Annual Report 2011

CREATING SUSTAINABLE LIVELIHOODS

Development Alternatives

ORGANISATION AT A GLANCE

Society Registration

Society Act XXI of 1860

Registration No. 12964

FCRA

Section 6 (1) (a) of the Foreign Contribution (Regulation) Act 1976

(FCRA Reg. No. 231650202)

Vision

A world where every citizen can live a healthy, secure and fulfilling life

Mission

To cause the creation of sustainable livelihoods in large numbers

Table of Contents

Part I : Overview

Glossary

1. **Advancing Capacity in Support of Climate Change Adaptation (ACCCA)** – ACCCA project sought to build contacts between stakeholders and scientific workers of the developing world so as to facilitate optimal decisions on climate change adaptation

2. **Black Ash** – Waste generated as a result of combustion in the boilers of captive power plants of the paper and sugar industry and used in the production of eco-friendly building products

3. **CLAP for Himachal** – Community Led Assessment, Awareness, Advocacy and Action Programme (CLAP) for Environment Protection and Carbon Neutrality in Himachal Pradesh

4. **Community Led Environment Action Network - CLEAN-India** – A Nation-wide programme on environmental assessment, awareness, advocacy and action, spearheaded by students as future citizens intent on developing a cleaner environment for India's towns and cities

5. **Drip Irrigation** – Localised irrigation method whereby water is delivered slowly to the root systems of plants, thereby improving water use efficiency

6. **Envirofit Cookstoves** – Cook stoves to reduce harmful emissions, cut down on the use of fuel, and speed up the cooking process

7. **Fly Ash Technology** – TARA Fly Ash technology is based on the scientific use of industrial wastes in the production of high quality, affordable fly ash bricks and blocks

8. **Gram Panchayats** – Local self-governments at the village or small town level in India

9. **Green Campus (TARAgram Pahuj)** – Development Alternatives (DA) Sustainability Resource Centre for Innovation, Action, Training and Outreach in Pahuj, Bundelkhand providing solutions to local agri-communities on sustainable farming, while devising means of creating sustainable livelihoods in partnership with neighbouring communities

10. **Har Awaas Prakriti ke Paas** – Each home close to nature

11. **Humara Gaon** – My village

12. **Integrated Water Resource Management (IWRM)** – A coordinated, multi-stakeholder approach to developing and managing water resources intended for a variety of applications including human consumption, sanitation, and agricultural irrigation; the IWRM approaches involve both supply and demand management, improvement in irrigation, erosion control and water harvesting systems

13. **Jal-TARA TDS Filters Salinity Removal Device** – A revolutionary approach designed by DA, employing the technique of slow sand filtration to ensure simultaneous bacteriological, chemical and physical improvement in water quality comparable to the natural percolation of water through underground strata

14. **Janani Suraksha Yojana** – A Government of India programme aiming to reduce the overall maternal mortality

ratio and infant mortality rate by increasing institutional deliveries for families living below the poverty line

15. **Lok Awaas Yatra** – A people's journey for eco-habitat solutions

16. **Nautanki (Folk plays)** – The most popular folk operatic theatre performance traditions of the Indian subcontinent, particularly northern India

17. **Neem (Azadirachta Indica)** – Considered useful for its pharmaceutical properties as well as its traditional role as a pest controller in India

18. **Shubh Kal or a Better Tomorrow** – DA's initiative to bring to the immediate attention of the entire community of Bundelkhand the risks of climate change and possible adaptation and mitigation options

19. **TARA Karigar Mandal (TKM)** – DA Group's endeavour for building the capacity of masons has resulted in the formation of this masons association which works for business development and the welfare of artisans.

20. **Training of Starting Micro-Entrepreneurs (TOSE)** – Educational programme targeting beginner entrepreneurs with feasible business ideas, and providing them with assistance in producing a step-by-step business plan

21. **Vermi-Compost** – An eco-friendly fertiliser produced through the introduction of earthworms of two species, Eisenia foetida and Eudrilus eugeniae, into cow dung and local organic matter such as leaves and grasses, vegetable residues etc.

22. **Vertical Shaft Brick Kiln (VSBK)** – Originally developed in China, the VSBK redesigned by DA, is an energy efficient, environment friendly and economically viable means of producing quality bricks

23. **Watershed Management Programme** – Watershed management is the rational use of land and water resources for optimum production with minimum hazard to ecosystems; the main objectives of DA's Watershed Management Programme include control of soil erosion and land degradation as well as the conservation and management of water resources

24. **1 USD** = Rs. 44.50 as on July 2011

Chairman's Remarks

> "Bringing about substantial social and economic changes amongst the most deprived communities in developing countries is not a short haul endeavour. It is a complex bottom up process by which the lives of present generations are improved in a manner that does not pre-empt the rights of future generations to live decent and fulfilling lives - a process called Sustainable Development."

This last year has been one of extraordinary contradictions; while more and more young people, institutions and governments are dedicating sizable portions of their time in trying to address climate change, chronic poverty in the global South and indulgent lifestyles in the global North have led to a runaway global economy that is rapidly accelerating towards an abyss of broken social systems, destroyed ecosystems and self-destruction.

In many ways, the world is a better place to live in than it was, say, a hundred years ago. Many diseases have been largely eliminated and life expectancy has risen significantly. Transportation and communication have opened opportunities for work and leisure that could not have been dreamt of earlier. We now have more, control more and know more than ever before.

However, few societies today have escaped the widespread scourges of growing pollution, waste accumulation, social alienation, drugs, climate change and a wide range of generally unsustainable production and consumption patterns. Rampant unemployment and accelerating inflation; growing supplies and depleting resources; stagnant economies and unmet needs – these are the paradoxes and hallmarks of many economies today.

Bringing about substantial social and economic changes amongst the most deprived communities in developing countries is not a short haul endeavour. It is a complex bottom-up process by which the lives of present generations are improved in a manner that does not pre-empt the rights of future generations to live decent and fulfilling lives – *a process called Sustainable Development*.

The basis and very raison d'être of Development Alternatives lies in a firm and single-minded commitment to the goal of achieving sustainable development through the strategy of creating jobs that provide a reasonable income, give meaning and dignity to life, produce goods and services aimed at the basic needs of the local people and regenerate the health of the environment. We are the first to recognise that any simple solution proposed for a complex set of social and economic problems must be inherently suspect. Yet, if there is to be a one-point agenda for sustainable development, we are convinced that it has to be the large-scale introduction of sustainable livelihoods. Neither today's economic policies, nor current technological choices are geared for promoting sustainable livelihoods.

Sustainable livelihoods create goods and services that are widely needed in any community. They create purchasing power and with it greater economic and social equity, especially for rural women and youth. And they do not destroy the natural resource base on which everyone, particularly the poor, depend for their lives.

In short, a sustainable livelihood is a remunerative, satisfying and meaningful job that enables each member of the community to help nurture and regenerate the resource base. Sustainable livelihoods and the human security they engender, underlie the one set of issues that is common to all nations and societies, at all stages of development. They

provide a powerful synthesising, unifying concept that can bring together the most disparate interests to design more viable economic systems for the future in any country, rich or poor.

The concepts that have driven the world's economies, such as global competitiveness, comparative advantage, economies of scale, environmental losses that can be ignored as externalities and the so called free market, which is now commonly known to be anything but free – based on simplistic (and entirely unrealistic) assumptions of neo-classical economies do not easily translate into the language of sustainability. Nor can they form the basis of sustainable economics.

By definition, sustainable livelihoods bind people to their communities and to their land. Not only do they thus have a positive impact on health, fertility reduction, migration and other demographic behaviours, but also permit a far more effective use of resources for the benefit of all.

We at Development Alternatives realise that improved productivity and better management and marketing systems are a pre-requisite to the quantum change needed in the lifestyles of the people. For this, large-scale success of sustainable livelihoods depends on three factors.

Sustainable Technologies - Technology that serves the goals of development while remaining conscious of the needs of environment is defined as sustainable technology. It springs from indigenous creativity, in response to local needs and possibilities. Born of the marriage between modern science and traditional knowledge: a method, a process, a design, a device or a product, which will open up new opportunities and potentials for improving the quality of life - these technologies emerge from endogenous creativity, in response to local needs and possibilities.

At Development Alternatives we recognise that sustainable technology requires frameworks for innovation and delivery very different from those that have existed, either in the global economy or in the village. Over last 30 years, we have succeeded in innovating a vast range of products; these include building materials, water purification systems, recycling of waste materials, handmade paper, energy from renewable fuels and local infrastructure such as check dams. The 'appropriateness' of such technology can be measured by how well it satisfies the needs of the end client and with what success it takes advantage of the opportunities and constraints of the production and marketing processes. Contrary to past development understanding, sustainable technologies need to compete in the marketplace. To design technologies that can reconcile the conflicting requirements of the market, nature and people requires systems for innovation and delivery comparable in sophistication with those of the most successful multinationals.

Sustainable Enterprises - Enterprises that are sustainable in nature ensure energy efficiency, are environmenaly friendly, provide equitable income generation opportunities to the poor and marginalised and mainstream sustainable production and consumption. Such sustainable or "Green" enterprises not only

create the goods and services needed in the marketplace; they are also a means to create employment in large numbers.

> "Improved productivity and better management and marketing systems are a pre-requisite to the quantum change needed in the lifestyles of the people."

A powerful solution to these seemingly overwhelming challenges lies in building franchised networks of small, private enterprises capable for providing products and services to both urban and local markets. To be successful, the franchise arrangement will have to provide high technological and marketing input and access to capital. Technology and Action for Rural Advancement (TARA), the social enterprise of the Development Alternatives Group, actively franchises mini- enterprises based on appropriate, sustainable technologies, marketing experience and links to capital sources.

Sustainable Economies - The possibility of improving equity, efficiency, ecological harmony and self-reliance - and thus of achieving sustainable development in a climate resilient way - rests on how quickly and effectively innovations can be introduced and integrated into the economy.

In this context, DA and its partners organised the TARAgram Yatra, an annual event to deliberate on current issues of sustainability and present solutions to decision makers. The Yatra brought together top-level practitioners and policy makers from across the world and provided a platform for exchanging cutting-edge ideas on realising a sustainable future. The conference provided insight and ground realities to practitioners and policy makers on action and policies at the local, national and global levels that foster **green economies** - practical solutions for green jobs, green investment and adaptation for livelihood security. The conference theme "**Towards Green Economies** - *scalable solutions for people and our planet"* facilitated an **exchange of knowledge** and experience and encouraged the **generation of new ideas,** as well as **innovative** and **scalable solutions.**

TARAgram Yatra Declaration, emerging from the Yatra has been continuously taken forward to various forums and platforms, nationally and internationally. The Yatra is a mainstay of **India's Civil Society Initiative, aiming to influence the outcome of Rio+20.**

Through the years, DA group has been nurturing climate resilient models that can produce both adaptation and mitigation co-benefits while securing water, energy, habitat, food, livelihoods and in managing natural resources, agriculture and waste at village level. We still need to go a long way and this journey can not be traversed by DA group alone. It is time for all to join hands in initiating change at a scale by creating green jobs and sustainable livelihoods, strengthening social capital, empowering citizens, reducing our carbon footprint and reviving the health of our eco-systems - for creating **sustainable economies.**

Executive Summary

"The focus of 2010 was **'Towards Green Economies - Scalable Solutions for People and Our Planet'** and the event provided leads for follow-up on policies and action at the local, national and global levels leading up to Rio +20 with the TARAgram Declaration."

Development Alternatives (DA) is a premier action research and innovation organisation, working in the rural regions of India, nationally and globally. With a deep understanding of the rural context and a strong presence in the Indian heartland, it designs and delivers eco-solutions for addressing poverty challenges in a climate sensitive environment.

For the last three decades, DA has been engaged in pursuit of sustainable development that leads to the creation of livelihoods on a large scale. It has done so by enabling the vulnerable and marginalised communities to build affordable eco-houses, address their water, sanitation and energy needs and generate work using local resources and industrial wastes. In the last few years, DA has focussed on enabling **communities to be climate resilient** through the use of innovative tools and models. The organisation has also striven to influence decision and policy makers so as to achieve the large scale implementation of solutions and best practices, primarily in the semi-arid regions of Bundelkhand and the mountain regions of Himachal Pradesh.

The most significant achievement in implementation, adaptation and mitigation measures were the design and demonstration of awareness and behaviour change models for farmers, building artisans and women's energy groups in Bundelkhand for promoting **Low Carbon Pathways**. Already, we have documented impacts such as a 35 per cent increase in yield of wheat and a 20 per cent groundnut yield amongst farmers in 20 villages of Bundelkhand have been achieved. This is through introduction of new seed varieties, improved sowing practices and water use efficiency improvement.

This year's achievements is made remarkable by the unique confluence of DA's experience and skills in innovation, implementation, rural communications and multi-stakeholder dialogue for policy influence. The organisation brought together its technologies, innovative processes, networks and knowledge platforms and collaborated with relevant stakeholders under its umbrella programme and campaign - ***Shubh Kal*** - for empowering rural communities with abilities to understand the risks of climate change and coping strategies for adaptation and mitigation.

The design and promotion of **Clean Technology** is another area of focus in addressing adaptation and mitigation challenges. DA has innovated, developed and disseminated green technologies and solutions for land, water and resource management.

The Women's Energy Cluster (WEC) in Tikamgarh district, Bundelkhand is one of the most interesting waste to wealth initiative. The initiative is implemented by DA with the support of the Swiss Development Agency for Co-operation (SDC) as part of the sustainable civil society initiatives. A self help group has been engaged in the use of cow dung to produce bio-gas for green energy. This is DA's third renewable energy model in Bundelkhand, the other two being based on biomass and solar.

Other Clean Technology initiatives that have been very promising include the Vertical Shaft Brick Kiln in Bangladesh, and the Fly Ash Technology Package.

With a mandate to empower communities for **Basic Needs Fulfilment**, DA has designed models for delivery of eco-solutions in spheres relating to literacy, habitat solutions and livelihood services among others.

The number of rural women made literate through the functional **literacy programme**,

TARA Akshar, now stands at 58000. A significant innovation has been the development by the DA Group of TARA Ganit, a 15-day basic arithmetic module, which covers information on numbers up to three digits, addition and subtraction, multiplication and division. The TARA Akshar+ programme teaches rural women to read and write, followed by execution of basic arithmetic calculations in just 49 days.

The programme has been accepted as **an alternate ICT-based solution for adult literacy** to be incorporated under the National Literacy Mission by the Directorate of Adult Education, Ministry of Human Resource Development, Government of India.

Delivery models for **eco-housing solutions** include the initiative led by DA to demonstrate an artisan-based green social enterprise model. DA has trained and developed technology profiles and manuals to support the artisan cluster - TARA Karigar Mandal. DA's policy influence at the state level has resulted in providing the services of the eco-artisans to over 2500 families within the state of Madhya Pradesh.

The draft of the **National Rural Habitat Policy in 2007, framed by Development Alternatives** and partners has been accepted by the Government of India and is currently posted in the website of Ministry of Rural Development (MORD) for suggestions and recommendations. As a continuation of its work in the eco-habitat sector, DA has reinforced this policy at the grassroots level through five regional Lok Awaas Yatras held across the country in 2009-2010. These journeys captured the best eco-habitat practices across rural India for influencing national level policy and promoting replicable solutions.

As part of its **Integrated Water Resource Management programme**, DA focused on the development and identification of cutting edge options for clean drinking water, the most important being **the innovation of a point-of use (p-o-u) water purification system for removal of salinity** run on either solar energy or manual pumping. A **household arsenic filter** unit and a **no-cost Solar Disinfection (SODIS)** water treatment method have been extensively tested for use in urban slums.

Policy and Planning Support Tools are seen by DA as crucial inputs for **Strengthening of Institutions**. Prominent among those developed this year include the Interactive State Environmental Atlas (SEA) - Rajasthan and the Toolkit for Participatory Village Energy Planning in Rural Areas. Exceptional **Implementation Tools** include a Carbon Assessment Tool for Buildings and Environmental Quality and Carbon Footprint Assessment Maps for Village Communities in Himachal Pradesh.

DA's **multi stakeholder dialogue and action approach** was demonstrated most effectively in a flagship event initiated this year called the TARAgram Yatra. With a mix of dialogue and field visits, the Yatra offers a platform for exchanging ideas on the practice to policy connect towards realising a sustainable future. The focus of 2010 was **'Towards Green Economies - Scalable Solutions for People and Our Planet'** and the event provided leads for follow-up on policies and action at the local, national and global levels leading up to Rio +20 with the TARAgram Declaration.

The year 2010 has taken the Development Alternatives Group one small step closer towards its vision for a world where every citizen can live a secure, healthy and fulfilling life in harmony with nature. The pages ahead will provide a detailed account of the accomplishments and developments associated with the organisation's work for making available sustainable livelihood options that address the twin issues of poverty and environmental degradation.

Development Alternatives

creating sustainable livelihoods...

Development Alternatives, probably the world's first "social enterprise", was set up in 1982 with the purpose to deliver sustainable development outcomes in a commercially viable manner. The organisation innovates and delivers technologies, methods and institutions that help the marginalised build affordable houses, meet their water, sanitation and energy needs and generate work using local resources and industrial wastes. Moreover, DA does all of this in ways that are also good for the environment. The organisation's strategic drivers identified for growth and acceleration are:

Innovation for Eco-Solutions

Project research since inception has led to several innovations in concepts, methods, approaches, tools and techniques. These include commercially-viable technologies and environmental management systems in habitat and building materials, community based land, water and energy management systems and enterprises.

Implementation for their Delivery

In DA's list of top priorities, two specialised areas - grant-based development services and more business-oriented social enterprises - have pride of place. Technology and Action for Rural Advancement (TARA), its business arm, and its subsidiaries are being significantly strengthened to provide the specialised attention required for large-scale outreach.

Influence for Multiplication

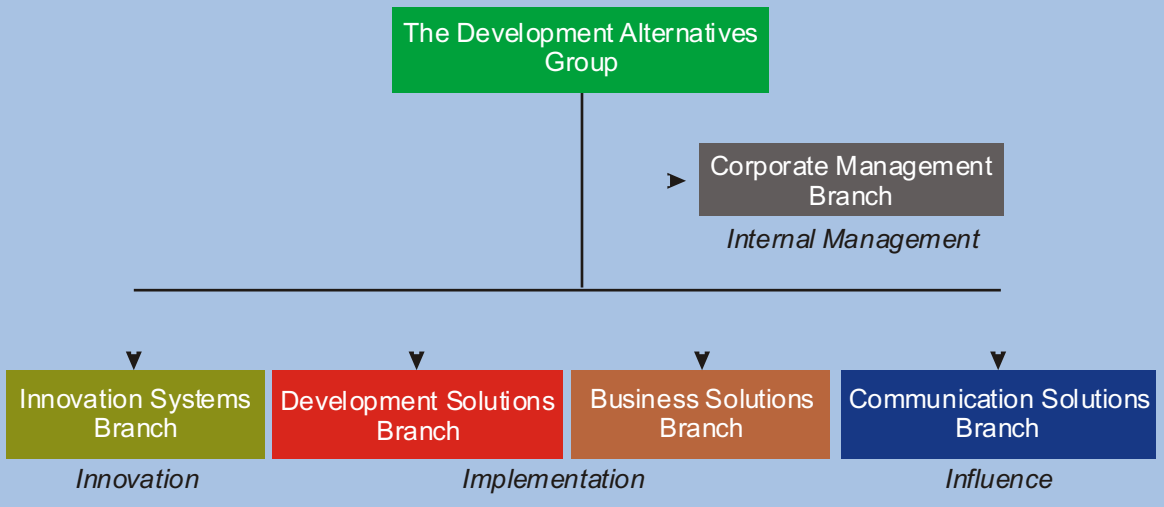
The Group has contributed its modest share to national and global policy change on issues of environment and development and is working towards strengthening policy research and knowledge communication.

Internal Management Systems for Large Scale Impact

The DA Group has identified the need for robust processes to address the challenges for ensuring an accelerated pace of growth. These include:

Corporate Planning Systems - including programme audit and quality assurance; IT infrastructure and knowledge management; programme and business development; fundraising and social investment management.

Corporate Administrative Systems - including corporate governance; legal and administrative support; finance and accounts; human resource management.



Monitoring Systems

Monitoring Systems and Impact Assessment

DA has developed a Monitoring Evaluation and Learning (MEAL) System, which has been tested and validated in more than 150 projects under the Poorest Area Civil Society (PACS) Programme. The same has been applied in some of the ongoing projects. The system has following components:

- Input Activity Report
- Process Monitoring Report
- Output Tracking Report
- Community-based Impact Assessment (CBIA)

Of the above stated reports, first two are generated on quarterly basis and output tracking report is generated on half yearly basis. All the reports require extensive participation from the entire team, this also ensures transparency and acts as triangulation mechanism.

The Projects are monitored and evaluated with the help of:

- A robust monitoring system in terms of MEAL
- Management Committee Meetings, where senior management review all the projects on bi-monthly basis
- Bundelkhand Core Group (BCG) meetings every month to discuss/review the projects implemented in the Bundelkhand region
- Regular field visits by senior management, including the presidents, to provide input and suggestions for improving the project implementation. All the Bundelkhand projects are tracked against the Bundelkhand Project Tracking System (BPTS) made at the start of the year
- Annual and Mid-Year Reviews, where 50 senior staff review the progress of the projects and programmes

Over the years, impact assessment of some of the larger programmes has been formally undertaken by some of the donor agencies. In the case of these larger programmes, baselines were established in consultation with field partners, external resource organisations and consultants during the course of the programme.

During the development of the Silver Jubilee Corporate Strategy in 2008, it was decided that the organisation needs to put a more systematic process in place to track the outcomes and impacts without depending on donors of specific projects. Consequently, this process has been set in motion, beginning with our field operations in Bundelkhand.

The measurement indicators to assess the outcome and impact of programmes have been identified for:

Empowering Communities through *multi-stakeholder action for*

- Strengthening of Institutions for the poor and marginalised
- Basic Needs Fulfilment

Creating Green Jobs through *promotion and support of*

- Employment Skills for Green Jobs
- Enterprise Creation for Social Enterprises

Promoting Low-Carbon Pathways through *the design and demonstration of*

- Climate Change Adaptation models
- Clean technology solutions for small enterprises

Part II: Synopsis of Activities

Promoting Low Carbon Pathways

through design and demonstration of...

Natural Resource Management

"Meetings with Civil Society Organisations (CSOs) from the Bundelkhand region revealed the need for sharing knowledge and collaborative action towards improved agriculture and livestock to reduce livelihood vulnerability in the region. The Bundelkhand Knowledge Platform has been initiated to facilitate engagement with stakeholders for effective participation in actions related to drought alleviation in the region and with the state and national partners for dialogue on climate change mitigation and adaptation."

CLAP-Himachal workshop

Adaptation to Climate Change

Faced with phenomena of low risk awareness and little capacity in communities to cope with climate uncertainties, the goal of this programme of DA is to tackle the complexity of bringing about behavioural change in rural communities in the semi-arid region of Bundelkhand and in Himachal Pradesh by demonstrating diverse adaptation and mitigation measures. The objectives of this programme are the creation of sustainable livelihoods and regeneration of environment through **climate-friendly technologies** and **eco-solutions for Natural Resource Management**. The technology eco-solutions and processes innovated by DA primarily serve as either climate change mitigation tools or as adaptation technologies that are resource efficient, low-carbon and renewable. The product technology and process innovations offer alternative livelihood options for adaptation purposes in the fields of building materials, energy generation, waste recycling etc.

The major concrete steps and activities undertaken this last year under this programme have been innovation and development of planning and management tools like the Bundelkhand Village Information System, decision support systems for renewable energy planning, vulnerability assessment studies for MP, the Carbon Reckoner for rural populations of Himachal and three Climate-resilient green enterprise models - developed and implemented in Bundelkhand for farmers, masons and women renewable energy clusters. Two of these low carbon green enterprises have been validated and are ready for scaling up.

Implementation of these tools and models has been through significantly large projects such as the CLAP-Himachal, the SDC supported initiatives in Bundelkhand and the Datia Integrated Watershed Management programme. Mobilisation of the community has been done through innovative risk communication activities through the Bundelkhand community radio, nautanki and focus group discussions.

The programme further aims at co-opting the local administration and local institutions for developing and demonstrating practical methods to maximise value addition and create a policy support environment. The **practice to policy connect** is expected to lead to large scale multiplication of best practices and benefit the poor and marginalised communities. Consultations and

Highlights of salient outcomes in Bundelkhand

- Formation of 42 farmers institutions (Area Groups, Watershed committees, Farmers Adaptation Clusters) strengthening the institutional base in 30 villages
- Introduction of farm equipment, related to drudgery and energy-efficiency for rainfed farming systems (10 types of equipment under FAC created)
- 5000 sq. feet shade net set up for promotion of nursery/vegetable production. Replication in another 10,000 sq. ft. underway
- More than 700 farmers adopt improved farming practices - seed replacement, soil and water conservation, agro forestry in 1500 ha.
- Approximately 35 per cent increase in yield of wheat and 20 per cent increase in groundnut by farmers, who have adopted new varieties and practices
- Reduction in crop water requirement by 33 per cent
- Efficiency improvement by 20 per cent in flood irrigation, reduced irrigation water requirement by 39 per cent by reduction by same percentage in energy consumption for irrigation purpose
- Around 45 ha area covered through different schemes of horticulture department
- Sprinkler sets to be distributed to 35 farmers

policy briefs have been undertaken where the best practices are being used to feed into policy influence initiatives towards low carbon pathways.

While the target groups have been the rural poor, women and youth and the marginalised, the geographical area has been largely Bundelkhand and Himachal Pradesh, the models, planning and other tools and systems are being integrated into **knowledge and multi-stakeholder dialogue** for replication and policy influence, across semi arid regions, mountainous regions **and global dialogue on the green economy**.

DA's expertise, developed over years of working with various stakeholders is utilised for **technical assistance, capacity building** and **implementation** at various levels. The Climate Change Adaptation team works with multiple partners and stakeholders such as foresters, scientists, research institutions, non-governmental organisations, decision-makers, government and rural communities in Bundelkhand and in other states. This year DA has expanded its crucial networks in Himachal Pradesh, Uttrakhand and Bundelkhand with small local ngos, civil society organisations like the Centre for Sustainable Development, Himalayan Environmental Studies and Conservation Organisation (HESCO), Institute of Integrated Himalayan Studies, Lok Awaas Yatra - Eastern, Southern and the Northern Trail.

A special feature about this achievement is the unique confluence of DA's experience and skills in innovation, implementation, rural communications and multi-stakeholder dialogue for policy influence. The organisation brought together its technologies, innovative processes, networks and knowledge platforms and collaborated with relevant stakeholders under its umbrella programme and campaign -*Shubh Kal*- for empowering rural communities to understand the risks of climate change with coping strategies for adaptation and mitigation.

NRM in Bundelkhand

The Natural Resource Management (NRM) work of DA primarily entails land and water management that finally supports sustainable farming practices. The progress can be tabulated for glancing through the major accomplishments through several projects such as the Swiss Development Agency for Cooperation-Sustainable Civil Society Initiatives (SDC-SCSI) and HP-CLAP.

Proposed Activities	Annual Target	Achievement
Land rejuvenated (ha)	2500	2250
Land and water management practices (1000 Farmers)	1000	830
Reach out through NRM (Villages)	400	20
Production of sapling (nos. in thousand)	200	40
Knowledge products	2	3

Some of the significant projects in **Natural Resource Management** include:

SDC-SCSI

The DA team, with its focus on the development and growth of the Bundelkhand region has set itself a mandate to work with local stakeholders and design strategies for `low carbon climate resilient growth' for Bundelkhand. The Sustainable Civil Society Initiative (SCSI) to address global environmental challenges is supported by the Swiss Agency for Development and Cooperation (SDC) / **Climate Change and Development Division**. This initiative has promoted efficient resource use and enhanced incomes for small and marginal farmers, women's collectives and building artisans by a synergy of indigenous and scientific knowledge. The process involved packaging of technology-based measures into market-based viable economic models for the target communities, financial investments and business initiatives leading to benefits of enhanced incomes and reduced green house gas emissions. The initiative worked with farmers, women and building artisans.

Status Paper and Perspective Paper on Sustainable Water and Energy Use in Semi-arid Regions with Special Emphasis on the Bundelkhand Region

The Status Paper was prepared under the **SDC-SCSI Project**. The paper maps out various policies, programmes and schemes of the central government and the state governments of Madhya Pradesh and Uttar Pradesh. The focus is on **policy instruments** related to **water and energy**. Among other things, the paper analyses the Bundelkhand Package, which is specifically aimed at drought mitigation in the Bundelkhand region. On the basis of the Status Paper a **Perspective Paper** has been prepared.

The Perspective Paper on Water and Energy is developed through an elaborate consultative process, which took place over a year. The stakeholders, who were consulted, include those from civil society organisations, academics, research institutions, government departments, think tanks, private agencies and multilateral organisations. The Perspective Paper provides the point of view of the above stakeholders on the existing policies and their implementation and concludes with pointers to policy makers

Assessment of Vulnerability to Climate Change and Adaptation of Agriculture Sector in Madhya Pradesh

Supported by **Ministry of Environment and Forests, Government of India** and the **Department of Energy and Climate Change, United Kingdom** the project is being implemented in partnership with the **Environmental Planning and Coordination Organisation** and the **Stockholm Environmental Institute, Oxford Centre**. It focuses on assessment of vulnerability of the

agriculture sector and adaptation to climate variability and change within Madhya Pradesh. The study aims to direct its lessons towards **scale-up of good practices** of **identified adaptation processes** and **practices** within the state and elsewhere in India. This study will provide an understanding of vulnerability and impact of climate change at household, community and state levels and identify criteria and best practices of successful adaptation.

HP-CLAP - Community Partnerships

The Community led Assessment, Awareness, Advocacy and Action Programme (CLAP) for Environment Protection and Carbon Neutrality in Himachal Pradesh, supported by the state government, was launched to develop the state as the **first climate resilient state** by mobilising community responsibility for environmental assessment, environment protection and carbon neutrality. An assessment package for environment quality monitoring and carbon foot-printing at panchayat level has been prepared and pilot tested in six panchayats of H.P. Besides carbon footprint, aspects such as air and water quality and biodiversity are also covered in the assessment.

District specific databases of prioritised environmental issues have been identified on

Achievements

Some of the major achievements of DA in Climate Change Adaptation:

- Implementation of climate change awareness and adaptation and mitigation measures across geographical areas covering three districts of Bundelkhand, all the districts of Himachal, and one district in Karnataka
- Development of farmers adaptation and mitigation model for sustainable farming
- 35 per cent increase in yield of wheat and 20 per cent in groundnut amongst farmers in 20 villages of Bundelkhand who adopted new seed varieties and improved sowing practices
- Reduction in crop water requirement for wheat by 33 per cent in 20 villages in Bundelkhand
- Water use efficiency improvement by 30 per cent due to efficient irrigation methods in these villages
- Planning tools such as manuals and assessment formats
- Assessment tools such as carbon card for villages to measure the carbon footprints of village buildings

Success story of adaptation - Vermi-Compost

Vermi-compost is a valuable input for sustainable agriculture and wasteland development. The marketing of dung based vermi-compost needs to be intensive and regular. This also can be used widely in pot culture and in home gardens. The field study under the ILO Green Jobs Initiative found that although vermi-compost has a huge market potential in Jabalpur in Madhya Pradesh, and its nearby regions, the vermi-compost technology growth and adoption was moving at a very slow pace.

The vermi-compost technology trainings organised by the TARA Livelihood Academy, a training affiliate of DA, and Krishi Vigyan Kendra, proved very effective in promoting environmental concerns and livelihood generation possibilities through vermi-compost among the farmers, dairy owners and labourers. Additionally, the team provided contact details of Sarpanches and Secretaries of the Gram Panchayats to the vermi-compost unit owner, which they will take forward to market their products in the villages.

A positive presage of the increased vermi-compost sales in Jabalpur can be observed with the forward linkage of medium-scale vermi-compost owners with Jabalpur Gram Panchayats heads for its application and replication. The two new vermi-compost units in Jabalpur Pariyat region generate green jobs by employing 6 and 20 labourers respectively on their fields for 20 weeks during the season.

the Pressure State Impact Response (PSIR) framework for 11 of the 12 districts through consultative processes at the district level orientation and training workshops for NGO partners (which in most cases also had participation of district administration representatives). These will subsequently feed into the planning processes (with convergence support intended). The carbon-environment assessment in the panchayats ideally follows community planning and local and district administration supported action for improving environment and reducing carbon footprint.

In addition, several Knowledge and Communication Products were developed, prominent among them being:

- Assessment package (including data collection and analysis formats and manual)
- Resource (awareness) modules on six thematic areas (air, water, waste, biodiversity, climate change and sustainable living) with a complementing set of action planning guides - in English and Hindi
- Himachal specific awareness films on environmental issues
- IEC material on the programme including brochures, flyers, posters etc.

Way Forward

Based on the work done in the field of Natural Resource Management and climate change adaptation, DA will now look towards developing and facilitating implementation of three to four large scale and high impact initiatives in the arena of ecosystem services and climate change adaptation. Some of the activities planned in the future are:

- Ecosystem assessment and planning
- Identification, adaptation and testing of at least 1-2 natural resources based livelihood and enterprise packages (mangrove/gharial protection)
- Local area coordinated project for Bundelkhand - on land and water management, science and technology input and livestock management
- Support and facilitation of state/district level
- Plans for climate change adaptation for at least four states
- Catalysing awareness on climate change at grassroot level by involving communities in assessment, awareness, advocacy and action initiatives

Promoting Low Carbon Pathways

through design and demonstration of...

Clean Technology Solutions

Clean Technology Solutions for Small Enterprises

Burgeoning populations and enormous demands for basic amenities and goods are leading to many industrial and small scale technologies that are today responsible for increasing green house gases and polluting water bodies and the environment. The Climate Technology Programme initiated by DA offers technology-based, profitable business solutions for greening the environment. The programmes and projects innovate, adapt and customise technologies, including technologies that use waste to benefit micro, small and medium enterprises. More than 15 of these innovations by DA, serving primarily as adaptation and mitigation measures in shelter, water, renewable energy and handmade paper result in:

- Carbon footprint reduction, production without significant pollution and elimination of hazardous wastes
- Limiting the use of virgin resources and enhancing resource efficiency for climate change adaptation and conservation of the eco-system, and
- Waste to wealth management by utilising waste and recycling, creating cleaner enterprises and providing greener livelihood opportunities

The approach adopted by DA was to focus on research and development in the arena of clean brick production and utilisation of industrial wastes in brick-making. The replication and scaling up of clean technology for brick production was taken up across geographical spaces in India, South Asia and Anglophone Africa. In India the initiative focuses on small scale brick manufacturers. The technology transfer initiative in South Africa focused on addressing energy efficiency and reducing environmental emissions for large scale brick manufacturers using identical production techniques for brick firing. The emphasis this year has been on south-south knowledge sharing and collaboration. This has also helped in spreading awareness and reaching out to developing regions of Africa. Interesting networks have arisen because of the work that includes local NGO's technology partner networks and small to medium scale entrepreneurs.

Clean Technology Solutions

Technology Packages

The core support provided by the **Department of Science and Technology, Government of India,** has helped innovation efforts for the creation of sustainable enterprises. The significant technology outcomes include:

Coal Quality-testing kit and manual - The coal testing kit and manual were developed in association with the Vertical Shaft Brick Kiln (VSBK) teams from **Nepal, Pakistan, India** and **Afghanistan**. It is a practical toolkit and instrument for field determination of coal quality suitable for application in brick industry. Although it does not give an absolute value, it gives a qualitative assessment of coal to enable entrepreneurs to make a decision about the quality. An interactive spider net also plots the various parameters of coal quality and provides a solution to determine its effect during VSBK firing.

Fly Ash Technology Package - The fly ash technology package is a series of protocols, giving guidelines on technology, financial and promotional features for fly ash brick production. The technology package contains guidelines for raw material standards, production, quality control and trouble shooting.

The **financial component** enables decision-making of cost of fly ash block production vis a vis quality. The **promotional component** contains an interactive fly ash database to enable decision-making on suitability for the setup of a successful fly ash enterprise. It also contains various case studies of successful fly ash enterprises now being aggressively marketed by **TARA Machines and Tech Services Pvt. Ltd**, an enterprise of The Development Alternatives Group.

Within a span of 10 years (2000 – 2010) more than 160 Eco-Kiln's have been established in a commercial mode throughout the country, especially in the Central and Eastern states. The quality of bricks are absorbed at a premium in the market. It can safely be said that there has been a reduction of almost 1,80,000 tonnes of carbon emissions till date. The Eco-Kiln technology is also being taken to various countries in South Asia through an enabling partner network in the countries of Nepal, Pakistan, Afghanistan, and Bangladesh.

Vertical Shaft Brick Kiln (VSBK) in Bangladesh

Brick making in Bangladesh is highly energy intensive and one of the major cause of air pollution in urban centres such as Dhaka. To promote cleaner technologies and practices in the brick sector, which is recognised to contribute substantively to the urban air pollution problem in Bangladesh, the Vertical Shaft Brick Kiln (VSBK) was introduced as a demonstration package in 2009-10 to create awareness among Bangladesh entrepreneurs on alternate means of reducing air pollution. **The Energy Sector Management Assistance Programme** (ESMAP) grant, administered by the World Bank, supports the project in Bangladesh with the objective to catalyse the adoption of sustainable environmental initiatives through energy efficiency measures in brick-making industry with a focus on reducing air pollution. The assignment also focused on the appropriateness and operability of VSBK in Bangladesh context and demonstrated that it will result in reduced air emissions and energy use without compromising on the quality and production of bricks manufactured.

Brick Making in Bangladesh

The Eco-Kiln in India was launched in 1995 by Swiss Agency for Development and Cooperation (SDC) as a project on introducing sustainable production systems for building materials. The main objectives were to assess the potential, demand, economic viability, energy efficiency and eco-friendliness in the Indian context. During the period, Development Alternatives was instrumental in understanding the technology and build indigenous capacities to design, construct and operate new kilns in a commercial mode. Various innovations were made to suit Indian conditions the most significant being those on the adoption and modification of exhaust systems. This ensured a considerable reduction in emissions monitored by external agencies and resulted in setting of new emission standards.

One of the critical areas of innovation was laboratory formulation of green brick mix design with the help of internal fuel. The use of industrial waste materials like fly ash and sponge iron have been promoted for

reducing use of virgin coal; thereby reducing the cost of the final product also.

Clean technology implementation in Bundelkhand

In Bundelkhand, the focus is on large communities and community groups. The objective is to provide clean technology through project/programme input, community radio initiatives and through workshops/policy talks. Additionally, DA ensures that the rural communities adapt to clean technologies by aptly demonstrating the advantages of these technologies and defining **Low Carbon Pathways**. The introduction of micro-irrigation technologies has been a challenge and the main reason for this has been the initial capital costs and small number of subsidies available per village. At its Technology Resource Centre in Pahuj, Jhansi; a diverse choice of micro irrigation devices have been demonstrated for agricultural crops and growing vegetables under conditions of water stress. The higher levels of crop productivity have the possibility of off-setting higher installation costs for farmers with small land holdings.

HP-CLAP - Community Partnerships

The HP-CLAP project for environment protection and carbon neutrality through mobilising community responsibility saw a paper recycling unit setup by the DA group at the Himachal Pradesh Secretariat and one each in Dharmshala and Bilaspur. This waste to wealth technology not only uses waste material like files and copy books but even provide livelihoods to the local people. The promotion of clean technology has been started at very local levels, with potential of both replicability and scale up.

Achievements

Some of the major achievements of DA in the field of Clean Technology were:

- Reduction in carbon emissions equivalent to 1,80,000 tonnes
- Development of the Green Campus, TARAgram Pahuj
- Introduction of clean lighting devices in 260 HHs in Bundelkhand
- Distribution of envirofit cookstoves to households in Wadi
- Finalisation of knowledge and communications products

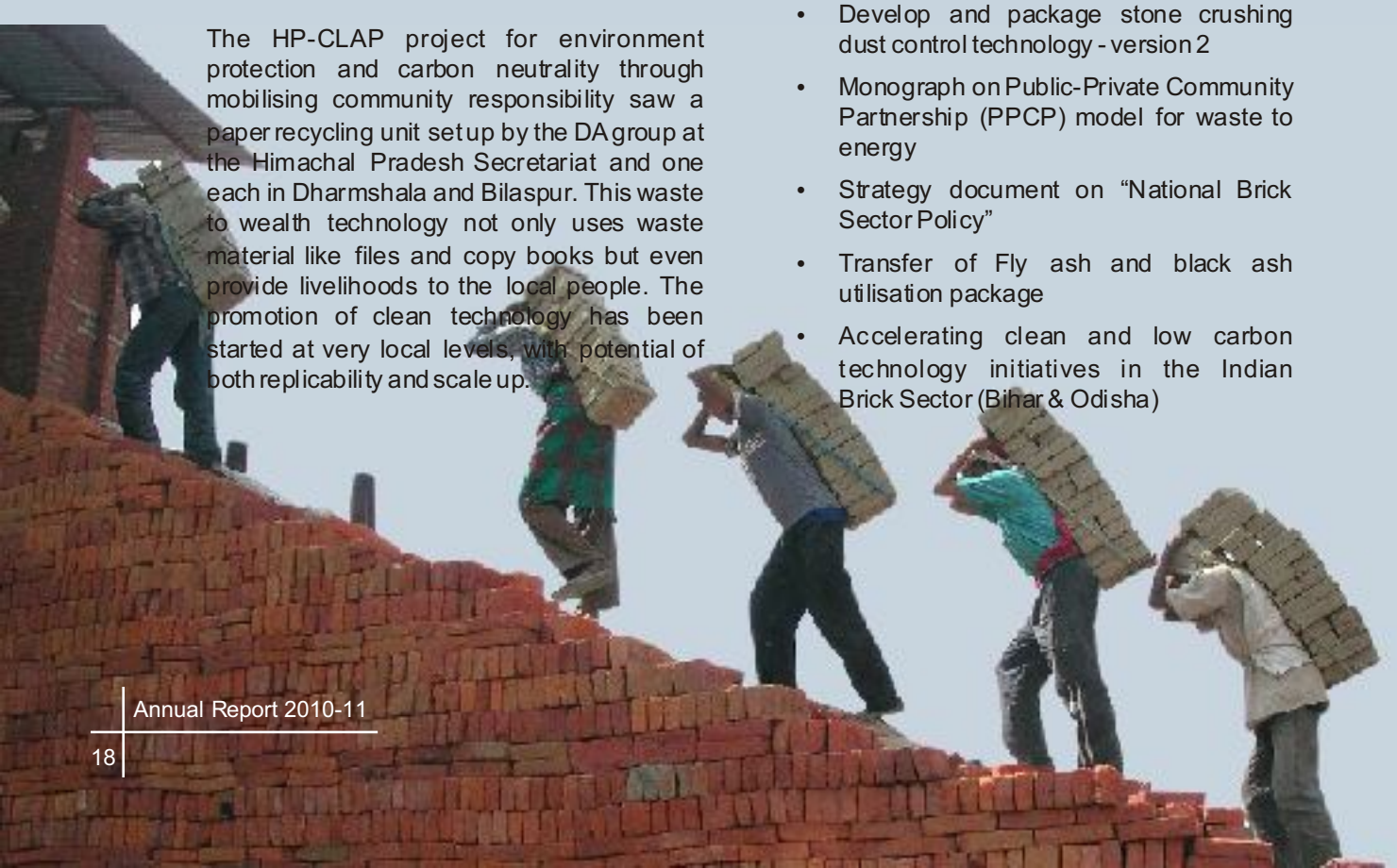
ACC Wadi

Under the ACC project, DA distributed approximately 700 Envirofit Cookstoves among the rural community and seven Jal-TARA filters were installed. Some other activities undertaken this financial year were as follows:

Way Forward

Some of the initiatives that DA plans to take in subsequent years are as follows:

- Develop and package stone crushing dust control technology - version 2
- Monograph on Public-Private Community Partnership (PPCP) model for waste to energy
- Strategy document on “National Brick Sector Policy”
- Transfer of Fly ash and black ash utilisation package
- Accelerating clean and low carbon technology initiatives in the Indian Brick Sector (Bihar & Odisha)



Empowering Communities

through multi stakeholder action for…

Basic Needs Fulfilment

"Development Alternatives believes in the right of every individual to access basic needs services - literacy, drinking water, adequate shelter, sanitation, renewable energy and livelihood services. The organisation develops and promotes affordable green solutions and delivery systems to the poor in villages and small towns so that they are able to fulfil these basic needs. Taking its best practices into policy influence, it works on scaling up through the **practice to policy connect**."

Empowering Through TARA Akshar

Literacy

Illiteracy is the bane of development and one of the main reasons for gender exclusion and inequality. According to Census India 2011, over 380 million rural women are illiterate in the country, holding them back from sharing the fruits of development and keeping them suppressed in society.

TARA Akshar, an ICT enabled laptop based methodology for functional literacy developed by TARA*haat* Information and Marketing Services Ltd. - the ICT arm of The Development Alternatives Group, is fulfilling this basic need of literacy. Approximately **58,000 rural women have been made functionally literate** in the last three years.

Based on the needs and the demand from the women working under the NREGS where they are often cheated of their daily wages as they cannot read and calculate; a momentous achievement this year has been the development of **TARA Ganit**. The 15 day basic math module, which covers information on numbers up to three digits, place values, additions and subtraction, multiplication and division, was developed by the DA Group. TARA Akshar has now become the **TARA Akshar+** programme which teaches rural women to read and write, and comprehend basic maths in just 98 contact hours. This is done through a two-hour class daily over approximately 49 days.

Other successes are:

- Programme has been evaluated as an alternate ICT based solution for adult literacy to be incorporated under *Sakshar Bharat* (Literate India) Mission by the **Ministry of Human Resource Development, Government of India**.
- The programme was accepted by the **Scheduled Caste and Scheduled Tribes Department, Government of Madhya Pradesh** for making literate 35,000 Sahariya tribal women in the state. The programme will be rolled out in 2011-12.

Designed specifically as a short duration course to discourage drop outs, the programme succeeded in making **approximately 1500 rural women** in Rajasthan, Madhya Pradesh, Uttrakhand and Haryana including tribal and marginalised groups **functionally literate** in the year 2010-11 under several projects.

- The **United Nations Development Programme** (UNDP) funded **National Rural Employment Generation Act** (NREGA) - approximately 150 women in the Niwari and Badagaon block of the Bundelkhand region, Central India.

- More than 120 women at a **validation programme** in three states - Rajasthan, Uttarakhand and Haryana, funded by the **Ministry of Human Resource Development**, Government of India.
- TARA Akshar+ - over 100 women in the Bundelkhand region with the help of a grant offered by the **Global Knowledge Partnership (GKP)**.
- Over 300 women literate in the Bundelkhand region in a tie-up with **iPartner** in the **Connect for Change Programme**.
- Over 50 masons trained in TARA Ganit under the **Swiss Development Corporation (SDC)** funded **Sustainable Civil Society Initiative (SCSI)**.

The integrated literacy model with basic maths has been validated by the government to enable mass scale replication

The biggest impact has been on enabling rural women to earn additional income and assured livelihoods.

This intervention has been very successful because of the involvement of local instructors with flexible batch timings and locations conducive to the learners. Another aspect that made the programme immensely popular was high accessibility in difficult and remote areas with primitive tribal groups; made possible through the use of software and laptops, thus eliminating the reluctance of the learners to come to fixed locations.

The technology and methodology can be diversified or replicated in any other language

Habitat

Nearly 43 million rural households in India still do not have a *pucca* roof over their heads while construction keeps adding to GHGs, being the 2nd largest industrial polluter in the country. The objective of DA's Rural Habitat Programme therefore is to help rural communities fulfil this basic need by providing support to the delivery of cost effective and energy-efficient building products and services for rural and peri-urban communities through micro-entrepreneurs and artisans.

Construction of Eco House

The means to address the delivery of energy efficient building products is based on more than 20 eco-habitat technologies and innovation. DA has further developed ***a housing finance and technical services delivery model*** and ***an artisan-based green social enterprise model***. The components of the eco-housing model are:

- design and building technology
- capacity building and demonstration of eco-building technologies
- service delivery
- enterprise development, and
- access to credit

Some of the important projects undertaken in the year 2010-11 for this programme were:

FEM Italia - Developing Financial Model for Eco-housing

Supported by **FEM Italia**, DA's Rural Habitat Programme under the project, '**Micro entrepreneurial models and services for the socio-economic development of the working poor in India**', developed a **housing finance** and **technical services delivery model** for cost effective and energy-efficient building products for rural communities. The programme facilitates demand for the creation of eco-housing products and services through social marketing, government schemes and micro-financing. Out of **33 houses** to be built this year, construction of **24 houses** has already begun and **an enterprise** has been set up in Azadpura, Bundelkhand. In addition, **30 masons and four supervisors** have been trained, as per the requirement of the project.

Swiss Development Agency for Cooperation (SDC) - Sustainable Civil Society Initiatives

The **SDC supported Sustainable Civil Society Initiatives (SCSI)** for addressing **Global Climate Change Challenges** has been implemented by promoting services for **eco-housing delivery and policy influence for scaling up of eco-housing**. Under this three year project, DA has contributed towards developing artisan-based green social enterprise model. It developed technology profiles and manuals to support the artisan cluster - TARA Karigar Mandal and influenced policy at the state level, resulting in providing the services of the eco-artisans to over **2500 families**, across the state of **Madhya Pradesh**. Against the planned 83 houses and 367 toilets in the financial year 2010-11, **15 houses** are under construction and **280 toilets** have been constructed.

Lok Awaas Yatra - A Journey for Habitat for Rural People

The Lok Awaas Yatra (LAY), a journey for habitat for the rural people, is an initiative of basin-***South Asia***, a regional knowledge platform, of which Development Alternatives is the secretariat. The aim of the yatra is to generate awareness and disseminate possible strategies for climate change mitigation and adaptation measures for fulfilling the basic need for safe and sustainable habitat development. This was through dialogue, networking and knowledge sharing by a participatory cross-learning journey across vulnerable geo-climatic regions of rural India.

Designed as a series of five yatras in five regions, the journey continued this year across the northern and southern regions of the country. Each sub-yatra has three trails, taking approximately 30 participants to visit about six good practice projects - identified, keeping in perspective the demonstration of appropriate construction technologies, institutional systems and sanitation and water supply mechanisms, suitable for rural areas and livelihood initiatives in the habitat sector and others.

Lok Awaas Yatra
- A Journey for Habitat

While the central, eastern and the western legs were completed in the financial year 2009-10, the **northern** and the **southern** trails were organised in the current year.

Led by DA and funded by **Building Social and Housing Funds** (BSHF), **Swiss Development Corporation** (SDC), the **Building Materials and Technology Promotion Council** (BMTPC), the **Catholic Relief Fund** (CRF), the **National Housing Bank** (NHB) and the **Department of Planning and Development**, the Yatra played a key role in:

- Creating an understanding of issues of ecological concerns for rural housing and habitat
- Disseminating knowledge, creating awareness and exposure to existing efficient technologies for safe habitat practices
- Highlighting methodologies and institutional systems, required for convergence of available resources and operation at higher levels of productivity and efficiency in use of available resources
- Encouraging advocacy and networking amongst stakeholders to address the issues of safe and sustainable rural habitat

The basin-***SA*** platform through the LAY exchanges and exposure visits, demonstrated **sustainable habitat models** to grassroots groups and decision makers at

Policy influence has been visible insomuch that the **basin** - *South Asia* secretariat is partnering with Housing and Urban Development Corporation Limited (HUDCO), Building Material Technology and Promotional Council (BMTPC) nodal agencies under the Ministry of Urban Development (MoUD), Government of India to promote energy efficient and alternate technologies which are cost-effective in India. At the national level, DA has been integrated into the Steering Committee set up by the Government of India. DA gave inputs to the special committee on housing finance led by National Housing Bank and was a member of the Rural Housing for the 12th Five-Year Plan, In addition, network development and collaboration have reinforced these initiatives through DA managed platforms of **basin**-*SA* with 17 national and international partners and the Lok Awaas partners across the country numbering 30.

the local level. Around **50 successful sustainable habitat case studies** from all over India were documented during the two Yatras conducted this year.

The habitat programme this year reached across Bundelkhand and in the southern regions of Tamil Nadu and Andhra Pradesh and the northern regions of Uttrakhand and Himachal. The target population that benefited were rural households, masons, habitat practitioners, panchayati raj institutions and key stakeholders and decision makers.

In 2010-11, focus was on the institutional strengthening of masons and 130 masons were strengthened to deliver eco-construction in rural areas. Through this in Central India and through learning, exposure and dissemination eco habitat journeys, the geographical spread was from the mountainous regions in Himachal and Uttrakhand and coastal regions like Kerala and Tamil Nadu.

The speciality of the Rural Habitat Programme is its focus of fulfilling the basic need of shelter but ensuring the minimisation of negative implications of large scale construction through low carbon technologies.

Replicability and scale up is the cornerstone of this programme with the campaign – ***Har Awaas Prakriti ke Paas*** (every home close to nature). The strategy DA has adopted for expanding climate responsive habitat technologies is by seeking to **influence policy for scaling up of eco-housing** at both state and national levels. The **focus of the intervention** this year was the emphasis on broadening the group of those that believe in integrated habitat development through intense engagement with stakeholders and decision makers.

Water and Sanitation

Depleting water tables and the expanding need for agriculture, livestock, and domestic use, increasing mineralisation in water sources, industrial pollution of water bodies and loss of traditional water systems are some of the challenges that confront rural and urban slum populations. The specific issues that DA addresses through its programme on **Integrated Water Resource Management** are qualitative and quantitative requirements of water and access to safe water and sanitation. The programme objectives are:

- development and identification of cutting edge options for clean drinking water
- influencing decision makers for access and availability of resources
- developing delivery models for safe drinking water through enterprise and community modes for **domestic water and sanitation systems**.

The means adopted to meet these objectives include research and accessing new technology; developing and testing delivery models and, addressing policy by understanding the policy environment and creating policy briefs, while implementing the tested models on the ground through diverse initiatives.

Innovative steps and activities taken up through major initiatives include:

Innovation of Jal-TARA TDS Filters Salinity Removal Device

A point of use (p-o-u) water purification system to bring the level of dissolved salts to an acceptable limit, making water potable, has been developed under the **Department of Science and Technology Core Support Water Programme**. Run on both **solar energy and manual pumping**, the user-friendly system is ready for field testing. Called the **Jal-TARA TDS Filter**, the prototype for impurities removal is termed as a total dissolved solid (TDS) reduction device.

Arsenic Purification System

The field study of the **Jal-TARA Arsenic Purification System** developed by DA, as a low cost innovative household filter unit, which removes arsenic, turbidity and also reduces the pathogens in drinking water, is in its final stages. Developed in collaboration with the **Department of Science and Technology**, the unit has a capacity for 15-25 litres water filtration/purification per hour, sufficient for five people per day and can reduce arsenic levels from 400ppb to less than 50ppb. The field study of this filter is being conducted in the rural areas of **district Khagaria, Supoul and Betiaya (West Champaran) of Bihar**.

Urine-fluoride Testing Kit

A user-friendly and **field-based urine fluoride testing kit's** research and development is in progress with the support of **Department of Science and Technology**. The testing kit is useful to identify fluoride content in human urine, excess of which may lead to haemoglobin deficiency, especially in pregnant women in rural areas. This fluoride detection technology will prove useful for doctors serving in the remote areas.

Arghyam - Integrated Domestic Water Management (IDWM) in Five Villages of Bundelkhand

A collaborative effort of **Development Alternatives** and **The Arghyam Trust**, the Integrated Domestic Water Management (IDWM) approach played a key role in finding appropriate solutions to meet the qualitative and quantitative requirements of basic services like water and sanitation in five villages of Tikamgarh and Jhansi districts of the state of MP and UP. The villages were **Pipra, Maharajpura, Rajpura, Bagan, Gopalpura** and **Hastinapur**. The project offered domestic water management practices for **sustained access to domestic water to the rural communities**.

More than **1100 households** were given access to safe drinking water. The setting up of a **solar pump at Pipra** and an **overhead tank at Rajpura** further increased accessibility and regularity of supply and strengthened availability of water for the villagers.

Solar Disinfection (SODIS) point-of use (p-o-u) water treatment method

A solar disinfection practice for clean drinking water has helped promote a safe and inexpensive water treatment technology, leading to the improvement of health and hygiene of approximately **10,000 households** residing in **18 slums** of Delhi (http://www.developmentalternatives.com/sODIS.aspx). Run in partnership with the **Ehsaas Foundation** and the **Indian Society for Applied Research and Development (ISARD)** and funded by **Eawag Aquatic Research,** awareness has been created for safe drinking water solutions in 18 slums through the p-o-u treatment method called Solar Disinfection (SODIS). Advocacy with decision makers is planned for next year towards replaceability and scale up.

Economically and Environmentally Safe Drinking Water to five communities through Jal-TARA Water Filter in enterprise mode

The programme, with the support of **Water Technology Initiatives Programme** of Department of Science and Technology, aims at the provision of safe drinking water through an innovative, safe and affordable water purification system (**Jal-TARA filter-Salinity removal device**) for different communities of Uttarakhand. The two year programme that

end in July 2012, uses salinity removal filters to remove the pathogens from the water, leading to reduction of water borne diseases. A **strategy paper** for wider dissemination and use of Jal-TARA filter by the community will be prepared at the end of the project.

Access to Safe Water for the Bottom of Pyramid - Strategies for Disseminating Technology Research Benefits

A study was undertaken to identify key challenges and barriers that may reduce the impact of **nano-technologies for providing clean drinking water** reaching the under privileged in developing countries; its possible environmental implications and remedial measures. The project has played a key role in **understanding the market barriers** and **strategies** for **large scale replication** and in the **mapping** of the **nano-technologies in the water sector**. DA provided research support to TARA in undertaking this study, with support from **the Department for International Development (DFID), UK**. The study report is available at http://www.dfid.gov.uk/r4d/SearchResearchDatabase.asp?OutputID=186763

Knowledge Dialogue on Integrated Domestic Water Management (IDWM)

Run by DA, in collaboration with **India Water Partnership (IWP)**, the project, aimed at influencing the National Water Policy, which governs the management of water resources in India with a view to incorporate aspects of IDWM. **A Compendium of Case Studies** and a **Status Paper on IDWM** were prepared. Some of the recommendations made were taken up in the new policy.

DA ensures that the alternative low cost water solutions are adopted by the community through effective demonstration and participatory management. This has especially worked in water- efficient agricultural practices with the Farmers Adaptation Cluster under the SDC-SCSI initiative that are working on new irrigation practices like sprinklers and avoiding flooding of their fields, in their semi arid region. The feedback is used for refining the product and the processes and once there is full confidence; large scale replicability is undertaken through partners. Sustainability is worked on through enterprise and business models, and Rural Water Committees that become responsible for supply and pricing.

The EcoSolutions are being promoted by TARA, TARA Machines and other affiliates of DA, for dissemination through small scale enterprises. Examples include the Jal-TARA water filters (both domestic and community models), the Jal-TARA water filtration kits.

Impact in Bundelkhand

It was DA's target to reach out to 3000 households (HHs) through the provision of clean drinking water in 35 villages in Bundelkhand, against which the organisation actually reached 2942 HHs in 63 villages. Out of these, 435 HHs were reached through the Piped Water Supply System, 227 through filters and 2280 through facilitation of hand-pump repair and installation, thus ensuring availability and accessibility to safer water to the rural households.

Energy

In the context of the electricity grid in India not serving at least 15.1[1] per cent of rural areas in India for both domestic use and livelihoods, and the increasing concerns regarding green house emissions, DA has been working on designing decision making models for village energy security. The specific objectives are to streamline small bio-gas to electricity technology for village livelihoods, develop community managed solar energy partnerships and replicate decentralised biomass energy systems while providing input towards policy development for decentralised renewable energy systems for villages.

While one of DA's renewable energy technology, Decentralised Energy Systems India Pvt Ltd (DESI) has been replicated very successfully in Bihar, and is probably the only organisation in the country that demonstrates in its current geographical focus, Bundelkhand - three types of renewable energy, namely: biomass, solar and bio-gas,

much still needs to be done to fulfil this crucial basic need.

DA Group's initiatives in the energy sector are on bio-energy applications for agri-based livelihoods through renewable energy based distributed generation, energy services for micro-enterprises and clean energy for domestic purposes through improved cooking solutions and solar power. The objective is to ensure sustainable livelihoods by providing access to reliable and affordable energy and energy services.

The focus of this initiative are:

Energy Security at Community Level (elec. and energy services)

- By creating common infrastructures and facilities
- By demonstration of tech-communication models
- By demonstration various service delivery models (Gaushala model)
- By designing tools and techniques for the above
- Training and Capacity building initiatives of various stakeholders
- Through building partnership with technical suppliers / experts

Energy Security at Household Level (stove, solar lantern)

- By designing and sourcing energy efficiency devices (stove, biogas plant)
- By designing and testing necessary enterprise/business models
- By helping others to develop energy efficiency products
- Through awareness creation and capacity building programmes

UNEP/GRID Arendal - Knowledge base on Decentralised Renewable Energy in India

DA, in collaboration with **United Nations Environment Programme/Global Resource Information Database - Arendal (UNEP/GRID-Arendal)** developed a knowledge base on decentralised renewable energy in India. The long term goal of this two year project is to help communities in scaling up renewable energy solutions that will enhance access to energy and create sustainable livelihoods in large numbers. As part of the knowledge base, a **Decision Support System** has been designed and developed for identifying appropriate models along with required packages that can facilitate need based information on technical, social, economic and institutional aspects of decentralised renewable energy projects. Various decentralised renewable energy options, such as biomass, bio-gas, solar and hydel are being studied and analysed on social, financial and techno-environmental viability parameters for application in rural areas.

Women's Energy Cluster (WEC)

One of the interesting initiatives DA is implementing with the support of **Swiss Development Agency for Cooperation (SDC) - Sustainable Civil Society Initiatives** is a **Women's Energy Cluster (WEC)** in Tikamgarh district, Bundelkhand. A self help group has been working on using cow dung as the base for their green energy enterprise. The main partner in the WEC has been the SSMM i.e. Sankalp Swashakti Mahila Mandal and technical support from Indian Grassland and Fodder Research Institute.

The WEC is involved in five enerprises, namely, oil expeller, groundnut decorticator, milk collection, grinding unit and nimboli collection. In all the five enterprises the activities involve purchasing the raw material from villages, grading, extracting, testing and selling. The first three enterprises are regular activities, grinding unit is service based and nimboli collection is seasonal.

Women have realised the potential of collective marketing and established seven collection and marketing centres in villages. Milk collection centres have been established in two villages where 300 litres of milk per day is being collected and marketed by women

groups. Collective marketing of Neem (Azadirachta indica) seeds has resulted in realisation of higher prices for women groups (from Rs 20 or USD 0.45 for 10 kg to Rs 60-70 or USD 1.35-1.58 for 10 kg).

The WEC-led bio-energy enterprise indicated a carbon saving potential from methane capture. Methane capture in the bio-gas plant has an estimated green house gas emission reduction of 3,987 ton CO2 equivalent based on 80 per cent capacity utilisation and total load take-up. On current values, a net income of Rs 50 per day per woman managing the bio-gas plant is achievable in three years from sale of energy and potential carbon credits. This income has the potential of doubling; if sale of cow-dung slurry and agri-produce is added and backward-forward linkages of dependent enterprises are strengthened.

MAJOR ACHIEVEMENTS
in Basic Needs Services for the rural poor in 2010-11

- Finalisation of the Standard Operating Procedure (SOP) on credit-based housing and construction protocol for eco-houses
- A training manual on Gender in WatSan (water and sanitation)
- Considerable reduction in time for fetching water for the rural communities (from average three hours to less than an hour)
- Technology innovations for safe drinking water (salinity and arsenic removal filters)

Livelihoods

Development Alternatives mission is to create sustainable livelihoods in large numbers and it does so by creating the means for this purpose. What is special is the intent to ensure the dignity of the rural poor, by enabling and facilitating them rather than encouraging a dependency syndrome. In addition, since so many government schemes exist for the rural poor the aim is to ensure access and help them claim their rights and entitlements.

The means include DA's innovations in eco-technology, processes, methodologies and models. DA works with partners, networks and affiliates for the creation of green jobs and small scale green enterprises for enhancing livelihood and income-generating opportunities. The methodologies adopted focus on mobilisation, awareness generation, information, demonstration and exposure and training. The target groups are farmers, building artisans, rural women and small scale entrepreneurs.

Some of the concrete steps and activities taken include initiatives like:

ICRISAT – Model Watershed

DA tied up with the **Ministry of Rural Development, Government of India**, to work on a model watershed for sustaining agricultural productivity and **improved livelihoods** at the **Domagor Pahuj Watershed, Jhansi**. The project aims at improving rural livelihoods on a sustainable basis by establishing a model site of learning in the semi-arid region and initiating capacity building of the stakeholders. Some of the achievements of the project are:

Social:

- Improvement in farming system through crop trials
- Increase in cohesiveness in community through institution building (one workers club, 14 area groups, three farmers clubs and 22 women self help groups)
- Social security through increase in productivity of crops
- Development of leadership skills and increased decision making

Economic:

- Direct gain in crop productivity through improved and recommended practices
- Continuing wage opportunity through works
- Development of permanent resources for livelihood in the form of check dams, nalla (drain) plug and Storage of more than 14500 cm of water for irrigation

- Direct benefits of subsidy on seeds and input for promotion of efficient farming practices and develop strong mechanisms for convergence

Environment:

- Reduced soil erosion in the area by managing soil and water harvesting practices
- Established biomass by planting 10,000 fruit saplings and forestry plantation
- Land rejuvenation through managing water resources
- Awareness on climatic situation by installation of weather station, gauging station and measurement of water level of wells

UNDP-Mahatma Gandhi National Rural Employment Generation Act

In pursuit of its mission to create sustainable livelihoods, Development Alternatives collaborated with the United Nations Development Programme and the Government of India to generate awareness among the rural population of Bundelkhand on the **Mahatma Gandhi National Rural Employment Generation Act (MGNREGA) - Convergence for Sustainable Livelihoods**, an employment scheme that offers upto 15 days of guaranteed work per month to rural communities.

The project was divided into two phases - the inception phase for undertaking different assessments to understand the demand and supply side status in the two districts of Tikamgarh and Jhansi from the states of Madhya Pradesh and Uttar Pradesh respectively and the second phase for implementation, based on the understanding generated through the inception phase of the programme. Under the project, DA aims at enhancing the quality of implementation and nature of influences that MGNREGA can pose for the benefit of the demand side.

Model Watershed for Sustainable Agriculture

In the second phase, this financial year, DA developed an array of **illiterate-friendly IEC materials** on provisions and processes of MGNREGA, the Community Radio jointly managed by DA and the rural population playing a major role. One significant achievement was a prominent shift from baseline awareness levels about the scheme. Approximately **150 illiterate women turned literate**, using TARA Akshar and TARA Ganit as enablers within a record time of 45 days. This now guarantees that these rural women are not cheated of their wages and do not sign on doctored receipts.

The **GIS-based resource inventory and design support tool** for NREGS Planning and Designing interventions was designed and developed for seven representative Gram Panchayats from Jhansi and Tikamgarh districts. The resource inventory was done in consultation with gram panchayat and villagers and highlighted the existing resources in the panchayat and also suggested the action plan for allocation of work under NREGS.

[1]Ministry of Power, Progress report of Village Electrification as on 31-08-2010. http://www.powermin.nic.in/JSP_SERVLETS/internal.jsp

Empowering Communities

through multi stakeholder action for…

Institution Development for the Marginalised

While informal institutions have always existed in rural India, recent importance given to small economic and social institutions like self help groups indicate the value of such institutions for growth and development outcomes, particularly for the marginalised in geographical spaces of Bundelkhand and Himachal Pradesh. DA's programme for Institutional Development has focussed on this and has built on it to take it further for the benefit of other states in India. Concrete steps and activities include developing and refining:

- Policy and planning support tools
- Village and environment information systems
- Environment information systems and interactive digital atlases
- Decision support systems
- Implementation support tools
- Information and communication engines
- Policy research and influence

In the year 2010-11, DA concentrated on developing a variety of planning and policy support tools to enable state, district and Panchayat level governance bodies to integrate environment concerns in programmes and schemes, enabling response to climate change issues.

Policy and Planning Support Tools

Lok Awaas Yatra

The Lok Awaas Yatra, is an initiative of basin-***South Asia*** for generating awareness and disseminating possible strategies for climate change mitigation and adaptation measures for safe and sustainable habitat development through dialogue, networking and knowledge sharing by a participatory cross-learning journey across vulnerable geo-climatic regions of rural India.

Lok Awaas Yatra

Designed as a series of five yatras, the journey exposed the yatris to approximately six good practice projects that demonstrated appropriate construction technologies, institutional systems and sanitation and water supply mechanisms, suitable for rural areas and livelihood initiatives in the habitat sector and others.

During Lok Awaas Yatra, DA networked with 19 partners across the country such as Megh Pyne Abhiyan, Bihar, Goal, UNNATI, Self Employed Women's Association (SEWA), Gujarat, Centre for Sustainable Development (CSD), Himalayan Environmental Studies and Conservation Organisation (HESCO), etc. Almost **120 Panchayat members and masons** have been trained through the five sub-yatras. Besides acquiring knowledge from the actual journey to successful projects, the Yatra resulted in the development of **63 case studies**, highlighting energy-efficient and sustainable safe habitat development initiative tools for dissemination of climate change messages and mitigation methods in the form of posters, film and brochures. Ten short films and two longer films were prepared on the yatras and the website kept active with developments - www.lokawaasyatra.net

One of the biggest achievements of the Yatra was when the **Government of Madhya Pradesh** officially collaborated with DA to

support and design the **Madhya Pradesh State Rural Housing Mission** for **Sustainable Rural Housing Policy**. The pilot programme that was initiated on 1 November 2010 will be launched as a scheme.

Some other achievements were:

- Awareness generation among participants from different areas of work
- Engagement with local and state level decision makers
- Growing interest among the people about the Yatra as indicted by approximately 80,000 hits on the Yatra website
- Knowledge collection, consolidation and dissemination

Integrating environment concerns into district planning in India

DA has implemented with the support of **The Asia Foundation (TAF)**, the two-year project **Strengthening District Planning in India.** This project has designed a methodology for planning and management of environmental issues with the focus on drinking water quality and waste management, integrating the concerns of both rural and urban areas in the Tikamgarh district. A district level **State of Environment Report** has been prepared for six villages – **Ladpura, Jamuniya Khas, Maharajpura, Gujjarra Khurd, Sitapur** and **Rajpura**, representing six Gram Panchayats of Tikamgarh District of Madhya Pradesh. A detailed **Village Level Environment Situation Analysis** was a major output of this initiative.

Interactive SoE Atlas 2010

Realising the need of a systematic database for environmental issues, Development Alternatives, supported by the Ministry of Environment and Forests, had designed and developed the first Interactive **State of Environment (SoE) Atlas of India**. Launched by the Ministry for public access on Earth Day, 22nd April 2008, in New Delhi, the interactive Atlas is a compilation of categorised thematic maps on green (forest, biodiversity), blue (water resources) and brown (air pollution) environmental issues and provides flexibility and versatility for users to visualise environment spatial data, using simple Geographic Information System (GIS) functionalities. This year, approximately 10 new thematic maps have been prepared and data for 20 already existing thematic maps have been updated in the SoE Atlas.

State of Environment Consultation Workshop

Interactive State Environmental Atlas (SEA) - Rajasthan

A **Rajasthan State Pollution Control Board** supported initiative, SEA Rajasthan has resulted in the development of user friendly intranet and internet access to disseminate environmental, social and natural resource information in the form of **maps, data tables, photographs and bibliographic materials**. A cost-effective technology, it has become a commonly used tool for easy access and dissemination of spatial and non-spatial information for planning and monitoring development interventions.

The **GIS-based Decision Support System (DSS) for NREGS** being developed under the NREGS+ initiative **supported by United Nations Development Programme (UNDP)** India, provides a framework for resource mapping to understand the existing resources and their spatial distribution to enable effective NREGS planning and implementation. The resource mapping involves collecting, collating and plotting information on the occurrence, distribution, access and use of resources within the economic and cultural domain of a specific community.

Participatory Village Energy Planning Toolkit

DA has developed a **"Toolkit for Participatory Village Energy Planning in Rural Areas"**, especially for Panchayati Raj Institutions (PRIs), government officials, farmers, local entrepreneurs and local NGOs. This toolkit has been developed by keeping various institutional and financial mechanisms or models in place along with the communities to ensure sustainability of the project in the long run. The understanding and lessons generated from these initiatives will be captured, documented and converted into **training** and **capacity building modules** for the purpose of wider **dissemination and replication**.

Bundelkhand Village Information System (BVIS)

DA is in the process of developing a **GIS-based Village Information System** for **Bundelkhand** to share, store and disseminate spatial and non-spatial data for the DA Group entities and user organisations to strengthen decision-making for decentralised planning. The BVIS works on converting data on development activities and impact from various projects of DA in the region into useable and analysed information to facilitate the monitoring of socio-economic and environmental impact in the region.

Implementation Support Tools

Carbon Assessment Tool for Buildings

A tool for calculating embodied energy and natural resource footprint of building technologies has been developed under the SDC-SCSI initiative. This tool will be helpful in deriving values of carbon emission reduction in the use of eco-building materials and practices by government engineers and members of the Artisans cluster - TARA Karigar Mandal (TKM), thus promoting eco-construction.

Launch of GIS-based Thematic Maps

Carbon, Environment and Social Assessment Tool for Community

DA, under the **HP-CLAP Project for Environment Protection and Carbon Neutrality**, supported by the **Government of Himachal Pradesh** and **64 NGO partners**, has taken steps to stop and attempt to reverse the steady deterioration of the environment due to unsustainable exploitation of natural resources. The carbon and environment assessment tool, probably the first of its kind in India, helps to provide an understanding of the current environmental conditions to each village and identify areas that contribute most to their carbon footprint and environmental degradation. It also assists communities in identifying and prioritising activities to be done at village level for awareness generation and on-ground action for improving the environment. The tool covers natural resource management, land use, land cover change, energy and solid waste management.

Environmental Quality and Carbon Footprint Assessment Maps for Village Communities in Himachal Pradesh

DA in collaboration with the 64 partner NGOs in Himachal Pradesh has drawn maps of **12 districts and 57 towns of the state** to support environmental reconnaissance and assessments by community-based organisations, under the **HP-CLAP** project . These GIS-based thematic maps comprise thematic databases on environmental quality,

seasonal environmental quality maps on selected parameters and carbon foot-print assessment maps.

The information feeds into the village carbon cards that help communities to asses the environmental impact of their activities and plan accordingly. The GIS-based database also comprises a prototype interactive **Decision Support System (DSS)** for Air and Water quality management in a CD-ROM serving as awareness tool for 12 districts and one Panchayat. This has been shared with **Himachal Pradesh Pollution Control Board (HPPCB)**.

Policy Research

Under the **Strategic Programme Review for Climate Change Priorities and Challenges in India**, supported by the **Department for International Development** (DFID), DA consolidated the current perspectives on climate change and poverty alleviation in India to set a clear narrative on what climate change means for India's development prospects. A combination of intensive literature review and consultations resulted in conceptual frameworks for low-carbon climate-resilient **"LC-CR" development approaches**. These frameworks have been overlaid with poverty reduction and Millennium Development Goal (MDG) attainment approaches for synergies and trade-offs. The evolving scenarios will be utilised to develop the appropriate policy and institutional responses required.

National Communication for Climate Change-India 2010

In the last few years several measures relating to sustainable development have been introduced in India, thus putting economic development on a climate-friendly path. India's development plans balance economic development and environmental concerns and the planning process is guided by the principles of sustainable development. All these measures directly or indirectly contribute to the objectives of **United Nations Framework Convention on Climate Change (UNFCCC)**. Being a party to UNFCCC, India is required to furnish a **National Communication Report** (NATCOM). In this context, Development Alternatives, in collaboration with the **Ministry of Environment and Forests (MoEF)**, undertook a study to review various development policies/plans/programmes that lead to climate change mitigation and adaptation directly or indirectly. The present study gives the analytical review of existing national development policies and essentially highlights the capability and potential of these in contributing towards climate change mitigation and adaptation. The study also provides case studies, showcasing the impact of development plans on the community, environment and natural resources and also contributing to climate change mitigation and/or adaptation.

Information and Communication

In the year 2010-11, communication initiatives facilitated dialogue with partners, the corporate sector, local, state and national governments and offered communication solutions for stakeholders on diverse issues.

Shubh Kal

Shubh Kal is a continued initiative of DA to bring to attention of the entire community of Bundelkhand the risks of climate change and possible adaptation and mitigation options. The campaign was launched in 2008 under the **Advancing Capacity in Support Climate Change Adaptation** (ACCCA) **Project** on Risk Communication for Adapting to Climate Change. In its earlier stage, ***Shubh Kal*** was linked to sensitising policy makers and communities about the risk of climate

change. This was an experimental stage for ***Shubh Kal*** and it was realised that there is great need of creating awareness about climate change risks, locally relevant coping strategies and measures, all leading to improvedadaptive capacities.

Adaptation to Climate Change

In the second phase, the campaign first focussed on communication for targeted audiences. Climate change and adaptation messages were given through different communication tools, such as *Nautanki* (Folk plays), wall paintings and wall messages, community radio programmes and focus group discussions to different audiences - farmers, rural women and artisans. Groups of farmers, women and artisans were selected for adopting sustainable agriculture practices, efficient irrigation techniques, green livelihood options and cost effective eco-building services for lowering their carbon footprint.

Currently in its third year, the campaign is centred on spreading messages on climate change risk and solutions to a larger audience. In this reference, DA's concept of a rural reality show for catalysing large scale climate change adaptation, awarded the **World Bank's 'Global Development Marketplace 2009'** in the **Most Innovative Idea in Climate Change Adaptation category**, is being worked upon.

The operational plan of Rural Reality Show is currently underway. The advisory committee has been set up, with well known personalities, such as Ms Jyoti Parikh (Executive Director, IRADe) Mr Keertan Adyanthaya (Managing Director, Fox international Channel), Mr Aditeshwar Seth (Gram Vani), Prof. Amitabh Kundu (Environment Economist, JNU), Dr Pratibha Bhalla (Kamla Nehru College), Shri S. Parthasarathy (Member, Board of Directors, NDDB), Shri Sameer Nair, Turner Channel in India comprising the panel.

Radio Bundelkhand

A community radio jointly managed by the rural community and DA, **Radio Bundelkhand** is an unique example of the role radio can play in creating awareness and bringing about behavioural change amongst the rural masses.

Set up in 2008 at the sustainability Resource Centre in **TARAgram Orchha**, Radio Bundelkhand acts as a **sustainable and interactive platform for dialogue for the poor and the illiterate in Bundelkhand**. It enables the local population to access the **power of electronic communication**, helping them explore and discuss issues that are relevant to the community of the area and to find their own solutions.

The medium acts as a vehicle for the underprivileged to be **heard**, be **informed, shape knowledgeable opinion, learn the give-and-take of informed dialogue** and become **decisive agents** in their own development. The medium **reflects the identity, history, dialect and idiom and art and culture of the region**. The community radio produced and broadcast more than 500 programmes on diverse issues affecting the rural communities. Its programmes, generating awareness on the National Rural Employment Generation Act (NREGA) were in particular very popular in the radio listening belt, resulting in the district authorities of the region announcing Radio Bundelkhand.

ENVIS

The Environmental Information System (ENVIS) is a national-level information network setup to provide information related to environment by the Ministry of Environment and Forests. Recognised as an ENVIS Centre to provide information on Environmentally Sound Appropriate Technologies (ESAT) in 1984, through the website, www.daenvis.org.

In the year 2010-11, the emphasis was on **collection, collation and customising information content** of the portal to meet specific end-user needs. The following activities were undertaken:

- **Website and Database Design and Development**: The thematic focus of 2010-2011 was habitat related Environmentally Sound Appropriate Technologies (ESAT). A database which was created in the previous years were populated with details of technology, technical briefs, case studies, success stories, events etc
- **Query Response/Referral services**: Responded to 2506 queries under Query-Response Service under the Information Centre Management
- **Collection of the Information Centre**: The library at the ENVIS centre has been collecting information on ESAT related subjects from various sources.
- **Library OPAC (searchable)**: The Online Public Access Catalogue (OPAC) has been made available through the DAENVIS website (www.daenvis.org/dalib) to enable easy access to the large collection of ESAT related documents available in the library to both internal and external users.
- **Information Products Development and Dissemination**: The dissemination of information is primarily done through the DAENVIS portal.
- **Outreach activity**: The ENVIS centre at DA published newsletters (hardcopy and online) as part of its outreach activity. The Newsletter is published quarterly and distributed to ESAT practitioners around the world

Bundelkhand

DA's efforts in **Institution Development** in Bundelkhand has been exceptionally rewarding in 2010-11. Targets have been achieved and several new milestones have been set.

Narrow Casting with Rural Women

Some of the important achievements can be summarised as follows:

- More than 700 Self Help Groups (SHGs) have been strengthened through a number of capacity building programmes, benefitting 7222 women -
  - 310 on group development
  - 1584 on community institutions
  - 1278 on micro finance
  - 989 on gender issues
  - 1039 on livelihood
  - 231 on health issues
  - 1791 on other issues related to women empowerment,
  - 325 on nursery development, decentralised planning, social audit and soft toy making.
- Approximately **11000 households** (HHs) were made aware of the provisions and processes of different entitlement-related programmes at the state and national level. Out of these, 1534 HHs realised entitlements worth Rs 107 lakh from different government schemes like **Kapildhara, Mahatma Gandhi National Rural Employment Generation Act** (MGNREGA), **The Indira Awaas Yojna** (IAY), **Janani Suraksha, Total Sanitation Campaign** (TSC) etc.
- Financial Inclusion of **288 women SHGs** facilitated by DA against the annual target of 300. Among these, 200 women SHGs

opened bank accounts and 88 received credit card limit worth Rs 21.81 lakh cumulatively.

- More than **120 diverse community institutions** formed/strengthened during the year against the planned 100.
- Capacities of **291 Panchayati Raj Institution** members from **36 Panchayats** built on diverse issues - 120 on MGNREGS and decentralised planning, 10 on sustainable agriculture, 107 on climate change and role of Panchayats, 45 on agri-horti models and nine on other issues.
- Around 200 women made literate through **TARA Akshar+**. Additionally, 40 women were given training on financial management and banking systems under the **National Bank for Agriculture and Rural Development (NABARD)** supported **women self help groups** (WSHGs) project.

Network-based SHG Promotion in Bundelkhand

Supported by **NABARD** and **14 Civil Society Organisation (CSO) partners**, DA's project on network-based SHG promotion envisages formation and strengthening of 1000 SHGs. Similarly, supported by UNDP, DA initiated a network-based legal and entitlement empowerment of communities. The project is being implemented through a network of four local CSOs in all the six blocks of Tikamgarh district in Madhya Pradesh. The project envisages empowerment of **7500 women from 3000 villages over a period of two years.**

Way Forward

The year 2010-11, was a fruitful year for DA in the field of Institutional Development. Based on these achievements, DA will target the following in the coming year:

- DA as a technical support agency for Natural Resource Management in 13 districts of Bundelkhand
- Design Interactive State Environment Atlas for three States
- Develop Business plans for Village Information Systems (VIS) for government and the corporate sectors
- GIS-based NREGS planning kit for Ministry of Rural Development
- Tool-kits for renewable energy, carbon assessment
- Tool-kit for village energy planning
- Policy influencing tool for gender in construction
- White paper on water and energy use in Bundelkhand
- Access to carbon finance for rural communities

Achievements

Some of the major achievements of Development Alternatives in the field of Institutional Development in Bundelkhand and Himachal Pradesh are:

- Positioning of DA in the Climate Change and Adaptation Space
- Influencing of Rural Housing Policy in Madhya Pradesh
- Prioritisation of issues through participatory processes adopted by the District Administration of Tikamgarh
- 100 per cent financial inclusion of two humara gaon model villages of Rampura and Gopalpura
- Strengthening of TARA Karigar Mandal (TKM) for propagation and facilitation of Green Building Solutions
- Establishment of 64 partner CSOs in HP-CLAP and 12 district steering committees

Creating Green Jobs

through promotion and support of…

Employment Skills for Green Jobs

> "With a Young India population of almost 40 per cent and concerns on the implications on the carbon footprint, the DA Group envisions an opportunity for inclusive development of rural India. As a major human resource, the youth are seen as key for both social change and for driving economic development and technological innovation in the 21st century. This is why the specific objective DA seeks to achieve in its **Employment Skills for Green Jobs programme** is the large-scale creation of livelihoods on low carbon pathways with a focus on youth."

Employment Skills for Green Jobs

This is implemented through its robust and dedicated exposure, demonstration, and training and capacity-building initiatives for farmers, women and building artisans to ensure that the marginalised have the skills to access livelihood opportunities.

DA's Sustainability Resource Centres at TARAgram Orchha, Pahuj and Datia along with TARA*haat*, DA's ICT affiliate and its community radio, Radio Bundelkhand, and several projects with the above components for training are being implemented in **Bundelkhand, Himachal Pradesh, Jharkhand, Bihar, Chhatisgarh, Haryana and Punjab**.

The means adopted by the organisation are two fold - training and policy influence for green jobs and the surrounding environment of green infrastructure, green energy, green technology and an overarching green economy. A structured modular training methodology, with relevant manuals and modules, pool of internal and external expert resources has been developed with quality assurance and targeted delivery. The courses are practical and applicable, yet based on research on management and organisations. Separately, a lot of on ground upgradation of skills is done with technical inputs for resource efficient farming, eco-construction and women's green energy enterprises through bio-gas. Informal skills are imparted through the Village Resource Centres and Radio Bundelkhand through video and radio programmes.

One of the most significant series of initiatives taken this year for promoting the concepts of green jobs and green economies was the **TARAgram Yatra** (TGY). It is an annual event organised by Development Alternatives and its partners to deliberate on core issues of sustainability. The Yatra - *a journey or pilgrimage to attain higher goals* brings together top-level practitioners and policy makers from across the world. With a mix of dialogue and field visits, the Yatra offers a platform for exchanging cutting-edge ideas on the practice to policy connect for realising a sustainable future. The event recommends leads for follow-up on policies and action at the local, national and global levels.

The TARAgram Yatra 2010

This flagship event was designed to fulfil the organisational mission of creating sustainable livelihoods by generating policy interest in sustainable development through on-ground initiatives of DA, and linking the process to global dialogue on green economies in a lead upto Rio+ 20. TARAgram Yatra 2010 provided an insight to practitioners and policy makers on action and policies at the local, national

and global levels on critical **green economic issues** and practical solutions on **green jobs**, green investments and adaptation for livelihood security.

TARAgram Yatra 2010
- Towards Green Economy

The focus of the 2010 yatra was **"Towards Green Economies – Scalable Solutions for People and Our Planet"**. The objective was to facilitate **exchange of knowledge** and experience and encourage **generation of new ideas**, as well as **innovative and scalable solutions**.

The five-day programme was organised both in Bundelkhand (to experience DA's development and environment initiatives and models) and New Delhi. Over 100 delegates attended the curtain raiser. Approximately 40 Yatris (*travellers*) took part in the field vists and workshops in Bundelkhand and around 200 participants attended the Delhi event on the closing day, which was marked by the unveiling of the **TARAgram Yatra Declaration**. The *Yatris* were from across geographical spread and sectors.

The Declaration, emerging from the Yatra has been continuously taken forward to various forums and platforms, nationally and internationally. The TGY dialogue promises to be a milestone in a **series of global multi-stakeholders consultation processes**, leading to **Rio+20**. It is expected to facilitate richer policy dialogues on sustainable development for the poor and the underprivileged. The Yatra is expected to influence various policy processes in **environment, renewable energy, eco-infrastructure, green jobs** and others. The Yatra is the mainstay of **India's Civil Society Initiative, aiming to influence the outcome of Rio+20.**

Yuva Yatra

As part of the TARAgram Yatra, the Yuva Yatra 2010 was organised wherein a group of urban youth and rural youth, sectors most impacted with lack of employment opportunities, visited parts of rural India in Bundelkhand and spent five days interacting with the local rural communities. The objective of this youth journey was to sensitise the young about the impact of climate change on the rural socio-economic fabric, the challenges and possible coping strategies. They in turn shared their young perceptions with delegates of TGY 10 providing some very interesting insights.

TARA Livelihood Academy

The TARA Livelihood Academy (TLA), a training affiliate in The DA Group, is a special delivery vehicle for providing jobs through skill development and enterprise support services. It has been created with the purpose of consolidating knowledge, gathered by The DA Group and developing a series of capacity building training programmes on the "**Three E's**" concept, i.e. **Employability Skills, Entrepreneurship Development and**

Key Outputs

Result Areas	No. of people trained	
	Target	Achieved
Executive Training	886	565
Employability Skills	753	425
Enterprise Development	500	235
Project Training	800	623

Training of Trainers Programme

Executive Know-How aimed at the creation and enhancement of Green Jobs.

In the year 2010-11, about 1850 participants out of the targeted 2940 artisans were trained under various training programmes within and outside the TARAgram Orchha campus. In addition, TLA tied up with management colleges like the **Birla Institute of Management** and **Fortune Institute of International Businesses** etc for development management courses. Apart from retaining the existing clients, TLA forged new alliances with the **National Bank for Agriculture and Rural Development–Micro Entrepreneur Development Programme (NABARD-MEDP)**, GERES India, an NGO working on climate change and development, **the Ford Foundation** etc.

Greening of the Value Chain

The Ministry of Labour and Employment (MoLE) and the **International Labour Organisation (ILO)** assigned DA the task of conducting a skill mapping study on the craft cluster of Moradabad and Firozabad in Uttar Pradesh under the **Skills Development Initiative (SDI)** of the **Government of India**. The objective of the study was to examine the challenges faced by the industry and seek answers to its problems from a skill development orientation. The report **on the skill mapping study of Moradabad craft cluster has been submitted to ILO**.

Additionally, potential weak links of Jabalpur dairy cluster, in Madhya Pradesh were identified on the basis of a dairy value chain development exercise organised by TARA Livelihood Academy, along with three International consultants – two from Sri Lanka and one from Italy.

One of the interventions suggested during the Value Chain Development (VCD) process was to impart alternate livelihood training to the dung-cake workers. This was done to mitigate the adverse impact on employment of these workers in Jabalpur owing to the upcoming 1.2 MW bio-gas plant of RDM Care Private Ltd TLA worked towards imparting - Training of Potential Micro-Entrepreneurs (TOPE) and Training of Starting Micro-Entrepreneurs (TOSE) to build capacities of those who wish to diversify their skill-sets to suit the requirements of possible income generating opportunities and micro-enterprises.

Renewable Energy - Household Bio-gas

The TARA Livelihood Academy (TLA) looks at follow-up interventions primarily into areas of environmental impact, decent work and just transition principles and overall competitiveness. Its focus last year was on the dairy sector.

The specific objective of TLA, under the renewable energy programme is to provide technical support and collaborate with local institutions for the promotion of bio-gas applications in dairy farms and village households. All these actions will lead to reduction in methane emissions, creation of additional jobs, increase in energy supply and reduction in drudgery, particularly of women at the household level.

Concrete steps and activities under the assignment involve:

- Promotion of adoption of biogas-based power generation technology among dairy farmers - providing liaison and assistance for adoption and installation of biogas-based power generation among dairy farmers, which also includes liaison for subsidy and technology suppliers to ensure successful installation and commissioning of bio-gas plants.

Skill Development and Capacity Building under the SDC-SCSI project:

Activity	Yearly Plan	Progress (at Bundelkhand)
Awareness Building in new farming technologies	Training of 300 Farmers	20 **animators** and 100 farmers trained during Kharif farming or monsoon crop
Demonstration and adoption clean technology	8 new Renewable Energy power plant 50 Climate resilient technologies adopted by FAC, TKM, WEC 3 Joint Task Force with solar pump 1 training for TARA Karigar Mandal	1 (Pahuj Solar), 2 expected (from NABARD and SCATEC) 80+4 (line sowing, vermi-compost etc.) 1 (Joint Task Force in Rampura Village) 1 (During Madore Village Construction)
Policy influence	2 workshops with Bundelkhand Development Consortium partners 1 workshop on Climate Change in the context of semi-arid region of India with special focus on Bundelkhand	1 workshop in Tikamgarh with NABARD Completed. Follow-up for next level engagement 1 DST Workshop

- Support of functionality enhancement of the bio-gas plants promoted by the **Madhya Pradesh Urja Vikas Nigam** (UVN) - Providing assistance and facilitation to local stakeholders towards promotion of adoption of bio-gas plants at household level. This involves profiling of key success and failure factors in household level bio-gas plants and development of support package for improved delivery model of bio-gas plants. Also facilitate implementation of 30-50 bio-gas plants on the improved delivery model in collaboration with UVN.

Capacity Building under Radio Bundelkhand Projects

DA and Radio Bundelkhand undertook a number of projects that aimed at the capacity building of the rural community.

Building the Competence and Capacity of Community Reporters of Radio Bundelkhand

DA, in collaboration with **HIVOS**, initiated the one year project to bring about a progressive social and behaviourial change amongst the rural population of 120 villages in Bundelkhand, by building the skills of the rural reporters of Radio Bundelkhand. The objective was to provide a platform to the people of the region to gain wider access to information, understand and express their needs, raise issues, put across their concerns, be heard and exchange ideas amongst themselves – in their own language facilitated by the reporters. The project helped in the mobilisation and capacity building of rural women and youth.

One of the key highlights of the project was that it **influenced a behaviourial change** in the thinking of the local communities, specially the rural women and the local youth. Approximately **25 rural community reporters** were trained on the **techniques of sales** and **marketing spots** and **bringing in financial sustainability** to run the station on

their own. They were also trained on programmemaking on community radio skills, documentation, editing of programmes, feedback and case study collection. These reporters are now capable of understanding various issues, analysing them, designing and making more communicable radio programmes around them.

Capacity Building under Commonwealth of Learning Programme

Radio Bundelkhand and DA, in collaboration with **Commonwealth of Learning**, initiated a one year project for the capacity building of the local rural community members and groups through ICT, by training them to develop content for the radio programmes with the help of smart phones. The situation analysis and identification of content themes was done by the radio team and it was decided to develop the content of programmes on the National Rural Employment Guarantee Scheme. NREGS, is the flagship programme of the Government of India for providing employment to landless and marginalised households, but there is very little information available with the rural communities about it and they are often cheated of the full wages.

The major output of the project included:

- Capacity building of the radio reporters' team on using mobile phones for creating content for radio programmes
- The newly skilled community reporters produced 14 radio programmes, two while in training, 10 on NREGS and two on freedom fighter Rani Lakshmi Bai
- Reporters were trained on planning, scripting, production work and broadcasting using mobile phone technologies
- A new set of programmes created by Radio reporters, using field production tools
- Feedback collected from community on NREGS
- Community members participated actively in the process of creating content on NREGS enhanced for mobilisation of communities and feedback in a region suffering from high percentage of unemployment

Skill Training in Progress

Skill Development under NREGS+ Project

Radio Bundelkhand collaborated with UNDP **NREGA Convergence Programme** to **train rural reporters and create and broadcast programmes** on NREGS using different radio formats. The aim of the programme was to create **awareness** among the rural population of Bundelkhand on the scheme for rural employment.

The community radio frequently disseminated the information and created awareness on the issue of NREGS+ among the rural communities of targeted radio reachable and non-reachable areas. Where there was no radio reach, the reporters narrowcast the programmes, organised focus group discussions and enriched further programming based on the queries and feed back. The project was instrumental in building the capacity of the radio reporters, who learnt to work on large scale campaigns like NREGS.

A total of 10 radio programmes, 10 phone-in systems, four messages and four jingles, two radio dramas, five folk songs on NREGS+ and eight narrowcast packages were developed during the project period of four months.

During the broadcast period, radio frequently received feedback and the impact can be assessed through phone calls, letters and participation in narrowcasting programmes. The overall feedback received indicated that the programmes were very informative and exposed the people to a lot of information about the scheme. Some people purchased radios only to listen to the programmes and to get information on NREGS. Many of these listeners have already applied for job cards and asked their respective Sarpanchs about work to claim their rights. Phone-in systems are also a medium of feedback collection and to check the impact of radio programmes where callers are asking many scheme-related questions.

Way Forward

Based on the work done in the field of skill development, Development Alternatives has shortlisted following activities for the years to come.

- Strengthening of community management of Radio Bundelkhand through training and workshops
- Regeneration of local culture and heritage through radio programmes and training
- Identification of development needs of the communities and communication of solutions through infotainment programmes on radio and workshops/ training
- Working in a campaign mode for creating awareness about development issues related to the region
- Facilitating richer policy dialogue on green jobs for the poor and the underprivileged through TARAgram Yatra
- Take forward the TARAgram Declaration to various forums and platforms nationally and internationally

Achievements

Some of the major achievements under the thematic area were as follows:

- Training of 63 per cent of the projected rural community people under various training programmes by TLA
- Enhancement of institutional partnership contributing towards business development
- Training of NGO partners on Joint Forest Management of Government of Uttar Pradesh Forest Department under the **Japan International Cooperation Agency** (JICA) project
- Increase in number of management colleges like Birla Institute of Management, Fortune Institute of International Businesses etc for development management courses
- Enhancing institutional capabilities
- Expanded the cadre of radio journalists from rural areas - both woman and man

Creating Green Jobs

through promotion and support of…

Entrepreneurship Development for Social Enterprises

Development Alternatives works towards the creation of livelihoods through enterprise development initiatives. These initiatives inspire local economies, use local resources and promote local jobs. DA aims to promote entrepreneurial opportunities through the use of climate-resilient technology and enterprise solutions by conducting skill development research, identifying skill gaps, providing marketable skills and enterprise training programmes and facilitating the setting up of green enterprise models.

The DA Group also works on cluster development and promoting entrepreneurship at various levels of the value chain. By identifying business opportunities at the community level, it translates them into bankable enterprise packages with demonstrations and training. Its work in enterprise development stretches across Bundelkhand, Bihar, Chhattisgarh and Odisha in sectors such as eco-housing, renewable energy and water enterprise models.

Enterprise Creations

SDC-SCSI - Community Carbon Clusters as Green Social Enterprises

DA has actively contributed to the development of three models of community-based 'green' enterprises under the **Swiss Development Corporation's Sustainable Civil Society Initiative (SDC-SCSI) project**. The enterprise models of **farmers, women and artisans** in the Bundelkhand region demonstrate **'green' economic growth** in a region affected by the changing climate. The economic growth models not only demonstrate adaptation of the communities to the impact of climate change and educate them of the risks; they also display carbon savings through mitigation efforts. Energy saving and carbon sequestering agriculture practices are proposed to be registered for accessing carbon credits through Programme of Area Design Documents (PoADD) mechanisms. As individual actions of these groups will be too small to access carbon finance, they will be grouped to achieve sizable numbers of emission reductions of greenhouse gases (Community Carbon Clusters or C3) approach. Business plans have been developed for two of the enterprise models and capacities of the community groups are being enhanced for enabling them to run as profitable enterprises.

The Farmers Adaptation Cluster (FAC)

The intervention led to enhanced security of livelihoods, leading to reduced risks. Acceptance levels of new farming technologies were enhanced. At the start of the technical interventions few farmers adopted improved quality seeds and registered 30 per cent increase in the yield. This led to wider adoption of the improved seed variety and other practices.

The farmers are now well informed and are able to access new farm machinery and management practices. In the rabi or winter season of 2010-11, various drudgery reduction and water saving machineries, such as seed drill, groundnut harvester, wheel hoe, hand hoe, wheel plough, hand-held

groundnut decorticator were rented for full season to different farmers. As a result, the farmers club has generated cumulative revenue of approximately Rs 27,000 or USD 607[1].

Women Energy Clusters (WEC)

Women self help groups based on renewable energy from bio-gas have been initiated for quite some time through the management of gaushalas (cowsheds). Women have realised the potential of collective marketing and established seven collection and marketing groups as centres in villages. Milk collection centres have been established in two villages, where 300 litres of milk per day is being collected and marketed by women groups. Collective marketing of Neem (Azadirachta Indica) seeds has resulted in realisation of higher prices for women groups (from Rs 20 or USD 0.45 for 10 kg to Rs 60-70 or USD 1.35-1.58 for 10 kg).

Women have realised that they possess the capability to own and manage their own enterprises and two groups (of 10 women each) have moved beyond the boundaries of energy-based enterprises and taken up a contract for providing mid-day meals in local schools. Women have demonstrated their capabilities in owning and managing enterprises through a visioning exercise, which they will be able to carry out.

Skill Training in Progress

Artisan Clusters

Building artisans targeted under the project have enhanced their livelihoods through engaging in delivery and promotion of eco-building products and services profitably. The eco-habitat technologies used by them are both traditional or those developed and promoted by the DA Group (http://www.taramachines.com/Default.aspx). The artisan groups have been formalised into the TARA Karigar Mandal and have been able to capture the green building construction in the local market. The group of 80 masons has been able to take-up eco-construction works amounting to Rs 11 lakh or USD 24,720 in the current year.

Exploring the potential of mutually reinforcing the role of women in habitat-based livelihood services-technology development, application and delivery

Sl. No.	Activities planned	Target planned	Target achieved
1	Set up MCR tiles Enterprise	1	1
2	Set up concrete pavers enterprise	1	1
3	Set up Pre-cast Concrete Toilet Enterprise	1	Nil
4	Village Lime Manufacturing Unit	3	Nil
5	Village level federations	5	5
6	Group Enterprises	10	7
7	Train SHG members on account keeping	350	172
8	Train SHG members on management of SHGs	400	287
9	Train SHG members on personal hygiene	138	209

Supported by the **International Development Research Centre, Canada** (IDRC-CRDI), DA has initiated a project to study the role of women in the habitat services sector and the value that women bring to the sector. The study under the Gender and Innovation programme of IDRC, reveals conditions under which **women can effectively engage in the habitat services sector** and **provide innovative input** towards technology design and development, services delivery and even training systems. The study will result in **identification of specific capacity - building interventions and policy briefs** for the same.

Capacity building of rural women in habitat products and habitat services and skill development for entrepreneurs in MP, UP and Rajasthan

DA, in support with the **Department of Science and Technology (DST)**, has taken an initiative for capacity building of rural women in habitat services. The initiative will focus on comprehensive capacity building of women in addition to the specific skill building in identified areas. The issues of health and hygiene, literacy, basic accountancy, safety at work place, insurance, child care etc are merged with skill-building packages. Finally, women will be able to form and develop one of the enterprises of their choice.

Loktak Lake Project

Monitoring and Evaluation of Project Implementation of Short term Action Plan for Conservation and Management of **Loktak Lake** project is to carry out monitoring and evaluation of the ongoing project "**Conservation and Management of Loktak Lake and Associated Wetlands Integrating Manipur River Basins**". The Loktak Development Authority, Government of Manipur, has implemented this project since January 2009. The **Short Term Action Plan (STAP)** has been approved by the **Planning Commission** for implementing the project. DA's key task is to carry out Monitoring and Evaluation on three aspects: **socio-economic, institutional arrangement and result-based management** for alternative livelihoods as traditional fishing is destroying the eco-system of the lake. A mid term evaluation was conducted from November 2010 to February 2011.

DST- Core Support for Green Livelihoods

The **Department of Science and Technology** Core support to Development Alternatives is to scale up available technologies and develop/source new technologies, which would strengthen the commercial entities and community groups towards creating sustainable livelihoods in large numbers. The major emphasis is to produce goods and services for the local market and bring the poor and downtrodden, the women and the marginalised, into the mainstream. While implementing core activities in Bundelkhand, this approach is coupled with capacity building of village institutions and has initiated community managed development processes along with the large scale technology-based enterprises and livelihoods creation with full spectrum of **Innovation**. The emphasis is on sourcing and collaborative research and **development for product/technology customisation, incubation**, primarily for enterprise development with focus on livelihood opportunities and **dissemination** of technologies with special focus on business models for enterprises and community-based models with Science and Technology applications. The project has resulted in the creation of sustainable livelihoods and self-employment opportunities for individuals/ SHGs, taking locally available resources.

ACC Wadi - Sustainable Community Development Programme

DA initiated the **Sustainable Community Development Programme** in collaboration with the **Associated Cement Company** (ACC), Wadi, Karnataka, to create *Hariyali, Udyamila* and *Sampannata* (Greenery, Entrepreneurship and well-being) around the ACC plant in Wadi, Karnataka. The objective was:

- Strengthening of organisational capability

- Sensitisation and capacity building of stakeholders
- Sourcing appropriate technical solutions and expertise
- Forging alliances

The work done under the project towards these objectives that help develop enterprises can be summarised as:

Bundelkhand

Work done in Bundelkhand for enterprise development can be summarised as follows:

- Initially six spice collection centres were established in six villages, which gradually got converted into kirana (general merchants) shops. These shops currently register an earning of approximately Rs 2000 or USD 45 per month.
- Through process oriented collective marketing approach with MART, a turnover of Rs 11, 21,045 or USD 25,193 was achieved in four months. This initiative included a milk collection centre, groundnut collection and grading and neem fruit (nimolee) collection. Around 192 families have enhanced there livelihood and now understand the strength of collective marketing.
- Three milk collection centres established and managed by three village community cadre. Each milk producer registered a growth in income of Rs 3-4 or USD 0.08-0.09 per litre of milk, approximately 57 per cent of increment from produced milk.
- Groundnut grading enhanced the income of the producers by Rs 4-6 or USD 0.09-0.13 per kg of groundnut produced.

Income Generation Activities (IGA)

Approximately 350 families are involved in IGA activities in which 295 are in the farming sector and 49 are in the non-farming sector.

Proposed Activities	Annual Target	Achieve -ments
Income Generating Activity (No. of families)	500	344
Enterprise Establishment	32	16

They initially started the income generation activity with an investment of Rs 28,34,740 or USD 63,702 and turned up with Rs 6,63,860 or USD 14,918 per month.

Achievements

- Over 32,435 kg of groundnut traded off by 96 households from 10 SHGs of five different villages in Jhansi Mandi (market) involving a turnover of Rs 9,45,710 or USD 21,252 and a profit of 25.42 per cent.
- Approximately 2755 litre of milk supplied to Nova dairy from 26 December 2010 to 31 January 2011, generating a revenue of Rs 56,850 or USD 1,277 accruing around 50 per cent additional income to the rural livestock farmers and women

Way Forward

Through its enterprise development initiative, DA aims to promote entrepreneurial opportunities through the use of climate resilient technology and enterprise solutions. In this regard, DA plans to undertake capacity building of the members of the women, farmers and artisans clusters as demonstrated in the business plans under the SDC project.

1 USD = Rs. 44.50 as on July 2011

Part III: Salient Projects

Policy Influence - TARAgram Yatra 2010

Perspective

Our world faces two epoch defining issues – persistent poverty and environmental degradation. These two issues have resulted from adopting a highly lopsided economic system. Over the past couple of centuries, this system has given the appearance of great success, but the weakness of its foundations has now become evident to all. With rapid industrialisation and improvement of material living conditions in the developed countries, the system itself, on the other hand, has kept millions in developing countries, deprived of basic necessities of sustenance. Simultaneously, about one third of the natural resource endowments have been degraded. According to the statistics of the International Union for Conservation of Nature (IUCN), there are now 16,306 species threatened with extinction.

Growing international concern about the economic roots of environmental destruction and the ongoing economic crisis has given us a unique opportunity to address these concerns. With worldwide reduction in employment and production, many nation states are incurring huge developmental expenditures to revamp their economy. This creates the opportunity to orient the new developmental ventures towards achieving the dual goal of poverty reduction and environmental regeneration. This would mean creation of green jobs and sustainable livelihoods, strengthening social capital, empowering citizens, reducing our carbon footprint, reversing the loss of biodiversity and reviving the health of our ecosystems, i.e., creating Green Economies.

Intent

The focus on *"Towards Green Economies – Scalable Solutions for People and Our Planet"* was through the vehicle of TARAgram Yatra (TGY), an annual event organised by Development Alternatives and its partners to deliberate on issues of sustainability in the context of climate change. Resonating through every facet of DA's efforts to promote and facilitate sustainable human development for the poor and the underprivileged, the dialogue promises to be a milestone in a series of global multi-stakeholder consultation processes leading upto Rio+20 in 2012.

TARAgram Yatra 2010

> "A Green Economy is a system that creates decent employment opportunities – green jobs - and produces green products and services with equitable distribution and sustainable consumption leading to regeneration of the environment."

Partners

TARAgram Yatra 2010, a five-day long programme across TARAgram Orchha in Bundelkhand, Uttar Pradesh and Delhi, was organised by The Development Alternatives Group, in partnership with **Green Economy Coalition (GEC), the Ring Alliance of Policy Research Organisations, the International Institute for Environment and Development (IIED) and the Nehru Memorial Museum and Library, New Delhi**. This was the **India dialogue**, a part of four international dialogues to be conducted globally in Brazil, the Caribbean and Mali.

The Event

The five-day event started with a curtain raiser in New Delhi, entrusting the *Yatris* with carrying forward the debate and action on green economies issues during the course of the Yatra. The working sessions at TARAgram Orchha and field visits over the next three days had the participants engaging in dialogue concerning the designs of eco-livelihood mechanisms and how they can be applied at scale in the climate change context. The participants got a summary overview in global trends, major gaps, best practices, key influencing factors and high potential opportunities in priority sectors for large scale impact, such as renewable energy, sustainable agriculture and waste recycling etc. which will ensure environmental regeneration and livelihood sustainability in the long run. A session was also devoted to field visits to habitat, energy, water, information services and local institution building initiatives at the TARAgram Sustainability Resource Centres and local initiatives.

The programme concluded with a day long plenary session in New Delhi. It was a "consultation and communication" session with a national and global audience, including youth-representatives. A separate, but connected, exercise was carried out in the form of TARAgram Yuva Yatra. Here, the

The TARAgram Declaration

The specific recommendations:

- Mobilise political will at the highest level to define targets and outcomes to ensure efficacy in implementation and accountability for action
- Foster multi-stakeholder partnerships to accelerate the transition to a new green inclusive economy
- Direct investments including capital to decentralised, cost-effective measures that maximise social benefits by assessing the potentials for green jobs for sustainability and scalability
- Provide market incubation support for eco-technologies and services that may be delivered through decentralised channels of micro and small enterprises across the small urban and rural habitations
- Engage and enthuse youth in environmental regeneration and poverty alleviation decisions at all levels: local, national, global
- Continuously advocate for focused attention on the needs of the vulnerable – women, indigenous people and the environment for achieving agreed outcomes
- Strengthen community capacities for engaging in political and development processes
- Promote large scale public awareness on the need for sustainable lifestyles and the means for achieving it
- Assess, measure and provide basis for new research and development
- Engage with affected stakeholders to develop relevant solution packages in identified priority sectors
- Coordinate among different Ministries, such as Ministry of Environment and Forests and Ministry of Finance, to bring the dual issue of development and environment protection under a single workable policy formulation

perceptions and demands of the group of urban youth, rural youth and an international youth member that visited Rural India in Bundelkhand and spent five days interacting with each other, both at an intellectual verbal manner, as well as first hand experience in the villages were shared through a street play and a live radio programme.

Participants

- 100 delegates attended the curtain raiser event on September 17 2010
- 35 delegates attended at TARAgram Orchha in Central India from September 18–20 2010
- 198 delegates attended the Delhi event on September 21 2010 at the Nehru Memorial Museum and Library, Teen Murti House, New Delhi

The participants were from across geographies and sectors. Important ministries of the Government of India such as Ministry of Environment and Forests, Ministry of Labour and Employment, Department of Science and Technology, Ministry of New and Renewable Energy, including the Secretaries, policy practitioners, various United Nation Foundations like, United Nations Employment Programme (UNEP)-Grid and International Labour Organisation (ILO), foreign diplomats, environment monitors like the International Union for conservation of Nature (IUCN), financial institutions, multilateral – bilateral agencies, national and international Civil Society Organisations, academics and the private sector etc. added value to the programme.

Way Forward

Working in the field of sustainable development is a long-term engagement as opposed to one-shot interventions. It requires constant nurturing of the ideas and programmes and building them up for the next level of intervention. Following are the components, which should be expanded and developed further:

Branding

- Clear, universally accepted single messages for positioning has to be developed over a period of time.
- A unitary branding of 'sustainability – environment regeneration and poverty reduction' is essential for creating consensus at a broader level.
- Green economies are contextual, therefore each region may need to define their own.

Theme for 2011

The theme for TGY 2011 is **`Resource Efficiency and Green Transformation: Driving Change in Asia'**. The Yatra will act as a platform for multidisciplinary and multicultural dialogue and activities promising to give regional perspectives for the series of global multi-stakeholder consultation processes leading upto Rio+20.

Policy follow-up

TARAgram Declaration recommendations require to be followed up. For that purpose, the following materials have been prepared and are available in the Green Economy Coalition (GEC) website, www.taragramyatra.org website and have been widely circulated amongst academics, practitioners and policy makers:

- Background papers
- Theme papers
- Tool kits and operational guidelines
- Films on different solutions such as energy, water, habitat
- Case studies from India
- Knowledge products on different sectors such as green jobs, renewable energy
- Learnings from TGY 2010
- Proceedings

Community - MGNREGA Plus for Sustainable Livelihoods

Perspective

India has witnessed an alarming rise in unemployment - from 7.3 per cent in 1999-2000 to 10.7 per cent in 2009-10. The growth in unemployment is associated with the downfall of agricultural share in India's Gross Domestic Product (GDP) – 24 per cent in 2000 to about 18 per cent in 2009. These two led to increase in poverty and hunger, especially in rural areas in general and among women in particular. Therefore, the state consciously introduced a series of wage employment schemes in the rural areas before the legislation of the well known Mahatma Gandhi Rural Employment Guarantee Act (MGNREGA) in 2005. The act guarantees 100 days of employment every year to each rural household (only adult members) on demand (out of which 33 per cent participation of women is compulsory) and is a pan-national programme with a budgetary allocation of about Rs 50,000 crore for the current financial year by the Government of India. Apart from wage employment guarantee, the scheme aims at creating durable assets in rural areas and strengthening of the local self governments – the Panchayats by mandating them to spend 50 per cent of the funds for this purpose.

MGNREGA implementation has been under the scanner for its poor service delivery and low citizen participation, especially among women in the states of Madhya Pradesh and Uttar Pradesh, where MGNREGA intervention is needed the most. These are also the states that occupy 33rd and 34th rank out of 35 states ranked in the Human Development Index, India. The reasons attributed to the poor service delivery in these states are low awareness on the processes and provisions of the Act, poor capacities of Panchayati Raj Institutions (PRIs) to plan and monitor work, untimely wage payment, no institutional mechanism in place for maintenance of assets created under MGNREGA and corruption.

Labour Work Under MGNREGA

The United Nations Development Programme (UNDP) and the Government of India (GoI), expressed their intention to support innovative pilot projects on leveraging the MGNREGA for Human Development through inter-sectoral convergence or other innovative ideas to strengthen implementation of MGNREGA.

The innovative ideas were to be supported in the context of a GoI-UNDP project 'Support to Operationalisation of the MGNREGA'. The objective of the GoI-UNDP collaboration is to ensure pro-poor communication and advocacy strategies, articulation of demand of work, refining of procedures and systems and on capacity building at the central and state levels in areas, such as social audit, local planning and Information Communication Technology (ICT)-based Management Information Systems (MIS) and Monitoring and Evaluation systems and convergence. The project also aims to support innovation, which will strengthen the implementation process. The areas of intervention identified for support under this initiative were:

- Sustainable livelihood and value addition to assets created under MGNREGA
- Human resource development, i.e, literacy, health care, child and nutrition care
- Skill building and moving towards sustainable employment

Development Alternatives, with its past experience in the domain of sustainable livelihoods, its inter-institutional alliances and strong understanding of MGNREGA, responded to the expressed intent of UNDP and Government of India. This paved way for the project titled 'MGNREGA+ - Convergence for Sustainable Livelihoods'.

Partners

The project supported by UNDP was implemented by DA in cooperation with rural communities and Radio Bundelkhand

Intent of the project

The project was divided into two phases - first being the inception phase that aimed at undertaking different assessments to understand the demand and supply status in the two districts of Tikamgarh and Jhansi in Madhya Pradesh and Uttar Pradesh respectively. The second phase being that of implementation based on the understanding generated through the inception phase in the pilot Gram Panchayats, four and three respectively from Jhansi and Tikamgarh districts. The inception phase also resulted in introduction of the project among critical stakeholders, apart from building project specific rapport with them to seek their support in the process of the project implementation. **The specific goal of the project was to enhance the quality of implementation and nature of influences that MGNREGA can pose for the benefit of the demand side**.

Specific Objectives of the project

The pilot intervention aimed to test out approaches for:

- Bridging the planning gaps through convergence with the Village Development Plans and line department plans
- Setting up a development ladder to take the poor out of the poverty cycle and leveraging their strengths as Common Interest Groups

Literacy through MGNREGA

Concrete steps and Project Activities

Initiatives included:

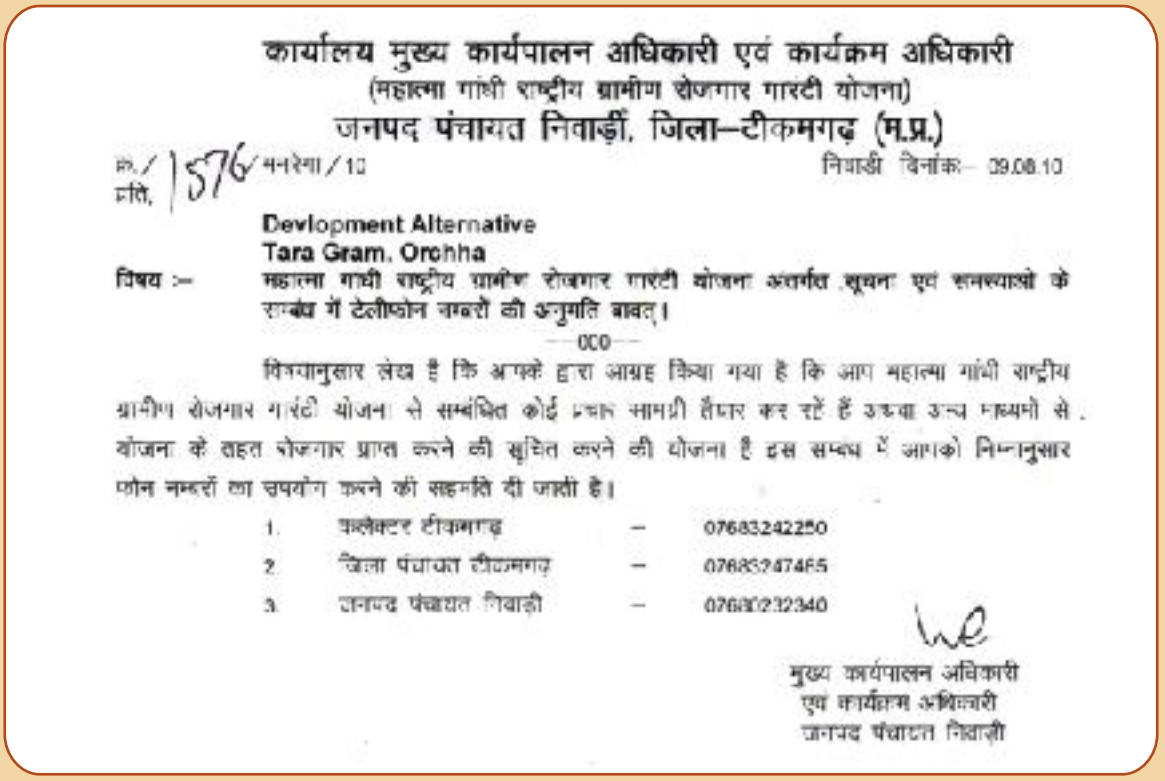
- Development and utilisation of illiterate-friendly IEC materials and Community Radio programmes for raising awareness among citizens on the provisions and processes of MGNREGA
- Innovative setup of a MGNREGA workers support institution for demand aggregation and articulation
- Enhancement of opportunities for illiterate women to access information on MGNREGA through piloting of computer-aided adult literacy (TARA Akshar and TARA Ganit) programme
- Building capacities of Panchayati Raj Institution members on decentralised planning and development of participatory convergence plans
- Creation of a resource inventory, using the Geographic Information System (GIS) as a tool
- Development of GIS-enabled participatory convergence annual plan for the targeted Gram Panchayats and its inclusion in the annual work plan of concerned line departments and MGNREGA
- Development of sample shelf of project with labour budget projections for representative Gram Panchayats

- Development of a multi-stakeholder dialogue platform at the local level to enable and exchange of ideas and facilitate engagement with supply side actors
- Ensure observance of set out transparency and accountability mechanisms in the targeted Gram Panchayats

The MGNREGA+ model, as a pilot intervention, addressed the limitations of the implementation of the Act. What was special about the project is that it tested how a large number of poor people can benefit through convergence with important government programmes at planning stage, building up skills and capacities and setting up essential support systems, particularly for much needed infrastructure.

Achievements

- Development of an array of illiterate-friendly IEC materials on provisions and processes of MGNREGA.
- A significant shift in baseline awareness levels. When asked **who takes up MGNREGA works in villages, 98 per cent respondents in Tikamgarh** and **79 per cent in Jhansi** in a survey, replied 'Panchayat' against the **baseline values of 74 per cent and 48 per cent respectively** earlier. The interpretation has been drawn through household assessment that was carried out in 154 households in Badagaon, Jhansi and 138 households in Niwari, Tikamgarh.
- **66 per cent** respondents in Jhansi and **44 per cent** in Tikamgarh were aware of all the worksite facilities during the baseline and the end line revealed that the percentages jumped to **92 per cent and 89 per cent respectively**.
- During the baseline, only **three per cent** of the respondents in Jhansi and **one per cent** in Tikamgarh were aware of the provisions of unemployment allowance and conditions for its claim, while during end line it shot up to **31 per cent** and **47 per cent** respectively.
- 150 illiterate women became literate by using TARA Akshar and TARA Ganit within a record time of 45 days.



कार्यालय मुख्य कार्यपालन अधिकारी एवं कार्यक्रम अधिकारी
(महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी योजना)
जनपद पंचायत निवाड़ी, जिला–टीकमगढ़ (म.प्र.)

क्र./ 1576 मनरेगा / 10 निवाड़ी दिनांक 29.08.10
दिनांक,

Devlopment Alternative
Tara Gram, Orchha

विषय :– महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी योजना अंतर्गत सूचना एवं शिकायतों के सम्बंध में टेलीफोन नम्बरों की अनुमति बाबत्।

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विषयानुसार लेख है कि आपके द्वारा आग्रह किया गया है कि आप महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार गारंटी योजना से सम्बंधित कोई प्रचार सामग्री तैयार कर रहें हैं उसका उच्च माध्यमों से योजना के तहत रोजगार प्राप्त करने की सूचित करने की योजना है इस सम्बंध में आपको निम्नानुसार फोन नम्बरों का उपयोग करने की सहमति दी जाती है।

1.	कलेक्टर टीकमगढ़	–	07683242250
2.	जिला पंचायत टीकमगढ़	–	07683247465
3.	जनपद पंचायत निवाड़ी	–	07683232340

मुख्य कार्यपालन अधिकारी
एवं कार्यक्रम अधिकारी
जनपद पंचायत निवाड़ी

- Development of GIS-aided resource inventory and convergence annual plan for seven representative Gram Panchayats from Jhansi and Tikamgarh districts
- About 50 Panchayati Raj Institution members trained on decentralised planning and development of participatory convergence plans
- Continuous interface and effective engagements with supply side actors for conducting Social Audits
- Radio Bundelkhand played a significant role in creating awareness and received numerous queries from the village listeners. The district administration made Radio Bundelkhand an alternate information centre for this scheme

Way Forward

The project learning, coupled with previous experiences from the Poorest Areas Civil Society (PACS) programme in six states and intensive research conducted in Bihar by Development Alternatives, suggests that a lot can be done to improve the quality of MGNREGA implementation in India. Therefore, DA plans to work with Governments (both state and national) and bilateral institutions to generate more successful evidence on ground and come up with an Alternative Implementation or a Management Model for MGNREGA and other similar state-sponsored flagship poverty alleviation programmes.

TARAgram

Since its inception, Development Alternatives has undertaken activities in the Bundelkhand area of Madhya Pradesh where oppressive social structures and extreme environmental deficiencies have held back sustainable development. The hub of these activities is the development resource centre at TARAgram, Orchha, which was established in 1996. It has evolved from a pilot handmade paper unit into an appropriate technology research and training centre. Inspired by the success of the TARAgram Orchha, two more appropriate technology research and training centres were established in Datia and Pahuj.


TARAgram Orchha


TARAgram Datia


TARAgram Pahuj

Innovation-Interactive State Environmental Atlas (SEA) - Rajasthan

Perspective

For development planning and policy decision-making, ready and quick availability of related information is an essential pre-requisite. Decisions relating to sustainable development can be taken more effectively, if environment and socio-economic data over a certain period of time and for specific geographical areas are collected, presented and disseminated.

Realising the need of a systematic database, the Ministry of Environment and Forests, Government of India and Development Alternatives created the first interactive web based Environmental Atlas of India in 2009. Taking the lessons from there and in order to create more environment planning tools, Development Alternatives with support from the Rajasthan State Pollution Control Board (RSPCB), designed and developed the first Interactive State Environmental Atlas (SEA) - Rajasthan.

What is special about this atlas is the innovative interactivity - a compilation of categorised thematic maps on green (forest, biodiversity), blue (water resources) and brown (air pollution) environmental issues - that provides flexibility and versatility for users to visualise environment spatial data, using simple Geographic Information System (GIS) functionalities.

Intent of the Project

The Atlas will be used for identifying emerging environmental issues and hot spots in the state. The data/information aims to help decision-makers and planners in regularly assessing and monitoring the state of environment.

Objectives

The specific objectives of the Interactive State Environmental Atlas - Rajasthan are:

- To provide intranet and internet access for environmental, social and natural resource information

Front End of SEA-Rajasthan

- To provide information in the form of maps, data tables, photographs and bibliographic materials in an easy to use format so that they can be shared easily and quickly with government agencies, educational institutions, research scholars, international donors, the private sector and civil society representatives

Partners

Development Alternatives has prepared the SEA - Rajasthan in collaboration with the Rajasthan State Pollution Control Board, Rajasthan.

Concrete steps and Activities undertaken in the Project

The activities undertaken for the preparation of the interactive web-based ***"State Environmental Atlas (SEA) - Rajasthan"*** were:

Data Collection, Interpretation and Analysis

The existing spatial (Vector/Raster data) and non-spatial data were collected from Department of Environment and Forests, Government of Rajasthan, the Rajasthan State Pollution Control Board (RSPCB), Central Pollution Control Board (CPCB), National Atlas Thematic Mapping Organisation (NATMO) and other state

government departments and agencies. This was then collated and analysed for thematic mapping.

Integration of Data (Spatial and Attribute)

Thereafter, the non-spatial data was integrated with spatial data for thematic map preparation.

Website Layout and Design

Layout and design of all the thematic maps was done for publishing on the web. All thematic maps show the spatial distribution and trends of identified parameters.

Review of Analysis and Consultation Workshops

Short section summary notes giving an overview of the present environmental status and future trends were prepared. Two consultation workshops were organised and data was analysed and validated by different government departments. Also the thematic maps were analysed and depicted as per the framework of Pressure-State-Impact-Response (PSIR).

Publishing on the Internet

The thematic maps were published on the web using the Autodesk Map Guide server. The website comprises:

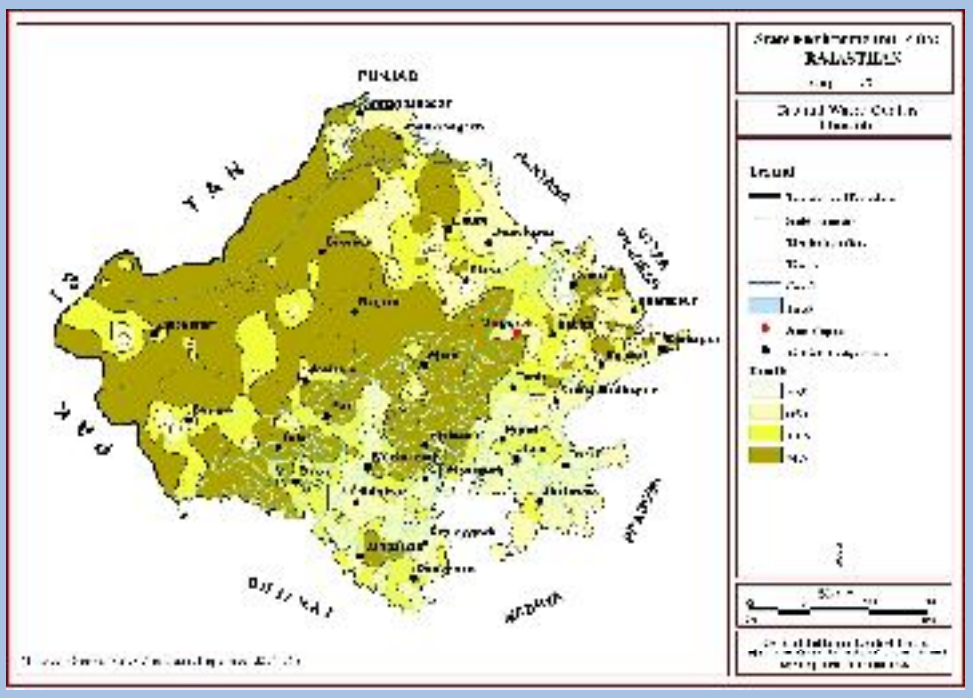
- Front End (user interface)
- Administration Panel (access control)
- PSIR Framework (analytical logic)
- Environmental Database (spatial and attribute)

Achievements

SEA - Rajasthan is a first of its kind state level web Atlas of India. This gives details about the environment of the state at district and block level. The State Pollution Control Board of Rajasthan is currently testing the atlas and will soon put it in the public domain.

Way forward

The Interactive SEA has a large pool of potential users for both the monitoring and reporting functions of the system. It is also strengthening the State of Environment reporting and data collection process in the state and helps the state ENVIS centre to disseminate the current environmental information. The Atlas will be updated regularly.



Ground Water Quality (Fluoride) Map of Rajasthan

Sustainable Civil Society Initiatives to Address Global Environmental Challenges

Perspective

Often called as the heartland of India, the Bundelkhand Region comprises 13 contiguous districts, seven in Uttar Pradesh and six in Madhya Pradesh. It has a population of approximately 21 million, 82.32 per cent of which is rural with 35.36 per cent households Below Poverty Line (BPL). Literacy rate remains as low as 55.73 per cent and female literacy rate falls below the regional average (40.99 per cent). The region is drought prone (average annual rainfall is less than 800 mm) with dwindling natural resources, few livelihood options and poor economic growth.

In the context of adaptation, energy efficiency and emissions reduction leading to the mitigation of climate change effects, the rural areas of Bundelkhand region are characterised by the following two key aspects:

Growth of Carbon Intensive Production Processes: In the last decade or so, the region has been moving towards a high-carbon growth path. This is primarily on account of three kinds of processes - irrigation, livestock production and the manufacture of construction materials.

High Vulnerability to Climate Change: Vulnerability in the Bundelkhand region can be attributed to climate-related stresses such as frequent droughts as well as low adaptive capacity and other stresses (degeneration of natural resources base; insecurity of livelihoods, lack of access to information, technology, finance and markets; poor infrastructure and a generally indifferent administration) all leading to high distress migration.

Intent of the Project

An assessment of initiatives in Bundelkhand reveals that steps have lately been taken in the region on building social capital. This is being done by NGOs (including DA and its partners), and the Government departments under various schemes and projects. It is however, limited and does not take into consideration factors such as climate change no coping strategies and lack of climate resilient technologies where focused interventions are required on a sustained basis. It is this gap that presents a strong rationale for the project and DA, with its strong field presence, capabilities in designing and delivering integrated technological and financial solutions to target groups and convening power to bring about multiple stakeholders on board and influence appropriate levels of policy, and its long relationship with the Swiss Agency for Development and Cooperation (SDC) was placed well to take up this task in Bundelkhand.

Initiatives Under the SDC-SCSI Project

Objectives

The long-term goal of the fifteen year programme of SDC - Sustainable Civil Society Initiatives to Address Global Environmental Challenges is to eradicate poverty on a large scale without destroying the environment. The overall purpose of the three-year SDC-DA collaborative project under the programme, envisages: “Approaches to enhanced eco-security for rural communities are developed and ready for replication with the support of favourable policy frameworks”.

Specific objectives of the project, which is now in its third year, include the development of

three adaptation and mitigation models for farmers, women and artisan in construction, leading to influencing policy for replication of these green social enterprise models.

Approach

The project has been designed to address three critical issues: capacity building, technology and enterprise options and policy support. These contribute to the core problem of communities not being able to work their way out of unsustainable practices. Thus, there are three components in the project, the activities in each component being done to reinforce each other and with ultimate focus on demonstrating the adoption of proposed solutions by the target groups.

Achievements

The project interventions targeted three primary stakeholders - farmers, women and building artisans and facilitated institutions and agencies, such as local governments - village and district, academic and research bodies, financial institutions, such as National Bank for Agricultural and Rural Development (NABARD), Civil Society organisations (CSOs) and state government of Uttar Pradesh and Madhya Pradesh. The outcomes are reported with respect to each stakeholder group and policy makers.

Major Partners

DA is implementing the project with support of the Swiss Agency for Development and Cooperation, the rural communities of Bundelkhand and Radio Bundelkhand. Other partners are mentioned under the three models below.

Farmers' Adaptation Cluster (FAC):

Replication of resource efficient farming practices by farmers has taken place by means of demonstration with intervention to approximately 300 farmers. The various practices include drip/sprinkler-based irrigation, line sowing, raised bed techniques, seed treatment, shade net, improved seeds, breeder seeds, agro-forestry, agriculture-horticulture models.

Partners

Indian Agricultural Research Institute (IARI), Indian Grasslands and Fodder Research Institute (IGFRI), National Research Centre for Agro Forestry (NRCAF), Kasturba Gram, Central Research Institute for Dry-land Agriculture (CRIDA), Chandra Shekhar Azad State Agriculture University (CSAUAT-Kanpur), Central Institute for Agriculture Engineering (CIAE), International Crop Research Institute for Semi-Arid Tropics (ICRISAT) and Radio Bundelkhand.

Activities

The project has been designed to address three critical issues: capacity building, technology and enterprise options and policy support. The activities to meet these issues are farmers' **exposure** to improved and new practices, **training** in new techniques, **formation and strengthening** of farmers' collective, **capacity building** and **information dissemination** was adopted. Cost-benefit analysis and access to public funds was also undertaken to motivate farmers and make small changes in their agricultural practices.

Achievements

Farmers have been able to access various government schemes such as National Horticulture Mission and National Food Security Mission. This happened due to a combination of information accessibility and enhanced knowledge. The farmers understand the impact of agricultural practices on the environment and how they can reduce green house gas emissions and vulnerability to climate change. Discussions with farmers reveal that they are able to connect reduced water tables in their wells to deforestation and over extraction of water for irrigation. This is supported by action taken by the farmers to reduce irrigation, as discussed in this report.

Total emission reduction during the kharif and rabi season due to adoption of sprinkler based irrigation was 7.2 tonnes. During the same period, emission reductions achieved as a result of improved tillage methods were two

tonnes. Agro-forestry has the potential to sequester 25t CO2/year/ha. However, the trees once planted may be accounted for only once they have attained an age of 3-5 years. 1,850 t CO2 stands to be sequestered due to agro-forestry works.

Practice of flood irrigation in the rabi crop resulted in application of 242 m3/ha of agricultural land. As compared to flooding, sprinkler-based irrigation consumed 172 m3/ha of agricultural land. Training modules and manuals have been prepared for sustainable agriculture practices and a cadre of Social Animators has been established which will play an important role for scale when an opportunity arrives. The Social Animators facilitate the process of knowledge transfer and also for collecting data on various farm level activities which aids in analysing water and energy usage.

The intervention led to enhanced security of livelihoods leading to reduced risks and acceptance levels of new technologies was enhanced. At the start of the technical interventions few farmers had adopted seeds of improved varieties and an enhancement of 30 per cent increase in yield was registered. This led to wider adoption of the improved seed variety and other practices.

Farmers are now well informed and are able to access new farm machinery and management practices. In the rabi season of 2010-11 various drudgery reduction and water saving machinery, such as seed drill, groundnut harvester, wheel hoe, hand hoe, wheel plough, hand-held groundnut decorticator were rented for full season to different farmers. As a result the farmers club has generated a cumulative revenue of approximately Rs 27,000 or USD 607.

A platform (the FAC as an integration of farmers clubs has been established for the farmers to function as a producer group, fertiliser providing agency, capacity building entity for resource efficient agricultural practices. The Bundelkhand Knowledge Platform has been initiated for engaging with stakeholders for effective participation in drought mitigation actions in Bundelkhand, and engagement with national partners for dialogue on climate change mitigation and adaptation. The formative meetings with CSOs from the region reveal the need for a sharing knowledge and collaborative action towards improved agriculture and livestock to reduce livelihood vulnerability in the region. Collaborative planning for action has been initiated facilitated by the Platform.

Links have been established with various research institutes for technical cooperation, thus making available the latest research and technical benefits for sustainable farming. The Indian Agricultural Research Institute (IARI) was involved in providing trainings for chaff cutting and efficient irrigation methods. Indian Grasslands and Fodder Research Institute (IGFRI) and National Research Centre for Agro Forestry (NRCAF) provided continuous inputs with their research data for various agricultural practices, such as agro-forestry, fodder management, livestock improvement. Kasturba Gram, Central Research Institute for Dry-land Agriculture (CRIDA) and Chandra Shekhar Azad State Agriculture University (CSAUAT-Kanpur) has provided technical inputs on the Package of Practices. Central Institute for Agriculture Engineering (CIAE) provided ergonomic farm machinery. International Crop Research Institute for Semi-Arid Tropics (ICRISAT) provided support for carrying out land water management works.

Women's Energy Cluster (WEC):

Due to various workshops and continuous engagement, facilitating agencies such as the Forest Department, Government of Madhya Pradesh have endorsed the bio-energy potential of cow dung and have assigned the Sankalp Swashakti Mahila Mandal (SSMM) to operationalise household level bio-gas units. Five bio-gas plants of two cum each have been constructed in forest villages, which are intended to reduce drudgery of fuel-wood collection and protecting the forests. It is proposed to develop livelihood activities such as spice grinding and milk collection using the energy so generated.

Partners

The main partner in the WEC has been the SSMM i.e. Sankalp Swashakti Mahila Mandal and technical support from Indian Grassland and Fodder Research Institute.

Activities

Training Under Bio-Energy Enterprise

The WEC is involved in five enerprises, namely, oil expeller, groundnut decorticator, milk collection, grinding unit and nimboli collection. In all the five enterprises the activities involve purchasing the raw material from villages, grading, extracting, testing and selling. The first three enterprises are regular activities, grinding unit is service based and nimboli collection is seasonal.

Achievements

Women have realised the potential of collective marketing and established seven collection and marketing centres in villages. Milk collection centres have been established in two villages where 300 litres of milk per day is being collected and marketed by women groups. Collective marketing of Neem (Azadirachta indica) seeds has resulted in realisation of higher prices for women groups (from Rs 20 or USD 0.45 for 10 kg to Rs 60-70 or USD 1.35-1.58 for 10 kg).

Women have realised that they possess the capability to own and manage their own enterprises and two groups (of 10 women each) have moved beyond the boundaries of energy-based enterprises and taken up a contract for providing mid-day meals in local schools. Women have demonstrated their capabilities in owning and managing enterprises through a visioning exercise, which they will be able to carry out.

NABARD, the apex rural finance institution, and the District Administration of Tikamgarh have shown interest and acknowledged the need to promote/finance green energy based enterprises by facilitating a partnership through a convergence platform among NGOs, bankers and government officials. The district administration took the initiative to host the meet in their premises.

The WEC-led bio-energy enterprise indicated a carbon saving potential from methane capture. Methane capture in the bio-gas plant has an estimated green house gas emission reduction of 3,987 ton CO_2 equivalent based on 80 per cent capacity utilisation and total load take-up. On current values, a net income of Rs 50 per day per woman managing the bio-gas plant is achievable in three years from sale of energy and potential carbon credits. This income has the potential of doubling; if sale of cow-dung slurry and agri-produce is added and backward-forward linkages of dependent enterprises are strengthened.

TARA Karigar Mandal (TKM):

Development Alternatives has been working with local masons and artisans in different parts of the country, but in an intense manner in Bundelkhand for building their capacities to cluster and share knowledge and work together in an entrepreneurial mode.

At least 33 million rural poor do not permanent homes in India and as the demand increases, it is hoped that a cadre of masons trained in eco habitat practices will be able to fulfil these needed while ensuring green jobs for them. The capture of traditional building knowledge, linked to eco construction techniques is expected to lower carbon emissions and strengthen mitigation strategies in rural India.

Building artisans in Bundelkhand targeted under the project have set up a mason's Guild and this has been formalised as The TARA Karigar Mandal with 80 masons with the aim

of capturing the local market building construction through green building practices. This has led to enhancing their livelihoods through engaging in delivery and promotion of eco-building products and services profitably.

Partners

The partners were internal such as TARA Nirman Kendra.

Activities

The activities under the TKM were designed around a three-pronged strategy based on knowledge dialogue amongst targeted artisans to select `low-carbon' habitat suitable technologies, capacity building of the building artisans and of local institutions through technical training and institutional development and packaging the green social enterprises model which included market testing and promotion and networking and leveraging supports and influencing policy frameworks at the state and national levels that favour the large scale replication of `low-carbon habitat'.

Achievements

The group of 80 masons has been able to take-up eco-construction works amounting to Rs 25 lakh or USD 56,180 in the last one year. Rapid increase in the number of green building masons has been achieved through master trainers, developed during the SCSI project's Phase I. The initial core masons trained in green-building techniques under the project was 80. This number is now growing and in the current period will be increased to 250 masons spread across 17 districts of Madhya Pradesh.

Replicable tools such as modules and manuals have been prepared which will streamline the skill enhancement process across geographies. As a result of the capacity building programme, out of 80 masons, 11 have emerged as contractors, trainers and negotiators. Some of the contract works in eco-friendly housing are Rudrani Art Village and Maya School in Orchha, which are worth about Rs 20 lakh or USD 44,943, besides a social housing initiative of 33 houses.

A public announcement has been made by the Madhya Pradesh State Government regarding the State Rural Housing Mission. The MP Government has formally announced the promotion of low energy and resource-efficient building technologies across the State and have set in place a process of demonstration of the same through community buildings, masons training and appropriate amendments in Schedule of Rates. In addition, the MP Government has engaged the services of TARA Nirman Kendra, a green building affiliate of DA, in association with TARA Karigar Mandal to provide training to artisans in 17 of the 50 districts of the State. The project is also working in close co-ordination with the MP Government to develop technical guidelines for eco-construction for the state.

Approximately, 115 t CO_2 emissions reductions have been achieved by the group in 12 months by carrying out green building activity, as compared to conventional methods. A carbon assessment tool developed under the project will enable a regular tracking across rural habitat and infrastructure development.

Way Forward

In order to achieve the overall goal of the project the following may be described as the three key areas in which action is required:

- Replication of the demonstrated models in all 13 districts of Bundelkhand region
- Intensification of the demonstrated models in the existing spaces

Policy Influence based on project lessons from Phase I to be capitalised with respect to key policy actors at state level.

Part IV: Compliance Information

Partners, Collaborators and Affiliates

DA has had the privilege of partnering with several globally renowned organisations

International organisations like United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United States Agency for International Development (USAID), World Bank, International Labour Organization (ILO), Swiss Agency for Development and Cooperation (SDC), International Development Research Centre (IDRC) Canada, Department for International Development (DFID) UK, CIDA, Swiss Red Cross. UNITAR, Practical Action, The Asia Foundation, European Commission (EC)

Academic Institutions like IIT Delhi, IIT Chennai, Indian Institute of Tropical Meteorology (IITM) Pune; School of Planning & Architecture (SPA) Delhi, Kalinga institue of Information Technology (KIIT)

Companies like Microsoft, Shell, Tata Chemicals Limited, Tata Iron & Steel Company (TISCO), Holcim, ACC and Ambuja Cements, Hewlett Packard, Cisco, Samsung and SCATEC Solar.

Government Institutions like Ministry of Environment and Forests, Ministry of Science and Technology, Ministry of Rural Development, Ministry of Panchayati Raj and Ministry of New and Renewable Energy, Ministry of Information Technology, Ministry of Water Resources and Ministry of Social Justice, Government of Himachal Pradesh, Government of Madhya Pradesh, Government of Uttar Pradesh, Government of Bangladesh.

21 state governments, Indian Space Research Organisation, Building Materials & Technology Promotion Council (BMTPC), Central Pollution Control Board (CPCB), National Wasteland Development Board (NWDB) and the Planning Commission.

Over 3000 civil society partners, financial institutions and foundations like Arghyam, MacArthur, Rockefeller and Ford Foundations.

The Development Alternatives Group

Development Alternatives (DA)

Technology and Action for Rural Advancement (TARA)

TARA Nirman Kendra (TNK)

Decentralised Energy Systems India Pvt. Ltd. (DESI Power)

TARAhaat Information and Marketing Services Pvt. Ltd.

TARA Environmental Products and Services Pvt. Ltd.

TARA Machines and Tech Services Pvt. Ltd. (TMTS)

The DA Group websites

www.basinsa.net
www.bkpindia.net
www.cleanindia.org
www.daenvis.nic.in
www.dainet.org
www.desipower.com
www.devalt.org
www.empowerpoor.org
www.lokawaasyatra.net
www.peoplefirstindia.org
www.tara.in
www.taraakshar.com
www.taragramyatra.org
www.tarahaat.com
www.taramachines.com
www.vsbkindia.org

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E NPWDEL@walkerchandiok.in

FORM 10B
[See rule 17B]

Audit report under section 12A(b) of the Income - tax Act, 1961 in the case of charitable or religious trusts or institutions

1. We have examined the attached Balance Sheet of Society For Development alternatives, (the 'Society') as at 31 March 2011 and also the Income and Expenditure Account for the year ended on that date which are in agreement with the books of account maintained by the said Society.

2. We have obtained all the information and explanations, which to the best of our knowledge and belief were necessary for the purpose of our audit. In our opinion, proper books of account as required by law have been kept by the Society so far as appears from our examination of those books.

3. In our opinion and to the best of our information and according to the explanations given to us, the said accounts, give a true and fair view, in the case of :

   a) the Balance Sheet, of the state of affairs of the Society as at 31 March 2011; and

   b) the Income and Expenditure Account, of the deficit for the year ended on that date.

4. The prescribed particulars are annexed hereto.

Walker, Chandiok & Co

for **Walker, Chandiok & Co**
Chartered Accountants
Firm Registration No: 001076N

per B P Singh
Partner
Membership No: 91110

Place: New Delhi
Date: 26 September 2011

Society For Development Alternatives

Balance Sheet as at 31 March 2011

	Schedule	2011 Rs.	2010 Rs.
SOURCES OF FUNDS			
Capital and other funds	1	26,124,227	43,834,483
Unspent grants, net	2	11,984,861	2,606,873
Deferred grants		120,606,798	111,787,773
Unsecured loan	3	13,782,692	13,792,692
		172,398,578	172,021,821
APPLICATION OF FUNDS			
Fixed assets	4	144,390,974	135,965,243
Current assets, loans and advances			
Cash and bank balances	5	23,103,617	29,271,692
Loans and advances/ receivables	6	17,481,773	21,245,211
		40,585,390	50,516,902
Less: Current liabilities and provisions			
Current liabilities	7	11,606,146	13,277,324
Provisions	8	971,640	1,182,601
		12,577,786	14,460,125
Net current assets		28,007,604	36,056,778
		172,398,578	172,021,821
Significant accounting policies and notes to the financial statements	13		

The schedules referred to above form an integral part of the financial statements.

For and on behalf of the Society

George C. Varughese
President

Wg.Cdr Vijay Raj (Retd.)
Manager Finance

This is the Balance Sheet referred to in our report issued in Form No. 10B of the Income Tax Rules, 1962 of even date

Walker, Chandiok & Co

for **Walker, Chandiok & Co**
Chartered Accountants

per B P Singh
Partner

Place : New Delhi
Date : 26 September 2011

Society For Development Alternatives

Income and Expenditure Account for the year ended 31 March 2011

	Schedule	2011 Rs.	2010 Rs.
Income			
Technical and other receipts			
Recovery towards establishment and infrastructure		38,064,700	42,140,000
Donations		5,059	503,091
Other income	9	624,920	1,600,172
Grant for assets of projects		4,350,678	3,595,442
		43,035,367	**49,338,705**
Expenditure			
Personnel expenses	10	32,716,834	35,757,456
General administrative expenses	11	17,348,176	19,856,846
Finance charges	12	1,664,912	930,799
Deficit of closed projects, net	2	3,996,230	5,211,329
Depreciation	4	4,538,907	4,377,006
		60,554,459	**66,142,436**
Deficit for the year		(17,519,102)	(16,803,731)
Deficit for the year transferred to capital fund		(17,519,102)	(16,803,731)
Significant accounting policies and notes to the financial statements	13		

The schedules referred to above form an integral part of the financial statements

For and on behalf of the Society

George C. Varughese
President

Wg Cdr Vijay Raj (Retd.)
Manager Finance

This is the Income and Expenditure account referred to in our report issued in Form 10B of the Income Tax Rules, 1962 of even date.

Walker, Chandiok & Co

for Walker, Chandiok & Co
Chartered Accountants

per B P Singh

Place : New Delhi

Credibility Alliance Norms Compliance Report

Identity

Society for Development Alternatives is registered as a not - for - profit society under Society Act. XXI of 1860 (Registration number 12964).

Society for Development Alternatives is registered under Section 6 (1) (a) of the Foreign Contribution (Regulation) Act, 1976 (FCRA Reg. No. 231650202)

Visitors are welcome to the addresses given on the "contact us" link on our website: www.devalt.org

Name & Address of main bankers:

Syndicate Bank, R K Puram Sector V, New Delhi 110 022

Name & Address of auditors:

M/S Walker Chandiok & Co., L-41, Connaught Circus, New Delhi 110001, India.

Governance

None of the Board members is related to each other.

The Development Alternatives Board members met once in the FY 2009-10 in Dec 2009.

Minutes of Board meetings are documented and circulated.

Accountability and Transparency

No remuneration, sitting fees or any other form of compensation has been paid since inception of the Society for Development Alternatives, to any Board Members, Trustees or Stakeholders.

Gender	Regular staff	Senior Advisors	Consult-ants	Project Appoint-ees
Male	73	8	8	60
Female	27	1	7	14

Distribution of Staff (as on March 31, 2011)

Regular staff	Male	Female	Total
<2500	0	0	0
<7000	11	0	11
<15000	31	4	35
<30000	22	15	37
<50000	7	4	11
>50000	2	4	6
Total	73	27	100

Staff Details (as on March 31, 2011)

Total cost of national travel by staff during the year:

Rs. 87 lakhs approximately

Total cost of international travel by staff during the year sponsored by external organisations:

Rs. 22 Lakhs approximately

Board of Directors

Name	Sex	Position on Board	Occupation	Area of Competency	Meetings Attended
Dr. Ashok Khosla	M	Chairman	Chairman Development Alternatives	Institutional Development	All
Mr. Lalit Mansingh	M	Member	Former Foreign Secretary	International Relations	All
Mr. Vikram Lal	M	Member	Chairman Vikram Sarabhai Foundation	Business	All
A V M S Sahni	M	Member	Senior Advisor Development Alternatives	Watershed Mangement	All
Ms. Geeta Sidhartha	F	Member	Chief Executive Visual Communications	Communications	All
Mr. Salman Haidar	M	Member	Former Foreign Secretary	International Relations	All
Prof. Amitabh Kundu	M	Member	Prof. of Economics Jawaharlal Nehru University	Development Economics	All
Dr. Arun Kumar	M	Member	President Development Alternatives	Technology and Business Devlt	All
Mr. George C. Varughese	M	Member	President Development Alternatives	Institutional Development	All

Part VI: Annexure

Business Solutions

green jobs and social enterprise for people and our planet...

The Business Solutions Branch (BSB) of the Development Alternatives Group works towards creating enterprises at rural levels to create wealth for the local economy. Constituent entities of the BSB incubate and deliver market-driven technology-based products and services, innovated by Development Alternatives.

Technology and Action for Rural Advancement (TARA) has, for the last 25 years, been incubating micro-enterprise based decentralised models aimed at providing home building services, pure water, energy services, clean cooking solutions and a range of income generating opportunities to the poor.

The DA Group has, in recent years, experienced accelerated growth through the establishment of several special purpose vehicles. ***TARAhaat Information and Marketing Services Pvt. Ltd.*** creates micro-franchises to deliver IT enabled education and skill building products to young job seekers. ***TARA Machines and Tech Services Pvt. Ltd.*** promotes sustainable technology solutions for small and medium enterprises. ***TARAenviro*** is a new company set up to market cutting-edge products to save water and our planet's other vital resources. ***DESI Power Pvt. Ltd.*** promotes biomass energy based "EmPower" models for rural electrification and enterprise creation. These entities have become attractive green investors and social venture funds.

Offering strong support systems like training and handholding, sales, marketing and after sales BSB also undertakes technology-based consulting projects and provides management services to Government agencies, Donors and private Foundations. Other roles include setting up and managing a network of franchised tele-centres and micro-enterprises, promoting environment friendly products and services, aggregating of Micro, Small and Medium Enterprises and launching of Special Purpose Vehicles. Its geographical range stretches from the interiors of India's rural areas to South Africa, Anglophone Africa and South Asia including Afghanistan, Bangladesh, Nepal, and Sri Lanka.

Green Jobs through EcoKiln Technology

1. Technology and Action for Rural Advancement

Realising the need to fulfil the needs of the poor and marginalised, Development Alternatives established **Technology and Action for Rural Advancement (TARA)** as a social enterprise in 1985.

Introduction to TARA

The Society for Technology & Action for Rural Advancement (TARA) is a social enterprise set up in the year 1985 at New Delhi, India. It is an incubation engine of the Development Alternatives Group which has been providing development solutions in India and elsewhere.

The vision of Development Alternatives Group is to create sustainable livelihoods on a large scale and to thus mobilize widespread action to eradicate poverty and regenerate the environment.

Mission

Build capacity, incubate business models and manage processes to create economic, social and environmental value on a large scale.

Technology solutions for the poor – TARA Makes it Possible

TARA as an **"enabler"**, is instrumental in the creation of livelihood support systems, training and capacity building for the rural poor and marginalized communities. TARA as an **"aggregator"** bundles support service packages, help large corporation explore new markets and also aggregate the output of local producer groups including micro, mini and small enterprises and connect these groups to market opportunities for BOP access and market development for ethical products and services. Governments, large Corporations and Civil Society networks benefit from TARA's expertise as a **"manager"** of large awareness creation, environmental action, community development and service delivery programmes in areas such as affordable housing, renewable energy, water management, sustainable agriculture, waste management and recycling.

Key Stakeholders

- Poor and marginalised communities and groups
- Micro, Mini and Small Enterprises
- Institutions
- Governments
- Donors and Funding agencies
- Business partners

National and International footprints

TARA provides products, designs and implements projects as well as delivers consultancy services across India, South Asia, East Asia, Anglophone Africa and other regions.

National Footprint

TARA has been incubating scalable business models in the Bundelkhand region of Central India. TARA has its presence in other parts of central and Northern India through Projects, Products and Services. It provides consultancy & project management services across the country.

Global Footprint

TARA's footprint internationally for **consultancy and Technology Services** spans Africa, Europe and South East Asia.

TARA has five lines of business: "Training and Capacity Building", "Green Products and Services", Livelihoods and Market Access", "Technology and Know-how Transfer" and "Programme Management Services".

Amongst the most significant developments of the year 2010-11, is TARA's foray into the management of multi-faceted large renewable energy based projects, beginning with the Embassy of Switzerland supported Village Electrification through Sustainable use of Renewable Energy (VE-SuRE) project.

TARA is, in itself, an incubator of businesses for the DA Group. Three special purposes vehicles are currently being nurtures within the BSB ecosystem to eventually be spawned off as vibrant social businesses in their own right. These are the TARA Livelihood Academy, TARA Paper and the TARA Environment and Monitoring Facility; which, it is planned, will become the backbone of our new company, TARAenviro.

Training of Trainers Programme

TARA Livelihood Academy

TARA Livelihood Academy (TLA) was established in 2007 by DA – TARA, as yet another vehicle to fulfil its mandate of disseminating Sustainable Development, by providing skills to the youth, women and community groups. With the recognition that skills and knowledge are the driving forces of economic growth and social development, TLA aims at supplying trained workers who can dynamically adjust to the changing demands of employment and technologies to the market and create a workforce that is in demand. TLA's priority areas, also called the

3E's, are Employability Skills, Entrepreneurship Development and Executive Training, aimed at unskilled individuals, aspiring and potential entrepreneurs and mid-career professionals respectively.

In 2010-11, against the target of 2939, a total of 1848 participants were trained (63%) under various training programmes within the campus and outside the campus, generating a business of over Rs 40 lakh or USD 89,888. TLA enhanced institutional partnership which contributed in terms of business development and surplus generation. Under the JICA project, TLA trained NGO partners of Government of Uttar Pradesh, Forest Department, on Joint Forest Management. Besides, there has been an increase in the number of management colleges, such as, Birla Institute of Management, Fortune Institute of International Businesses etc taking the Development Management Course. Not only have the existing clients been retained, but new clients like National Bank for Agriculture and Rural Development's Micro Enterprise Development Programme (NABARD-MEDP), GERES India, and Ford Foundation etc have also been added to TLA's clientele.

TLA now aims to focus more on marketing and branding. It is in the process of developing some marketing tools to capture a wider market, specifically, for executive training. These tools would include a website to create online presence, brochures, training toolkits etc. TLA is also aiming at targeting off campus training programmes, developing new products and customising exiting products for larger market reach.

For the financial year 2011-12, TLA is targeting at delivering 2490 training programmes and generating a business of over Rs 68 lakh or USD 152, 808. The strategy includes rigorous marketing of TLA's products and services, improving/customising existing training packages, developing new training packages, partnership approach, strengthening of resource pool and developing a quality and a more aggressive business-oriented team.

TARA Paper

The mandate of this Line of Business (LoB) of TARA is to implement a sustainable livelihood business model, which makes basic need products (paper and paper products like carry bags), hence creating social, environmental and economic value on a large scale. TARA has been a pioneer in hand-crafted high quality paper and paper products. These waste to wealth products have not only carved a niche in the national market, but are also capturing the international market. TARA Paper has generated revenue of over Rs 50 lakh or USD 112,360 during 2010-11. New clients like IGRMS, CMS Environment, and M/s Naturals etc have been added to the list of clients. It received a large order for Degree papers, which contributed to 10 per cent of the total invoiced amount of 2010-11.

Paper Recycling

TARA Paper has plans to scale up the business revenue in 2011-12, by targeting more clients, developing new and more products, and strengthening its marketing and business strategy.

TARA Environment Monitoring Facility (TEMF)

TEMF, yet another LoB of TARA, aims at developing and providing tools to monitor the quality of the environment (particularly air and water). Some of the high quality products being promoted by TEMF include water filtration technologies and water testing kits. In 2010-11, the Rotary Club of Delhi (South), DA-CLAP HP project constituted the major clients/ projects of TEMF and the overall revenue generation was over Rs 22 lakh or USD, 49,438.

Some of the key achievements of TEMF during 2010-11 include:

- A new material procurement and inventory system was implemented. Under this new system, cash purchases can almost be eliminated as orders are placed in bulk. It also improves the tracking of the inventory level and helps in timely placement of orders
- A new and updated TEMF website was launched (www.taraenviro.com). This website is easy to navigate, is user-friendly and has information regarding product range, features and specifications, FAQ's, etc. Since currently most of the clients learn about TEMF online, this would provide them with easy access to information about the products
- TEMF received an order for 19 Jal-TARA water filters to be installed in NCR and Uttarakhand
- Rotary Club of Delhi (South) placed an order for 10 water filters.
- Under the Water Technology Initiative Project (Department of Science and Technology), TEMF received an order for five water filters.

TARA's work in the Bundelkhand region of Uttar Pradesh and Madhya Pradesh exemplifies the development services, which have been made available to poverty stricken communities. These are the areas which have faced extreme environmental degradation and have had oppressive social structures for decades. The hubs of these activities are the TARAgram Sustainability Resource Centres at Orchha, Datia and Pahuj that support environmental and social value creation in over 150 villages across the region.

2. TARA Machines and Tech Services

TARA Machines and Tech Services markets green technology solutions for building construction, waste recycling and hand-made paper production. TARA Machines is a specialist company in Eco-Concrete Technology, Eco-Kiln Technology, Fly Ash Technology and Recycling Technology. It delivers business solutions to a global network of micro, small and medium enterprises owned by individuals, self-help groups or those promoted by companies,

NGOs and financing institutions. TARA Machines provides total solutions, including custom designed machines, technology know-how, training, material testing services and green consultancy.

The year 2010-11 was a year of rapid business expansion for TARA Machines; the full year sales revenue of the company was **Rs 333.90 lakh or USD 750,337 against the projected Rs 360 lakh or USD 808,989**, with a net profit (after tax) of **Rs 14.24 lakh or USD 32,000**, compared to the profit of Rs 6.44 lakh or USD 14,472 in 2009-10.

Paper Recycling Units: An increase in the sale of 85 units against 45 in the last financial year.

TARA Balram brick machines: Generated revenue of Rs 44 lakh or USD 98,876, while

TARA vibrating table for eco-concrete products: Generated revenue of Rs 7.5 lakh or USD 16,854.

One of the major highlights of TARA Machines was its **collaboration with various government agencies**. The company received orders from the **Ministry of Micro, Small and Medium Enterprises** (MSMEs), **Madhya Pradesh** and the **Department of MSMEs of Orchha and Jhansi** for eco-kiln technologies. It also received orders from two **Zila Panchayats** in Madhya Pradesh for eco-concrete technologies.

In 2010-11, TARA Machines successfully developed elaborate technology content in the form of user manuals, process charts, technology profiles, brochures and posters.

Some of the key learning for TARA Machines in the 2010-11 were:

Targeted Promotion: Targeting very specific customer needs generated very high and quality response.

Customer Feedback: Close monitoring of commissioning and stabilisation of first TARA MechBalram MX resulted in innovations that significantly improved machine reliability for subsequent customers

Website: A large number of enquiries continue to come from the regions of Maharashtra targeted for promotion in November 2011 and surge in enquiries from entrepreneurs from Internet-literate states of Andhra Pradesh, Karnataka and Tamil Nadu

In the coming years TARA Machines aims at

- ***Sales Management***
- Conversion of 15 per cent of enquiries generated into confirmed orders
- ***Service Delivery for Enterprise Success***
- 48 hour response time for all service requests
- Entering into Annual Maintenance Cost (AMCs) with 50 per cent of one year old customers
- ***Promotion Activity***
- One demonstration activity per cluster every quarter
- Monthly beat-map for Branch Office sales and service teams

3. TARA*haat* Information and Marketing Services Pvt. Ltd

TARA*haat* focuses on delivering, on a financially stable basis, ICT products and services that facilitate sustainable livelihoods for youth through franchised networks.

TARA*haat* Classes in Progress

TARA*haat* has skill enhancement programmes for rural youth. In 2010-11 over 4760 rural youth were trained through the following courses:

- Basics of Computer Fundamentals (BCF)
- Diploma in Advanced IT (DAIT)

- Advanced Diploma in Computer Applications (ADCA),
- Diploma in Web Design (DWD),
- Diploma in Computer Accounting and Hardware (DCAH),
- Diploma in Computerised Accounting System (DCAS),
- Advanced Diploma in Computer Applications (ADCA), and
- Diploma in Computer Applications (DCA)

Besides these, TARA*haat* also launched Franchisee Specific Courses. The organisation has launched Indira Gandhi National Open University (IGNOU) certified Certification and Diploma Courses in the Bundelkhand Region. The first batch of students, doing the IGNOU courses, has received their results which have been posted on the IGNOU website. Certificate in web designing, Diploma in Web design, Web design Professional and Dot Net have been developed and are ready to launch.

TARA*haat's* MIS is now completely online across the network and each student and TARA franchised Centre can be tracked through it. The online examination system is running successfully and adds value to the programmes. TARAhaat has launched an Associate Programme in which select courses are offered to Associates for short duration and in areas that have been untouched by TARA*haat* so far.

Projects: TARA*haat* has undertaken a number of projects. Under TARA Akshar+, an ICT-based innovative approach to literacy, more than 1633 learners were addressed in 2010-11. An evaluation and validation programme was also rolled out with the National Literacy Mission under the Saakshar Bharat Mission. This programme was carried out at three locations in Uttarakhand, Haryana and Rajasthan.

The programme was well received on international forums in the year 2010-11, as it was among the finalists for prestigious felicitations, such as the E-India Awards, the Stockholm Challenge Award and the Buckminister Fuller Challenge Award. Additionally, a module on access to entitlement has been created. This multimedia based module provides information on basic fundamental and legal rights of a woman.

4. TARA Nirman Kendra (TNK)

TNK delivers environment-friendly habitat products and services through a range of sustainable building technologies and advisory support. Broadly, TNK provides the following kinds of services:

- Supply of sustainable building materials and services from its production centre in Orchha (MP) to a diverse range of clients - house-owners, institutions, government works, etc.
- Green Building Consultancy services, which include design and technical specifications for green and affordable housing and institutional buildings; water and waste management; training of masons in application of green building techniques; performance standards/guidelines and research into energy efficient buildings.

In 2010-11, the focus was on putting in place production/marketing monitoring systems. The Jhansi market in Bundelkhand was consolidated by setting up new businesses in 100 km radius of city. In addition, green building research was conducted in energy efficient residential buildings and an active network of specialised consultants was developed. A significant breakthrough in training services was set up for the Madhya Pradesh government in 17 districts.

2010-11
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Development Alternatives

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