Creation of 2 REWs	21.02	3.0	6,342	6,500	0.3	-	-	-
4 solar shops	21.03	20.0	42,283	42,000	1.7	-	-	-
Set up marketing models (e-commerce etc.)	21.04	10.0	21,142	21,000	0.8	-	-	-
		272.5	576,110	575,000	23.0	-	-	-

21.04	10.0	21,142	21,000	0.8
21.03	20.0	42,283	42,000	1.7
21.02	3.0	6,342	6,500	0.3
45.10	10.0	21,142	21,000	0.8
45.09	1.0	2,114	2,000	0.1
45.08	3.0	6,342	6,500	0.3
45.07	7.5	15,856	16,000	0.6
45.06	1.5	3,171	3,000	0.1
45.05	10.0	21,142	21,000	0.8
45.04	40.0	84,567	85,000	3.4
45.03	17.5	36,998	37,000	1.5
45.02	100.0	211,416	211,000	8.4
32.04	20.0	42,283	42,000	1.7
32.03	2.0	4,228	4,000	0.2
32.02	2.0	4,228	4,000	0.2
45.01	15.0	31,712	32,000	1.3
XXXXX	-	-	-	-
XXXXX	-	-	-	-
XXXXX	-	-	-	-
XXXXX	-	-	-	-

26/08/2003

RENEWABLE ENERGY FOR RURAL LIVELIHOODS

B/L	BUDGET (54 MONTHS)				BUDGET (30 MONTHS)				
	INR (Lacs)	US\$	US\$ (R/o)	%	INR (Lacs)	US\$	US\$ (R/o)	%	
OTHER ENERGY SOURCES									
Identification of sites	XXXXX	-	-	-	-	-	-	-	-
Identification of partners	XXXXX	-	-	-	-	-	-	-	-
Constitute State Coordination Committees	XXXXX	-	-	-	-	-	-	-	-
Sensitisation, capacity building workshops	21.01	10.0	21,142	21,000	0.8	10.0	21,142	21,000	1.2
Set up offices at sites	XXXXX	-	-	-	-	-	-	-	-
Provision of IT equipment/connectivity	45.01	15.0	31,712	32,000	1.3	15.0	31,712	32,000	1.9
Training in UNDP procedures/areas of concern	32.02	2.0	4,228	4,000	0.2	2.0	4,228	4,000	0.2
Training in Gender Mainstreaming	32.03	2.0	4,228	4,000	0.2	2.0	4,228	4,000	0.2
On the job training	32.04	20.0	42,283	42,000	1.7	20.0	42,283	42,000	2.5
Equipment for Mini-hydel projects	45.11	55.5	117,336	117,000	4.7	49.0	103,594	104,000	6.1
Equipment for Bio-mass projects	45.12	55.5	117,336	117,000	4.7	49.0	103,594	104,000	6.1
Small hydro power stimulator	45.14	38.0	80,338	80,000	3.2	38.0	80,338	80,000	4.7
Set up marketing models (e-commerce etc.)	21.04	9.0	19,027	19,000	0.8	9.0	19,027	19,000	1.1
		207.0	437,632	436,000	17.4	194.0	410,148	410,000	24.1

NATIONAL LEVEL

Resources Assessment on GIS Platform	22.01	95.0	200,846	200,000	8.0	95.0	200,846	200,000	11.8
Benchmarking & Mapping of RE Technologies	22.02	95.0	200,846	200,000	8.0	95.0	200,846	200,000	11.8
Networking of Research Institutions	22.03	30.0	63,425	63,000	2.5	24.0	50,740	50,000	2.9
Admin. Support - PMU	13.01	65.0	137,421	137,000	5.5	36.0	76,110	76,000	4.5
Provision of IT equipment/connectivity in PMU	45.01	6.0	12,685	13,000	0.5	6.0	12,685	13,000	0.8
Dissemination/replication workshops	32.05	20.0	42,283	42,000	1.7	15.0	31,712	32,000	1.9
		311.0	657,505	655,000	26.2	271.0	572,939	571,000	33.8

MONITORING AND EVALUATION

Programme Management Board Meetings	XXXXX	-	-	-	-	-	-	-	-
Project Steering Committee Meetings	XXXXX	-	-	-	-	-	-	-	-
Inputs Approval Committee Meetings	XXXXX	-	-	-	-	-	-	-	-
State Level Coordination Committees Meetings	XXXXX	-	-	-	-	-	-	-	-
Site Visits by MNES Personnel	15.01	6.0	12,685	13,000	0.5	4.0	8,457	8,000	0.5
Site Visits by UNDP Personnel	15.02	6.0	12,685	13,000	0.5	4.0	8,457	8,000	0.5
		12.0	25,370	26,000	1.0	8.0	16,913	16,000	0.9

RENEWABLE ENERGY FOR RURAL LIVELIHOODS

	B/L	BUDGET (54 MONTHS)				BUDGET (30 MONTHS)			
		INR (Lacs)	US\$	US\$ (R/o)	%	INR (Lacs)	US\$	US\$ (R/o)	%
DOCUMENTATION									
Provision of AV/Multimedia equipment	45.13	10.0	21,142	21,000	0.8	7.0	14,799	15,000	0.9
Briefing/Training in use of AV/Multimedia	32.06	3.0	6,342	6,000	0.2	2.0	4,228	4,000	0.2
Create AV/Multimedia documentation	xxxxx		-	-	-		-	-	-
Publish Quarterly newsletter	52.01	10.0	21,142	21,000	0.8	7.0	14,799	15,000	0.9
Compile documentation for State Level review	xxxxx		-	-	-		-	-	-
Share doc. with other partners/donors	xxxxx		-	-	-		-	-	-
Compile documentation for review of PMB	23.01	1.0	2,114	2,000	0.1	0.5	1,057	1,000	0.1
Compile documentation at end of project	23.02	3.0	6,342	6,000	0.2	2.5	5,285	5,000	0.3
		27.0	57,082	56,000	2.2	19.0	40,169	40,000	2.4

OTHER COSTS

Travelling of project personnel	15.03	25.0	52,854	53,000	2.1	15.0	31,712	32,000	1.9
National UN Volunteers	14.01	33.0	69,767	70,000	2.8	20.0	42,283	42,000	2.5
National Consultants	17.01	15.0	31,712	32,000	1.3	10.0	21,142	21,000	1.2
Op. & Maintenance of Equipment	51.01	10.0	21,142	21,000	0.8	7.0	14,799	15,000	0.9
Reporting Cost	52.02	8.0	16,913	17,000	0.7	5.0	10,571	10,000	0.6
Sundries/Miscellaneous	53.01	7.0	14,799	15,000	0.6	5.0	10,571	10,000	0.6
Incentive for Innovation Fund	24.01	25.0	52,854	53,000	2.1	20.0	42,283	42,000	2.5
Grants for other Capital Credit activities	72.01		-	-	-		-	-	-
NGO Execution Fee	94.01		-	-	-		-	-	-
		123.0	260,042	261,000	10.4	82.0	173,362	172,000	10.1

TOTAL UNDP		1,185.5	2,506,342	2,500,000	100.0	807.0	1,706,131	1,700,000	100.0
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RENEWABLE ENERGY FOR RURAL LIVELIHOODS

B/L	BUDGET (54 MONTHS)				BUDGET (30 MONTHS)			
	INR (Lacs)	US\$	US\$ (R/o)	%	INR (Lacs)	US\$	US\$ (R/o)	%

COST SHARING FROM FEDERAL REPUBLIC OF GERMANY

Mid-term Gender Impact Assessment	16.01	9.0	19,664	20,000	1.8	9.0	19,664	20,000	1.8%
Terminal Gender impact Assessment	16.02	10.0	21,848	22,000	1.9	10.0	21,848	22,000	1.9%
Mid-term Evaluation/Impact Assessment	16.03	12.0	26,218	26,000	2.3	12.0	26,218	26,000	2.3%
Terminal Evaluation/Impact Assessment	16.04	12.0	26,218	26,000	2.3	12.0	26,218	26,000	2.3%
Equipment for Solar Systems in Sikkim	45.21	80.0	174,787	175,000	15.4	80.0	174,787	175,000	15.4%
Equipment for Solar Systems in Rajasthan	45.22	80.0	174,787	175,000	15.4	80.0	174,787	175,000	15.4%
Equipment for Mini Hydel Systems in Sikkim	45.23	45.0	98,318	98,000	8.6	45.0	98,318	98,000	8.6%
Equipment for Bio-mass systems in Sikkim	45.24	45.0	98,318	98,000	8.6	45.0	98,318	98,000	8.6%
Equipment for Bio-mass systems in Rajasthan	45.25	45.0	98,318	98,000	8.6	45.0	98,318	98,000	8.6%
Support to Women's Self-Help Groups in Sikkim	25.01	30.0	65,545	66,000	5.8	30.0	65,545	66,000	5.8%
Support to Women's Self-Help Groups in Rajasthan	25.02	30.0	65,545	66,000	5.8	30.0	65,545	66,000	5.8%
Support to training of youth in Sikkim	25.03	30.0	65,545	65,000	5.7	30.0	65,545	65,000	5.7%
Support to training of youth in Rajasthan	25.04	30.0	65,545	65,000	5.7	30.0	65,545	65,000	5.7%
Country Office Support Costs	103.01	62.0	135,460	135,000	11.9	62.0	135,460	135,000	11.9%
		520.0	1,136,115	1,135,000	100.0	520.0	1,136,115	1,135,000	100.0

COST SHARING - GERMANY

Mid-term Gender Impact Assessment	16.01	9.0	19,664	20,000	1.8	9.0	19,664	20,000	1.8%
Terminal Gender impact Assessment	16.02	10.0	21,848	22,000	1.9	10.0	21,848	22,000	1.9%
Mid-term Evaluation/Impact Assessment	16.03	12.0	26,218	26,000	2.3	12.0	26,218	26,000	2.3%
Terminal Evaluation/Impact Assessment	16.04	12.0	26,218	26,000	2.3	12.0	26,218	26,000	2.3%
Equipment for Solar Systems in Sikkim	45.21	80.0	174,787	175,000	15.4	80.0	174,787	175,000	15.4%
Equipment for Solar Systems in Rajasthan	45.22	80.0	174,787	175,000	15.4	80.0	174,787	175,000	15.4%
Equipment for Mini Hydel Systems in Sikkim	45.23	45.0	98,318	98,000	8.6	45.0	98,318	98,000	8.6%
Equipment for Bio-mass systems in Sikkim	45.24	45.0	98,318	98,000	8.6	45.0	98,318	98,000	8.6%
Equipment for Bio-mass systems in Rajasthan	45.25	45.0	98,318	98,000	8.6	45.0	98,318	98,000	8.6%
Support to Women's Self-Help Groups in Sikkim	25.01	30.0	65,545	66,000	5.8	30.0	65,545	66,000	5.8%
Support to Women's Self-Help Groups in Rajasthan	25.02	30.0	65,545	66,000	5.8	30.0	65,545	66,000	5.8%
Support to training of youth in Sikkim	25.03	30.0	65,545	65,000	5.7	30.0	65,545	65,000	5.7%
Support to training of youth in Rajasthan	25.04	30.0	65,545	65,000	5.7	30.0	65,545	65,000	5.7%
Country Office Support Costs	103.01	62.0	135,460	135,000	11.9	62.0	135,460	135,000	11.9%
		520.0	1,136,115	1,135,000	100.0	520.0	1,136,115	1,135,000	100.0

RENEWABLE ENERGY FOR RURAL LIVELIHOODS

	B/L	BUDGET (64 MONTHS)				BUDGET (30 MONTHS)			
		INR (Lacs)	US\$	US\$ (R/o)	%	INR (Lacs)	US\$	US\$ (R/o)	%
RECAPITULATION									
Admin. Support - PMU	13.01	65.0	137,421	137,000	3.8	36.0	76,110	76,000	2.7
National UN Volunteers	14.01	33.0	69,767	70,000	1.9	20.0	42,283	42,000	1.5
Site Visits by MNES Personnel	15.01	6.0	12,685	13,000	0.4	4.0	8,457	8,000	0.3
Site Visits by UNDP Personnel	15.02	6.0	12,685	13,000	0.4	4.0	8,457	8,000	0.3
Travelling of project personnel	15.03	25.0	52,854	53,000	1.5	15.0	31,712	32,000	1.1
Mid-term Gender Impact Assessment	16.01	9.0	19,664	20,000	0.6	9.0	19,664	20,000	0.7
Terminal Gender Impact Assessment	16.02	10.0	21,848	22,000	0.6	10.0	21,848	22,000	0.8
Mid-term Evaluation/Impact Assessment	16.03	12.0	26,218	26,000	0.7	12.0	26,218	26,000	0.9
Terminal Evaluation/Impact Assessment	16.04	12.0	26,218	26,000	0.7	12.0	26,218	26,000	0.9
National Consultants	17.01	15.0	31,712	32,000	0.9	10.0	21,142	21,000	0.7
Sub-total Personnel		193.0	411,073	412,000	11.3	132.0	282,109	281,000	9.9
Sensitisation, capacity building workshops	21.01	26.0	54,968	55,000	1.5	16.0	33,827	34,000	1.2
Creation of REWs	21.02	6.0	12,685	13,000	0.4	3.0	6,342	6,500	0.2
Solar shops	21.03	40.0	84,567	84,000	2.3	20.0	42,283	42,000	1.5
Set up marketing models (e-commerce etc.)	21.04	29.0	61,311	61,000	1.7	19.0	40,169	40,000	1.4
Resources Assessment on GIS Platform	22.01	95.0	200,846	200,000	5.5	95.0	200,846	200,000	7.1
Benchmarking & Mapping of RE Technologies	22.02	95.0	200,846	200,000	5.5	95.0	200,846	200,000	7.1
Networking of Research Institutions	22.03	30.0	63,425	63,000	1.7	24.0	50,740	50,000	1.8
Compile documentation for review of PMB	23.01	1.0	2,114	2,000	0.1	0.5	1,057	1,000	0.0
Compile documentation at end of project	23.02	3.0	6,342	6,000	0.2	2.5	5,285	5,000	0.2
Incentive for Innovation Fund	24.01	25.0	52,854	53,000	1.5	20.0	42,283	42,000	1.5
Support to Women's Self-Help Groups in Sikkim	25.01	30.0	65,545	66,000	1.8	30.0	65,545	66,000	2.3
Support to Women's Self-Help Groups in Rajasthan	25.02	30.0	65,545	66,000	1.8	30.0	65,545	66,000	2.3
Support to training of youth in Sikkim	25.03	30.0	65,545	65,000	1.8	30.0	65,545	65,000	2.3
Support to training of youth in Rajasthan	25.04	30.0	65,545	65,000	1.8	30.0	65,545	65,000	2.3
Sub-total Sub-contracts		470.0	1,002,138	999,000	27.5	415	885,859	882,500	31.1
Brainstorming/start up meeting	32.01	1.0	2,114	2,000	0.1	1.0	2,114	2,000	0.1
Training in UNDP procedures/areas of concern	32.02	6.5	13,742	13,000	0.4	4.5	9,514	9,000	0.3
Training in Gender Mainstreaming	32.03	6.0	12,685	12,000	0.3	4.0	8,457	8,000	0.3
On the job-training	32.04	60.0	126,850	126,000	3.5	40.0	84,567	84,000	3.0
Dissemination/replication workshops	32.05	20.0	42,283	42,000	1.2	15.0	31,712	32,000	1.1
Briefing/Training in use of AV/Multimedia	32.06	3.0	6,342	6,000	0.2	2.0	4,228	4,000	0.1

RENEWABLE ENERGY FOR RURAL LIVELIHOODS

	B/L	BUDGET (54 MONTHS)				BUDGET (30 MONTHS)			
		INR (Lacs)	US\$	US\$ (R/o)	%	INR (Lacs)	US\$	US\$ (R/o)	%
Sub-total Training		96.5	204,017	201,000	5.5	66.5	140,592	139,000	4.9
Provision of IT equipment/connectivity	45.01	48.0	101,480	102,000	2.8	33.0	69,767	70,000	2.5
Solar Lighting Systems (74 watt panels)	45.02	170.0	359,408	359,000	9.9	70.0	147,992	148,000	5.2
Lanterns	45.03	31.5	66,596	67,000	1.8	14.0	29,598	30,000	1.1
Power plants (5kWp)	45.04	80.0	169,133	169,000	4.6	40.0	84,567	84,000	3.0
Solar Passive Houses	45.05	20.0	42,283	42,000	1.2	10.0	21,142	21,000	0.7
Anti-freezing solar water heaters	45.06	3.0	6,342	6,000	0.2	1.5	3,171	3,000	0.1
Solar water heaters	45.07	15.0	31,712	32,000	0.9	7.5	15,856	16,000	0.6
Parabolic Solar cookers & dryers	45.08	6.0	12,685	13,000	0.4	3.0	6,342	6,500	0.2
Solar Clinics	45.09	2.0	4,228	4,000	0.1	1.0	2,114	2,000	0.1
Toys and Tiles making units	45.10	19.5	41,226	41,000	1.1	9.5	20,085	20,000	0.7
Equipment for Mini-hydel projects	45.11	55.5	117,336	117,000	3.2	49.0	103,594	104,000	3.7
Equipment for Bio-mass projects	45.12	55.5	117,336	117,000	3.2	49.0	103,594	104,000	3.7
Provision of AV/Multimedia equipment	45.13	10.0	21,142	21,000	0.6	7.0	14,799	15,000	0.5
Small hydro power stimulator	45.14	38.0	80,338	80,000	2.2	38	80,338	80,000	2.8
Equipment for Solar Systems in Sikkim	45.21	80.0	174,787	175,000	4.8	80.0	174,787	175,000	6.2
Equipment for Solar Systems in Rajasthan	45.22	80.0	174,787	175,000	4.8	80.0	174,787	175,000	6.2
Equipment for Mini-Hydel Systems in Sikkim	45.23	45.0	98,318	98,000	2.7	45.0	98,318	98,000	3.5
Equipment for Bio-mass systems in Sikkim	45.24	45.0	98,318	98,000	2.7	45.0	98,318	98,000	3.5
Equipment for Bio-mass systems in Rajasthan	45.25	45.0	98,318	98,000	2.7	45.0	98,318	98,000	3.5
Sub-total Equipment		849.0	1,815,774	1,814,000	49.9	628	1,347,487	1,347,500	47.5
Op. & Maintenance of Equipment	51.01	10.0	21,142	21,000	0.6	7.0	14,799	15,000	0.5
Publish Quarterly newsletter	52.01	10.0	21,142	21,000	0.6	7.0	14,799	15,000	0.5
Reporting Cost	52.02	8.0	16,913	17,000	0.5	5.0	10,571	10,000	0.4
Sundries/Miscellaneous	53.01	7.0	14,799	15,000	0.4	5.0	10,571	10,000	0.4
Grants for other Capital Credit activities	72.01	-	-	-	-	-	-	-	-
NGO Execution Fee	94.01	-	-	-	-	-	-	-	-
Sub-total Miscellaneous		35.0	73,996	74,000	2.0	24.0	50,740	50,000	1.8
Country Office Support Cost	103.01	62.0	135,460	135,000	3.7	62.0	135,460	135,000	4.8
GRAND TOTAL		1,705.5	3,642,458	3,635,000	100.0	1,327.0	2,842,246	2,835,000	100.0