

Annual Report 2012

Building a Nation
Fit for Our Children



Development Alternatives

Organisation at a Glance

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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

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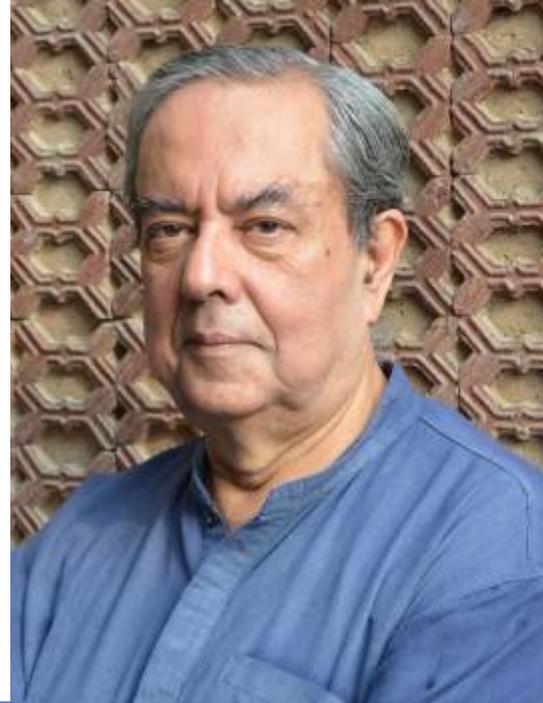
Overview

Synopsis

Significant Achievements

Compliance

Annexure



Chairman's Remarks

For a country such as India, sustainable development needs only two things: **meeting the basic needs of every citizen and maintaining the productivity of the resource base.**

Humanity today is under severe threat. It has been squeezed on all sides - by pressures from large-scale poverty and deprivation, from rapid growth of population, from over-consumption of resources that are fast depleting. These pressures are resulting in severe risks to our life support systems, our climate, our biological diversity and the productivity of our land, water and energy resources.

And many new factors are emerging all the time. The major issue before us today of climate change and species extinction were not even being discussed twenty years back. We do not know what new problems will have cropped up over the next twenty years. While we try and find solutions for problem areas we already know of; a more worrying fact is that we are not prepared for the surprises and sudden changes that the environment will throw at us tomorrow. Already today, the environmental boundaries of our planet are under severe pressure on many different fronts. How will the billions of people who are expected to be living on this planet in the decades to come find adequate food, water, housing, education or work? We have to deal on an urgent basis with the issues of human deprivation and environmental degradation – concerns that feed on each other and both linked with over consumption on the one hand and extreme poverty on the other.

For India to get back on the track to a sustainable future, I would say that it has to make fundamental changes in its policies and priorities. The top ones among these are, I believe:

- Putting the Last First
- Parity and Fairness
- Polluter Pays
- Precaution and Minimising Risk

“We now need new, very different mindsets, institutions and technologies that can overcome the limits and challenges that our nation will face in redirecting its development efforts to create a society where all citizens have opportunities for fulfilling lives. The prerequisite for this is to build a nation that is economically productive, socially fair and environmentally sustainable.”

The first principle, most powerfully enunciated by Mahatma Gandhi, “putting the last first” simply means that the first responsibility of society is to give the highest priority to the welfare of the most marginalized and deprived of its citizens. This is of course a moral imperative, but it is also a social and political necessity for a nation, since pervasive poverty degrades both.

“If our political systems, social institutions and economic policies continue to operate as they do today, there is little chance that our next generations will be able to live lives that are healthy, let alone full and satisfying. Remaining on today’s path means that they will be subject to a devastated landscape of chaotic governance systems, collapsed social and economic capital and a destroyed natural resource base.”

The second principle is that of parity and fairness. No nation's future can be secure if its citizens are divided by great inequalities of economic wealth or political power. With today's information and communication technologies, the growing marginalization, alienation and violence that will result can only undermine social stability, which is the prerequisite of a sustainable society.

The third principle is that whoever damages the eco-system, the environmental resources on which all life systems are based must pay the costs that are incurred by society and these costs must be integrated into economic decision making systems so that they reflect the true costs of our actions.

And finally, in making choices for technology, ways of working, and wherever we have to choose between different options, we must opt for those that carry least risk to the environment and society and ensure that we err on the side of precaution.

Adoption of these four principles is necessary to enable us to progress along the four Dimensions of Sustainability.

The first is Equity. As mentioned above, widespread poverty inevitably degrades a nation's social and political fabric. It also inexorably destroys its economic and ecological fabric. The rich, out of their greed, tend to overutilise non-renewable resources (materials, energy, land, and things that take a long time to regenerate); the poor, out of the exigencies of survival, overutilise what are called “renewable” resources, making them essentially non-renewable in terms of human time-scales (soils, forests, streams). In any case the close interdependence of different segments of society ultimately requires reasonably equitable economy in the interest of all. This interdependence requires that the basic human needs of water, regular nourishing food, secure supplies, shelter, security of tenure, health, personal growth, education, knowledge, participation, empowerment and personal security are ensured for all. And, all have the same opportunities for improving their lives.

The second dimension is Environment. This addresses the question of maintaining the resource base. We need to first regenerate our forests, rehabilitate our rivers which are perishing, bring back our wetlands, our lands and our soils. All the nature that we have destroyed over the last 60 years in India has to be brought back.

The third is efficient Economic systems that seek to provide better economic prospects and develop human enterprise for growth and sustenance.



And the fourth dimension is that of Empowerment, so that the weakest and most vulnerable of today, are in a position to make most of the opportunities available to them tomorrow. This will require investments in education, health, infrastructure and local self-governance processes.

Equity translated into practice, saving environmental resources and better economic prospects through enterprise development and empowerment are the primary dimensions of sustainability that need to be encouraged.

These principles and dimensions of sustainability have to be translated into policies and actions on the ground. While the policies translate in norms and standards, fiscal measures and regulatory frameworks, action on the ground has to be led by innovation in technologies, in institutional systems and environmental conservation and regeneration practices.

At Development Alternatives, we have given a lot of thought and effort to designing tools, techniques, institutional systems and resource management systems that can provide meaningful employment to the large number of our poor, bringing basic needs goods and services within their reach in a clean and green environment.

Our priorities today are to learn from nature and promote resource efficient practices at a large scale, work towards empowering our communities, especially our women through education and skills and strengthen our local governments.

Our Headquarters is a 'Centre for Excellence in Sustainable Housing and Rural Infrastructure'. With notable technical, environmental, social and cultural merit, the building is really a laboratory for sustainable construction in tropical or subtropical zones. This impressive building itself and the projects that will be conceptualized and implemented from here will further our agenda of demonstrating practices, technologies and solutions that are friends with the environment yet commercially viable.

The most important priority- which is true for every Government, Corporate Body and Civil Society Organization is what Gandhiji said - putting the last first - 'Antodaya' - **If every single human being has his or her simple basic needs met and the resource base is brought back to full health, we will have a terrific future for ourselves and those yet to be born.**



“Even one poor person is too many. Our national policies have not been aimed at their lives. We have far too much poverty in our land to be able to feel proud of our nation's so-called progress.”

Executive Summary

The year 2011-2012 has been a watershed year in the history of Development Alternatives in many ways than one. After six years, the organization returned to its reconstructed new home. The Development Alternatives' Headquarters in New Delhi is the 'greenest' address in town and a model for sustainable urban living, an inspiration for many. The new premises have infused a fresh vigour and a strengthened resolve to work towards our mission to create sustainable livelihoods at a large scale.

The year 2011-2012, saw the strengthening of all six thematic programmes. The Natural Resources Programme focussed on land water management in Datia district of Madhya Pradesh and continued its thrust to provide technical supports to farmers groups to promote sustainable agriculture practices relevant to semi-arid Bundelkhand. The work with farmers was complemented with a large scale awareness programme on climate change adaptation using an innovative reality show approach led by Radio Bundelkhand. The impacts of their work were clearly evident in the improved productivity and reduced inputs, especially irrigation requirements by farmers who were part of the programme and large scale adoption of climate change adaptation measures at household levels.

The Clean Technology Programme focussed its attention on promoting eco-construction and cleaner brick production in Bihar, Orissa and Madhya Pradesh. Tools and support services targeted towards entrepreneurs, artisans and government departments were developed. Engagement with market systems as well as policy makers have opened doors for enhanced uptake of clean production and construction technologies in these states.

The Basic Needs Fulfilment Programme has been engaged in field testing of models for delivery of services for eco-housing, sanitation and safe drinking water for the poor. The Programme reached out to urban areas with the household based water technologies.

The Institutional Strengthening Programme worked with community institutions as well as with public agencies to support policy development and implementation. The Farmer's Federation was registered and strengthened; the artisan's association was registered as a Mutually Aided Cooperative Society and put on an entrepreneurial path with increasing business in eco-construction services and 1000 women's Self Help Groups were formed and linked with financial services. The organization has made positive contributions to the development processes at the national stage, influencing the 12th development plan with respect to social housing programmes; evidence based research on climate change adaptation has informed the



formation of the Madhya Pradesh State Action Plan for Climate Change, the village energy planning tool kit. Development Alternatives was identified as the National Resource Cell for decentralised District Planning (NRCDP) by the Planning Commission.

The Enterprise Development Programme worked with community based off-farm enterprises for village women in a variety of trades and also developed business plans for safe drinking water services enterprises. The TARA Akshar literacy to self-reliance model was developed as an end to end support for empowering women to get out of the poverty rut.

The Programme for Employment Skills for Green Jobs is being managed by the TARA Livelihood Academy and supported by Development Alternatives. The Programme focussed on rural youth in Bundelkhand with new skills in the area of green products, jewellery, tailoring etc.

2011-2012 also saw the revival of the CLEAN-India platform aiming at engagement with the youth to bring in a sustainable change in urban environments across the nation. The Platform has launched its activities to reach out to young India through social networking. The rural communications programme grew from strength to strength. The World Bank Development Market Place award for one amongst the 100 most innovative ideas for climate change adaptation was successfully demonstrated as the world's first reality show on the community radio format. In eight months this show reached out to women and youth across 100 villages in the Bundelkhand region with messages and conversations on climate change, and successfully influenced over 3000 families to initiate small home based measures to respond to the challenges of the changing climate.

Development Alternatives' work at the grassroots received recognition for quality and robustness of its systems in watershed management, sustainable agriculture practices, delivery of services for eco-housing, training for job creation and rural communications. Green enterprise models for climate change adaptation in the semi-arid Bundelkhand have received appreciation from the civil society and public sector alike. These models provide adaptation and mitigation (ad-mit) benefits and they have been taken up by community groups of women, farmers and artisans in the Central Indian region. The TARA Akshar package was recognized as one of the only two IT based adult literacy programme by the Ministry of Human Resources, Government of India. The programme amply demonstrated that literacy is the bedrock of women's economic, social and psychological empowerment.

Development Alternatives contributed to the South Asian regional platforms on climate action – CAN-South Asia, social habitat – **basin-South Asia** and the regional strategies for Sustainable Development through the UNEP South Asia Environment Outlook report. Development Alternatives hosted prominent global programmes at its New Delhi office and regional resource centre, TARAgram in Bundelkhand. We showcased our strong practical solutions for poverty alleviation and sustainable development that have lessons for both the developing and developed nations. Development Alternatives has been recognized amongst the world's top 50 think-tanks influencing global public policy.

A strong synergy across the DA group affiliates have led to the transfer of safe drinking water and cleaner brick technologies for commercial delivery across India and South Asia. Regular introspection and an eye on the changing national policy and market environment ensure that we continue to remain relevant and competitive. And, robust internal management systems ensure that we maintain the high standards of institutional governance and justify our leadership status amongst the civil society organisations in India.

“If we were to start with understanding the root causes and consequences of our social, economic and environmental predicaments, we would quickly realize how important it is to promote human and natural diversity, conserve resources, and ultimately nurture human happiness.”

- Ashok Khosla



Synopsis

- Natural Resource Management
- Clean Technology Solutions
- Basic Needs Fulfillment
- Institutional Strengthening
- Employment Skills for Green jobs
- Entrepreneurship Development



Promoting Low Carbon Pathways through...

Natural Resource Management

Focus

- Land and water management
- Enhanced Food - Water Security
- Climate Change Adaptation
- Sustainable Agriculture Development Services for Farming Communities
- Policy Research, Planning Support Tools, Awareness Generation, Capacity Building and Communication
- Multi-stakeholder Dialogue Processes with Academicians, Policy makers, Professionals, Community groups and Non-Government Organizations to develop the relevant conceptual frameworks for Green Economy

The unsustainable patterns of consumption combined with extreme poverty have resulted in stresses on the natural resource base that have now reached crisis situations. For an emerging economy like India with grave inequities and a large population depending directly on natural resources this has created economic, environmental and social challenges that are now posing barriers to its sustainable growth. In addition to demographic and socio-economic pressures, unmindful agricultural intensification, deteriorating soil health, extensive diversion of prime agricultural lands to non-agricultural uses, depleting aquifers, deforestation, bio-diversity loss and genetic erosion lead to small and large crises on a daily basis. The over stressed natural resource base is further threatened by the impact of climate change. Under such worrying situations, economic growth that can assure basic quality of life for all can only be achieved in synergy with sustainable management of the natural resource base.

Management of Natural Resources (NRM) forms an important pillar of the Development Alternatives vision for sustainable development. The NRM Programme aims to foster clean and green societies as a basis for large scale sustainable livelihoods. The mandate of the programme is to design and demonstrate technologies, tools and methods, build community capacities and influence policy processes for the conservation, regeneration and sustainable management of environmental resources of land, water and biomass. This three pronged balance between conservation, regeneration and sustainable use promotes a sustainable economic growth within a healthy eco-system.

The focus of work under this thematic area in 2011-2012 has been to *improve farm productivity through efficient Land-Water-Energy management practices*. Community based solutions for adaptation to climate change impact and optimisation of carbon foot-prints of local economic activities have been a key concern. The work in this year has concentrated on the activation of community responsibility for environment assessment, protection and carbon neutrality in Himachal Pradesh and integrated water resource management and efficient farming practices in semi-arid

Bundelkhand. In addition the programme studied natural resource vulnerabilities and their effects on livelihoods in semi-arid regions with a special emphasis on Bundelkhand region of Central India. It looked at adaptation options, communication and knowledge support strategies to help the farming community adapt to the inevitable variability in local weather conditions due to global climate change impacts. The Programme reached out various stakeholders in semi-arid Bundelkhand and worked with policymakers to develop a comprehensive understanding of issues and potential solutions for the region.

The activities in the Bundelkhand region have focused attention on sustainable livelihoods issues through agricultural interventions for small and medium farming community. The strategy has been based on technical support services, intensive training and capacity building, knowledge exchange and identification of policy concerns for removing barriers and scaling-up good practices for water management and food security. Projects on ground have been supported by the Watershed programme of ICRISAT, Integrated Watershed Management Programme of the Government of Madhya Pradesh and the Climate Change and Development Division of the Swiss Embassy in India. A significant awareness on community level adaptation to climate change was created through a World Bank supported initiative using the potential of the community radio to reach out and influence behavior change. The Mahatma Gandhi National Rural Employment Guarantee Scheme supported programmes for integrated micro planning and contributed to the learning and strengthening of natural resource regime in the Bundelkhand region. Policy research activities have been taken up with support from the Indo-UK Programme Climate Change Adaptation and the Government of Madhya Pradesh.

Community mobilization and interactions with Civil Society Organizations (CSOs) indicated a need for knowledge sharing and collaborative action towards improved agriculture and livestock so as to reduce livelihood vulnerability especially in the Bundelkhand region. The Bundelkhand Knowledge platform was initiated in 2010 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. It continues to act as a platform for sharing and consolidating knowledge, with a view to identify areas of interventions and connect the voice of grassroots with policy makers and researchers.

ACHIEVEMENTS

In 2011-12 the organization demonstrated sustainable land and water practices implemented by 4000 farmers in Bundelkhand, initiation of micro planning for natural resource management on 900 hectares of land in the region, customization of crop trials at a large scale to augment production, and promotion and awareness generation for sustainable cropping technologies and methods. It reached out to 100 villages with messages and options for community level adaptation to climate change.

Integrated Watershed Management

Integrated Watershed Management in Datia and Tikamgarh districts of Madhya Pradesh has been supported by the Rajiv Gandhi Watershed Mission (RGWM) of the Government of India. Activities in the year 2011-2012 have included Participatory Rural Appraisal (PRA) of natural, human and physical resources, comprehensive natural resource or net planning using primary and secondary data and a scientific understanding of land topography, soil conditions and ground water storage potential to design and implement soil - water conservation measures. In Datia, 38 Self Help Groups (SHGs), 104 User Groups (UGs) and 8 Watershed Committees (WC) were formed. 314 participants were trained in soil water management techniques through nine training programmes. Work in the Niwari block of Tikamgarh district started in September 2011, and will be implemented over five years in 10 villages of the block. Here, the focus is on soil-water management of farmer's fields, land rejuvenation and ridge to valley treatment.



Climate Change Vulnerability & Adaptation Assessment in the Agriculture Sector

This state level project, supported by Ministry of Environment and Forests (India) and Department of Energy and Climate Change (United Kingdom) was implemented in partnership with Environmental Protection and Coordination Organization, Government of Madhya Pradesh and Stockholm Environmental Institute, Oxford Centre focused on assessment of vulnerability of the agriculture sector and adaptation to climate variability and change within Madhya Pradesh. It provided an understanding of vulnerability and impacts of climate change at the household, community and state levels and has identified criteria for and best practices of successful adaptation. The study directed its lessons towards scaling up good practices of identified adaptation processes and practices within the state and elsewhere in India. Lessons from the assessment have been incorporated into the Madhya Pradesh State Action Plan Climate Change.

Natural Resource Management measures coupled with sustainable agriculture practices that promote water efficient and energy use provide solutions for enhancing community resilience and adaptation to climate induced weather variability in the Bundelkhand region.

WAY FORWARD

Building upon the work of the past year, the Group will work towards furthering its initiatives in land-water-energy management in the Bundelkhand region reaching out to all the 13 districts. Key focus will be on integrated planning and sustainable use of water resources, reducing risks to livelihoods dependent on natural resources and engagement with state level policy makers to improve program implementation on the ground. Some of the planned areas of focus for the year 2012-13 are:

- Land and water management for enhanced food - water security and increased awareness and uptake of climate change adaptation measures in association with a network of community radio stations.
- Agriculture development services for farming communities: including efficient irrigation, improved plant varieties, seed treatment, agro-forestry, horticulture etc.
- Policy research, planning tools, and capacity building for climate change adaptation.
- Fostering multi-stakeholder dialogues for knowledge sharing and policy advocacy.







Promoting Low Carbon Pathways through...

Clean Technology Solutions

Focus

- Carbon footprint reduction
- Conservation of natural ecosystems by reducing the use of virgin resources and enhancing resource efficiency
- Waste to wealth creation by utilizing waste and creating cleaner enterprises and providing green livelihood opportunities

Problems of growing populations and their unsustainable consumption patterns in emerging economies like India are compounded by demands for basic amenities and goods. Increasing pressures on finite resources entail environmental pollution through industrial and technology processes. This points towards a need for decoupling such demands from pressures on the material resource base as well as promotion of cleaner production processes.

The Clean Technology programme at Development Alternatives builds the base for low carbon economic development by providing sustainable technology options for small and medium enterprises. These are energy and resource efficient, waste minimizing technological solutions for production of basic needs goods and services. These climate change mitigating solutions are either innovated in-house or sourced from partners; they are packaged for the SME sector. The enterprise solutions are replicated and multiplied with the aid of partners and commercial affiliates and / or technology providers for creating profitable businesses and dignified jobs. Projects under the programme are based on technology development and enterprise servicing. The solutions, especially those that clean up the value chains and use mining and bio-waste to create useful products, benefit large businesses as well as micro, small and medium enterprises. They tend to influence official policy towards promotion of clean technology.

Development Alternatives' continued its work on research, development and policy influence in the area of cleaner and greener building materials in 2011-2012. Primary focus in that period has been on the brick sector.

The brick sector in India is resource intensive and directly employs over eight million people in each season (2 seasons per year) to produce over 170 million bricks in 150,000 units. Every year they use 350 million tonnes of fertile topsoil and 24 million tonnes of coal, emitting 42 million tonnes CO₂. Rising energy prices, competing uses for limited resources, labour shortages and poor working conditions in the face of increasing demand necessitate an urgent action. Internationally heralded as the cheapest

avenue for GHG mitigation, the brick sector carries a huge potential for transformation through adoption of clean production systems for emission reduction and improving energy and resource efficiency by means of industrial waste utilization and process modifications.

The focus in the year 2011-2012 was on improvements in the eco-brick technology package, promotion of the Fly-ash brick package and their replication. Further, concerted effort was put into influencing policy at the state level in the states of Odisha, Bihar, Madhya Pradesh and Himachal Pradesh to facilitate eco-construction in housing and infrastructure as a response to the challenge of reducing carbon foot-print of the construction sector.

The Eco-Kiln technology launched by Development Alternatives in 1995 in India has made great strides in technology development and indigenisation, capacity building for support services leading to its roll-out in a commercial mode. It is promoted in India by TARA Machines and Tech. Services Pvt. Ltd., the business affiliate of Development Alternatives. In the year 2011-2012, there was a strong demand from the fired clay brick sector for a low cost, easy to use brick-moulding machine. In response, two types of machines with varied capacities were sourced and adapted to field conditions and further improved by the development of various accessories. These technology packages are expected to benefit small-scale enterprises besides assisting the existing enterprises to diversify. The Programme expanded its work across South Asia and anglophone Africa reaching Bangladesh, Bhutan South Africa and Malawi.

The project on *accelerating clean and low carbon initiatives in the Indian brick sector* is an innovative initiative funded by ClimateWorks Foundation aims to accelerate the uptake of clean technologies in the brick sector in the states of Orissa and Bihar through the creation of a favorable policy environment. The objective is to create an enabling environment by focusing on favorable policy, increased access to finance and better service delivery in order to achieve a two fold increase in the uptake of clean technology and a threefold increase in the amount of financial lending for clean technologies. Achievements under the project include the establishment of a dedicated website – www.ecobrick.in, a monthly bulletin for continuous engagement of policy makers and other stakeholders and a comprehensive base paper on policies that are relevant to the brick sector.

The Clean Technology Programmes were expanded this year to include also initiatives in clean energy as well. The Group has expanded its knowledge on Clean Energy solutions through renewable fuels. A decision support tool for the local village governments in selection and implementation of energy options for domestic and livelihood energy requirements was tested and improved.

ACHIEVEMENTS

A major stream of work in 2011-12 has been in the renewable /clean energy sector especially with regard to policy imperatives to increase its

Accelerating Clean and Low Carbon Technology Initiatives in the Indian Brick Sector

Supported by Shakti Sustainable Energy Foundation, this project addresses the challenge of integrating technology and policy measures to achieve the twin objectives of augmenting supply of eco – friendly masonry material for construction and lowering carbon emissions in the brick production process. It aims to catalyse the implementation of favourable market and non-market incentives to accelerate the uptake of cleaner brick production over conventional energy and resource intensive systems in the states of Orissa and Bihar. The approach is designed to actively engage stakeholders such as policy regulators, entrepreneurs and service providers at the regional level for discussion on issues pertaining to the acceleration of low carbon technology initiatives in the Indian brick industry.

This project is facilitating the setting up of mechanisms for the delivery of services (information, technology, credit, incentives) to entrepreneurs in a sustained manner.

Website – www.ecobrick.in



Knowledge Development and Dissemination for Low Carbon Construction in Rural Areas and Small Towns of India and South Asia

Supported by the Climate and Development Knowledge Network Project of the DFID, United Kingdom, this initiative consolidates knowledge in the area of 'climate responsive' construction and customises it for application in rural areas and small towns of India and South Asia.

This project addresses climate change impacts and mitigation by promoting low carbon development processes in three different geographical regions of India - coastal, semi-arid and wet-hilly areas. Research in the three regions is being carried out in partnership with local implementing organisations involved in climate related work. The knowledge is packaged into region specific modules for building capacity of policy makers, building professionals and artisans. In the coming year, the modules will be tested in the targeted geographical regions in association with related government departments, academic institutions and local NGOs.

uptake. In 2011-12 DA arrived at a carbon and resource calculator for buildings which will help understand the carbon footprint of construction. The tool is targeted to assess embodied energy consumption in social housing and rural public buildings providing valuable information for optimising the same.

The ongoing work focused on waste to wealth under the TARA paper recycling initiative in Bundelkhand has been expanded to Himachal Pradesh and some schools in Delhi.

WAY FORWARD

Over the next few years, the clean technology programme at DA aims to support the scaling up of clean technology based enterprise solutions through policy and market supports. In addition, innovation and packaging of new technology solutions which prioritise resource efficiency are on the anvil. The initiatives will also address financial viability of enterprise packages along with development of service delivery models to support the replication of clean technology based enterprises. Some of the key strategic areas that DA will be concentrating on in the following year are building a strong pipeline of technologies and scale up plans in the areas of:

- Waste recycling and reuse
- Low Carbon Cement technology
- Renewable Energy
- Stone dust abatement technology incubation and multiplication

For multiplication and replication, emphasis will be laid on building and establishing relationships with the government, building finance linkages for technology promotion, and on effective communication tools and strategies which will aid in multiplication of the technologies. Over the next year, DA will also concentrate on strengthening South-South cooperation and ties under the area of clean technology to expand its area of influence in the arena of green economic growth.







Empowering Communities through Multi-stakeholder Action for...

Basic Needs Fulfillment

Focus

- Creating awareness and demonstrating technology benefits
- Design and testing of service delivery models
- Capacity building of service delivery agents and other stakeholders
- Promoting participatory planning for basic needs goods and services

The Census of India 2011 estimates that 833 million people continue to live in rural India and more than 22 percent of the entire rural population lives in extreme poverty.¹ Living in conditions of extreme poverty means that this portion of our population is deprived of basic needs such as adequate shelter, drinking water, sanitation, energy and literacy. Even those who live above the poverty line, often lack access to facilities that are required for dignified living such as power, decent standard of housing, sanitation and education.

Working towards sustainable development, the Development Alternatives Group visualizes informed and empowered communities that can access basic needs goods and services. Action through multi-stakeholder processes is designed to improve access of the poor to *water, energy solutions, habitat facilities and basic literacy* which are in tune with clean and healthy environment (safe water, clean energy solutions, eco- and clean habitat facilities). The Programme focuses on design and field testing of models for the delivery of affordable basic needs products and services to individuals and community groups through synergising private and public sector actions. Innovation in business models that brings together small and medium enterprises, financing mechanisms and technical service delivery agents to provide scale and higher level of outreach has been our priority in the year 2011-2012. This has been supported by building awareness at multiple levels through knowledge sharing and policy advocacy.

In 2011-12, the group has facilitated availability of basic needs to 32,956 households by ensuring access to water, shelter, energy solutions and basic literacy through outreach of sustainable technological options (products/services), empowering rural families to access their entitlements by increasing levels of awareness and by supporting and influencing policies in the areas of energy, habitat, water, sanitation and literacy.

The following section will provide an overview of the four cornerstones of DA's work in basic needs fulfillment in the year 2011-2012.



Promotion of Household Water Treatment and Safe Storage

Supported by Eawag Aquatic Research Institute, this project aims to advocate the use of Household Water Treatment and Safe Storage (HWTS) systems among concerned policy makers and provides information to end users about various water treatment options available. The main objective of the project is to scale up promotion of safe, affordable and environmentally appropriate options for HWTS and improved hygiene practices such as diarrhoea prevention. It is increasing the visibility of low cost HWTS options like Solar Water Disinfection for the urban and rural poor in India with its primary focus on slums in the National Capital Region of India (Delhi, Gurgaon, NOIDA, Greater NOIDA, Ghaziabad, and Faridabad). The project is adopting a multi-stakeholder participatory approach, which aims to engage key individuals and organisations working on HWTS and safe drinking water to reach the policy makers effectively.

In the past year DA has worked on the provision of clean drinking water through new and improved technology. It was successful influencing decision makers to make clean sources accessible and available. In the year 2011 - 2012, the focus on designing community and enterprise based clean water services delivery models was enhanced. Activities were designed to bring together initiatives of water and sanitation, thereby emphasising the importance of sanitation and hygiene and their role in reducing source pollution. This year Development Alternatives initiated its interventions in the urban areas by promoting a basket of safe drinking water technologies. SODIS, a low cost technology for disinfection of water using solar energy at the point of use reached 10,000 low and middle income families in Delhi. Other simple measures such as liquid chlorine solution and slow sand filtration were put on an enterprise route in rural and urban areas.

ENERGY

India plans to add 17,000 megawatts of renewable-based power generation capacity by 2017 in order to bridge its energy deficit and also move to cleaner energy sources. The National Action Plan on Climate Change (NAPCC) announced in June 2008 by the Govt. of India proposes increasing the share of renewable energy in the total energy mix to 15% by 2020 from a mere 4.13% currently.

While attempts are being made to move towards more efficient and renewable sources of energy. After 64 years of regaining independence approximately 1 million villages, home to over 300 million families are not even linked to or have non-functional connectivity to the grid³. In India, approximately 57 percent of the population is deprived of reliable electricity supply and over 15 percent of rural areas in India are still not served by electricity grids for meeting domestic and livelihood needs, limiting the people's options for economic development.

Development Alternatives' initiative in the area of village energy in the year 2011 -2012, have focused on streamlining decentralised bio-mass and bio-gas to electricity and also solar technologies for enhancing village energy security. Decision support models for village energy planning were tested in association with Gram Panchayats in Bundelkhand and community based village energy services models were strengthened.

The past year has seen a new initiative in the area of ensuring energy security for the rural population. The Smart Power for Energy ED, (SPEED), an initiative supported by the Rockefeller Foundation has been designed to bring private investment to develop decentralized renewable energy production and services for rural areas. A multi-stakeholder initiative, SPEED is being managed by TARA, DA's Enterprise Incubation Arm. The Development Alternatives' team is providing critical knowledge, policy and communication support to the Program. The initiative has identified and signed partnerships with four Energy Supply Companies (ESCOs) and in the coming year will initiate power production and supply for rural domestic and enterprise needs.

Development Alternatives has the unique advantage of being the only organisation in the country with demonstrated successful models of three different types of renewable energy technologies and services currently being promoted in India, namely – bio-mass, solar and bio-gas in one cluster. These models are demonstrated in Bundelkhand which is the geographical focus of DA's work. Much more needs to be done in terms of replication and scaling up of these options.

WAY FORWARD

Going forward, the Development Alternatives Group has identified improving access of the poor to affordable eco-housing, safe water services and village electrification as the priority areas of their work. Future initiatives are planned to address the design of viable housing and related habitat services from the rural environment to the rapidly urbanizing small and medium towns, design clean water and sanitation services for small towns and to demonstrate viable market based delivery of decentralised village electricity services from renewable sources.

The DA Group aims at saturating existing geographies with appropriate product/service identification, cohesive blue print for action, efficient delivery chain and after sale services. for **substantive strengthening** of the value chains. Subsequently the group will explore other geographies such as Uttarakhand and Jharkhand to spread the benefits through basic needs fulfillment.

In the next three years, Development Alternatives will continue to support and influence policy development in the areas of affordable eco-housing for rural and small town communities. In addition, the organisation will focus on developing a comprehensive policy perspective for decentralised village electrification and delivery of safe water and sanitation services.

Promoting Participatory Planning for Rural Electrification through Decentralised Renewable Energy

Even after 65 years of independence, more than 1,00,000 villages in India are not linked to grid electricity. The Government's National Action Plan on Climate Change (NAPCC) proposes increasing the share of renewable energy in the total energy mix from a mere 4.13% currently to 15% by 2020. Policies formulated by the government both at the state and the central level follow a top down approach. For Decentralised Renewable Energy (DRE) plants to be successful in rural areas, it is important to ensure participation of local stakeholders (such as PRI members, communities, institutions, CSOs) from the planning phase till the implementation phase.

Supported by Heinrich Boll Foundation, this project adopted a consultative approach and applied GIS based planning tools with relevant stakeholders to develop Village Energy Plans (VEP) and facilitated their integration into Village Micro Plans in selected Gram Panchayats in the Bundelkhand region.

¹ <http://www.economywatch.com/indianeconomy/poverty-in-india.html?page=full>

² According to 2011 census data and the planning commission, there is almost universal coverage of rural settlements under the National Rural Drinking Water Programme (NRDWP). Data on sanitation facilities also indicate a great improvement. The coverage of rural households provided with individual latrines has improved sharply from 27 percent in 2004 to 62 percent presently.

³ 1,00,000 villages un-electrified as per Ministry of Power Report Card, 2009





Empowering Communities through Multi-stakeholder Action for...

Institutional Strengthening

Focus

- Formation and strengthening of community institutions that demand and realize their entitlements especially women groups
- Creating an enabling environment for convergent action for building and strengthening policy alliances
- Building local business networks for outreach and sustainable growth
- Developing planning tools to support policy implementation

For a country as large as India, providing development services to the last mile calls for major investments in the decentralization of services delivery. This requires effective local-level institutional arrangements. Strengthening community level institutions empowers the poor and marginalised communities thereby enabling them to demand services and access their entitlements. Scaling out and enhancing the reach of sustainable livelihood options and services requires innovative business partnerships that work at local as well as more regional and national levels. An enabling and facilitative policy environment creates an environment where both community institutions and businesses can work effectively and efficiently for local and national development in a sustainable manner.

Since its inception, Development Alternatives has concentrated on building institutional models and systems that support the development of informed and empowered communities. It focuses on the economic growth of the poor in geographical spaces of Bundelkhand. Lessons from Bundelkhand are transferred through a partner network to the Hindi belt of India, namely the states of Himachal Pradesh, Bihar, Rajasthan, Chhatisgarh, Jharkhand, Uttar Pradesh and Madhya Pradesh.

DA's mandate thus under Institutional Development entails building cohesive systems for collective action and bargaining along with creating an enabling environment for convergent action that responds to the demand as well as supports the realization of entitlements for the rural poor, especially women and other marginalised groups.

Leveraging the potential of small economic and social institutions like self help groups DA's programme during the last few years has focused on small community organizations, such as women's SHGs, artisan cooperatives and farmers' clusters. DA has developed a number of sustainable livelihood options, business plans and capacity building modules for community groups. At the same time a variety of planning and policy support tools targeted at local, state and national government agencies are designed to integrate environment and climate concerns in public sector programmes and schemes. Action on ground demonstrates how women and the

marginalized can access their entitlements and claim their rights. To fulfil this goal of building a strong social capital, strong village level institutions have been formed and their capacities have been strengthened through rigorous training, information dissemination and exposure to successful and sustainable development models.

Development Alternatives works closely with its business incubation arm, TARA to design solutions for the corporate sector to fulfil its social responsibility and engage in development and environmental initiatives. The organisation also fosters new partnerships with businesses for the dissemination of green technologies and livelihood solutions, effectively mainstreaming these in the market.

In the year 2011-2012, Development Alternatives focused its attention on strengthening women's collectives through financial linkage to the banking system, capacity building in farm and non-farm based livelihoods, enhancing their access to the judicial system and creating awareness about their rights and entitlements. In addition, DA facilitated the formation business planning of an artisans cooperative in Madhya Pradesh and aggregated farmers' groups to access knowledge and support services for enhancing water efficiencies in agriculture and adapting to the changing climate.

Radio Bundelkhand, a partnership initiative between DA and the local communities of Orchha has emerged as a powerful tool to empower village communities with information and knowledge. In the past year Bundelkhand Radio reached out to over 10,000 families in 100 villages in the Jhansi-Orchha area of Bundelkhand. The Radio promoted the Mahatma Gandhi National Rural Employment Guarantee Scheme, created awareness about practical options for climate change and provided information supports to enhance the community participation in local governance processes.

The DA group engaged with policy makers at State, National and Global levels to advocate the development of facilitative and enabling policy regime that would support a large scale creation of sustainable livelihoods for the poor. Development Alternatives contributed to the preparation of India's second official National Communications on Sustainable Development (NATCOM-II). The analysis of vulnerability of communities to climate change in Madhya Pradesh was used to strengthen the State's Action Plan on Climate Change.

Lessons from the practice of sustainable use of water resources on the ground leading to climate resilient agricultural practices were taken to state and national levels through the Sustainable Civil Society Initiative for Addressing Global Environmental Challenges. A planning tool developed for helping local village governments to address energy security of their communities through the application of renewable energy technologies was successfully tested in Madhya Pradesh while eco-construction and eco-housing models demonstrated in Bundelkhand region influenced the design and development of the Madhya Pradesh State housing scheme (Mukhya Mantri Awaas Yojna).

Rural Reality Show for Catalyzing Large Scale Climate Change Adaptation

Supported by World Bank, this project demonstrated social change brought about by a reality game show in the community behavior of rural communities in Bundelkhand. Development Alternatives innovated and tested the concept of Rural Reality Show which was piloted in 100 villages in the coverage area of the community radio, Radio Bundelkhand. The idea brought awareness about climate change adaptation options to more than 1,00,000 people. Above 505 families started practicing household based climate friendly good practices in their day to day activities during the competition. A cadre of 25 Climate Change Agents (who were the winners of the game show) facilitated this process. This Rural Reality Show won the prize under the innovation category of Development Market Place 2009 for catalysing the need for Climate Change Adaptation.



Promotion and Linkage of SHGs - Networking in Bundelkhand Region

Supported by National Bank For Agriculture and Rural Development (NABARD), this project focused on the promotion and linkage of 1000 Self Help Groups (SHGs) facilitating their development to evolve as strong social collectives and common interest groups. In this project, Development Alternatives worked through a network of 14 NGOs in seven districts of Bundelkhand Region i.e. Chitrakoot, Banda, Mahoba, Jhansi, Lalitpur, Hamirpur & Jalaun to establish an interface between these SHGs and banks and facilitate credit linkages with banks. The project's strategic orientation was the development of SHGs in leadership, socio-economic and political empowerment, facilitating access and control over credit dimensions and building skills in managing livelihoods.



At the Global level the organization played a significant role in advocating a Green Economy paradigm relevant to developing nations.

A training initiative to practitioners and the dialogue with international policy makers at the TARAGram Yatra 2011 and a series of meetings of the IUCN, Club of Rome and international Poverty and Environment Programme, hosted by Development Alternatives brought to the fore the concept of *Green Economy in Action* and demonstrated scalable models for green growth relevant to various developing nations. Led by the Chairman, Dr. Ashok Khosla, in his capacity as the special advisor to the Secretary of the UNCSD, the organisation submitted inputs to the international Rio+20 process, which it hopes to take forward in the next couple of years. DA submitted two core papers into the processes for the United Nations Conference on Sustainable Development that put forward succinct arguments in favour of a South Asian institutional arrangement to support participatory strategies for sustainable development in the sub-region and developed a perspective for a Green Economy in our context.

ACHIEVEMENTS

- Under entitlements and awareness, 30000 households were made aware of various government schemes like MGNREGS, Right to Information, Old Age Pension, Mahamaya Scheme, Mukhyamantri Karmakar Mandal etc.
- 3900 households had accessed entitlements through different government schemes in DA's direct intervention areas.
- Against a target of 3000 HHs for 2011-12, 2475 HHs accessed their entitlements in the geographical areas covered by Civil Society partners through leveraging different government schemes till date.
- 130 Panchayati Raj Institution members from 47 Gram panchayats were trained on decentralized planning and legal literacy.
- More than 300 paralegal workers from 300 villages of Tikamgarh district of Madhya Pradesh were identified and oriented on different entitlement issues. These paralegal workers have been recognised by the local administration for strengthening access to justice for the marginalised communities.
- The Farmers' Adaptation Cluster, which is working with farmers' groups from around 20 villages, has been strengthened as a Federation. Further strengthening of the backward linkages like producer companies, fertilizer dealers etc is also being planned. The Federation and Farmers Clubs have become vehicles for propagating improved practices such as good quality seeds and water efficient farming practices. As a result increased incomes reached over 4000 farmers in 20 villages.
- TARA Karigar Mandal (TKM), a masons' association was registered as a Mutually Aided cooperative Society and conducted business in eco-construction to the value of over 25 lakhs, benefitting its members.

- DA identified as National Resource Cell for Decentralized District Planning for facilitating decentralization district planning in seven UNDAF States.

WAY FORWARD

Building on the work done in the past years in the area of formation and strengthening of community institutions, Development Alternatives in the coming year will concentrate on policy inclusion for institution building in the eco-habitat arena at the National, State and South Asia level. Focus will also be on strengthening institutions working on issues like climate change, food security, water and energy and on connecting them to policies at the National and State levels. In order to strengthen the community level institutions and to provide them with sustainable market linkages, DA will in 2012-13 work towards:

- Capturing CSR and government schemes
- Providing a standardized tool for SHG formation
- Leveraging community partnerships through CSO partners
- Monitoring and supporting community level institutions till they reach maturity

In addition DA will look at the new technologies and innovations for products and services and aid in market scanning and customization of knowledge base and planning tools and support services. Lastly, there will be emphasis on scaling up of business networks in the coming year.





Creating Green Jobs through Promotion and Support of...

Employment Skills

Focus

- Training rural youth for new employment opportunities
- Green jobs in eco-construction

India is amongst the youngest nations with almost 40 percent of its population young and in the employable age group. However, a large majority of this population is unemployable, due to poor education and skill levels. These young people are unprepared to face the new emerging opportunities in the green economy markets. Development Alternatives promotes an inclusive development of rural India by designing relevant employment skills for green jobs with a focus on youth.

The organisation's focus is on enhancing skills of the marginalised through training and capacity building initiatives. The TARA Livelihoods Academy a DA's business affiliate, works as a special delivery vehicle for providing jobs through skill development and enterprise support services. The target groups for these activities are farmers, building artisans, rural women and small-scale entrepreneurs. Training need assessments provide information regarding the subsequently type of skill development and youth and marginalised groups are mobilized for training in areas like green building materials, recycling materials, eco-construction, efficient farming and green energy enterprises such as bio-gas services. Activities include formation of modules, manuals and internal and external expert resources to follow a structured modular training methodology for delivering quality and target oriented training. Training is followed by placement of youth in jobs and / or linking them with forward resource centres especially with regard to enterprises. DA's sustainability Resource centres at TARAGram Orchha, Pahuj and Datia along with its business affiliates TARAhaat and TARA Nirman Kendra and its community radio, Radio Bundelkhand support training initiatives in Bundelkhand, Himachal Pradesh, Jharkhand, Bihar, Chattisgarh, Haryana and Punjab.

In parallel manner the programme on skill development works in collaboration with other programs and partners to influence policy on green jobs, which would increase awareness and promote the concepts of green jobs and green economies.

In the year 2011-2012, the 'Skill Development Programme' led by TARA Livelihood Academy and supported by Development Alternatives trained 224 rural youth for setting up micro-enterprise in Bundelkhand. Skills

were imparted in areas such as soft toy making, handmade paper bag making, artificial jewellery making and tailoring. This training programme was supported by NABARD. DA's CSO partners also undertook this skill development programme. 229 members have been trained in 2011-12 under Micro-Enterprise Development Programme (MEDP) supported by NABARD. Another Vocational Training Centre was established in Bundelkhand and a total of twelve Community Training Centres ran in 2011-12. Across the interventions, over 4800 people got trained in various skills and 1700 job placements have resulted through direct action.

TARAAhat, the ICT arm of Development Alternatives Group, is dedicated to connecting the citizens of rural and small town India to information, products and services they need. It has successfully demonstrated applications of information technology that can help improve the lives of rural people, and is now replicating this success across India. The courses offered are in basic skills (courses in computer fundamentals such as MS-Office, Internet etc.), job skills (vocational courses such as advanced computing, accounting, sales, hardware assembly and repair) and life skills (courses in functional English and personality development) are imported.

In 2011-12, TARAAhat has trained over 2700 individuals in various Computer Application Courses, such as BIT, TALLY, Diploma in Computer Applications, Master of Computer Hardware etc.

WAY FORWARD

The area of employment generation has a huge scope. One of the factors underlying this fact is the high unemployment rate not only in the Bundelkhand region, but across the country. DA is harnessing its strengths of training and capacity building for the youth, women, farmers, artisans etc. which would make these groups of people employable. Besides, DA's association with the local networks, partner agencies and the wide outreach in the Bundelkhand region strengthen the facilitation process of creating market and financial linkages. There's also a huge variety of green technology products and packages available within the DA Group which are used in different ways for creating employment opportunities.

- Collaborating with National Rural Livelihoods Mission (NRLM) at state and districts levels.
- Establishment of a placement cell.
- Putting forward proposals to Corporates, NSDC (National Skills Development Centre), and FICCI etc., particularly for skill development and employability.
- Categorizing the employability skills training in a more focused manner for streamlined delivery.

Candle making unit of Tejaswani women's group:

Under the Government of Madhya Pradesh's Tejaswani programme, a candle making unit has been set up in Pipra village giving livelihood opportunity to around 40 Self Help Group women. With financial assistance from Khadi Gramodyog Board, Tikamgarh district, this scheme targets BPL families. Under the programme, each woman received a total of 40,000 rupees of which 50% is loan and 50% is subsidy component. Around 40 candles are produced per day per woman. The enterprise unit is linked with Vindhya Valley - a candle production and marketing entity. Backward and forward linkages are established by Vindhya Valley for production and marketing. Women produce candles based on the order received from Vindhya Valley. Marketing including the packaging is managed by Vindhya valley.





Creating Green Jobs through Promotion and Support of...

Entrepreneurship Development

Focus

- Building capacities for off-farm and on-farm allied economic activities
- Market linkages for women's enterprises

In recent times, the concept of entrepreneurship has been increasingly applied in the context of alleviating poverty and addressing social problems of various kinds. Effective and sustainable solutions to many social problems are substantial, and solutions to poverty alleviation will require innovation in business creation.

Enterprise development initiatives form a significant part of the Development Alternatives Group's activities to fulfil its mission of the creation of sustainable livelihoods at a large scale. The focus is self-employment opportunities for individuals and community groups such as women's self-help groups. The enterprise packages developed and promoted by the DA group emphasise the application of science and technology to reduce drudgery and optimize the use of local resources for maximizing productivity and value creation. The group works in product based cluster development, strengthening value chains, identifying and establishing market linkages and building capacities for enterprise development. After identification of business opportunities at the community level, DA translates them into bankable enterprise packages with demonstrations and training.

In the year 2011-2012, Development Alternatives focussed on promotion of both farm and non-farm based enterprises in the Bundelkhand region. Building material enterprises were set up in Orchha and Pahunj Clusters. Research on women's potential in habitat based services was researched and lessons transferred to training programmes for women led enterprises in the building materials production and construction sectors.

Type	Activities	No. of Enterprises set up
Farm	Argiculture, Dairy, Poultry, Goat	84
Non-Farm	Trading, Tailoring, Pottery, Bamboo works, Building materials, Safe water, Small Retail Stores	57

WAY FORWARD

For enterprise development, the core strategy is to identify potential productive income generation activities and small & medium size enterprises for the SHGs in Bundelkhand and establishing proper tracking and monitoring systems for future reference. The next step is to develop and test, then promote and upscale business plans for sustainable livelihoods throughout Bundelkhand. The strategic imperatives in the coming year is product based cluster development, strengthening the value chain, identifying and establishing stronger market linkages in addition to capacity building for enterprise development. In this regard in 2012-13 under this thematic area, DA aims at:

- Identification of priority geographic clusters for intervention.
 - Viability assessment of products and market for generating higher revenues through concentrated reach.
 - Documentation and validation of enterprises and Income Generation Activities (IGAs).
 - Establishment of a proper tracking and monitoring system to strengthen enterprises and provide them with support.
-

Women in Habitat based Livelihood Services, Technology Development, Application and Delivery

Supported by IDRC Canada and the Department of Science and Technology, this project explored the impact of women's participation in the male dominated habitat sector on their socio-economic conditions as well on the technical design and quality of product and service delivery processes in the Hindi speaking states of Madhya Pradesh, Rajasthan and Uttar Pradesh. In doing so, it brought to fore institutional and systemic measures that need to be put in place and tools and equipment that have to be made available to create the right environment. The project, further focused on comprehensive capacity building of women in addition to specific skill building in the habitat products area. Issues of health and hygiene, literacy, basic accountancy, safety at work place, insurance, child care etc. were dovetailed with the skill building packages. These women's groups started many construction and production related enterprises.





Significant Achievements

- Innovation
- Implementation
- Influence
- Impact



Innovation

Project research conducted by the Development Alternatives Group over the past three decades has led to several innovations in concepts, methods, approaches, technologies, tools and techniques. These include commercially viable technologies and environment management systems in construction, land and water management, drinking water, domestic and commercial energy, livelihood services and enterprise solutions. These innovations are characterized by a strong bias towards resource-efficiency, drudgery reduction, decentralized management, local wealth generation and inclusive development. While being pro-poor, technology and livelihood solutions developed by Development Alternatives are designed to be mainstreamed within market mechanisms.

The year 2011-12 saw DA's continuing work on innovations for sustainable development focus on community level low carbon eco-solutions based on clean technology and directed to the reduction of climate change vulnerability. The work in the past year included efforts towards evolving decision making support tools for entrepreneurs and villagers in eco-construction and energy technologies, delivery models for eco-habitat and safe drinking water for urban and rural communities.

Low Carbon Construction

In the year 2011 – 2012, Development Alternatives has focused on various facets of low-carbon construction. This included improving technology packages, design of support services for entrepreneurs, design of dissemination and delivery models, and assessment tools.

Fly Ash Technology Package nomination for St. Andrews Prize

The Fly Ash Technology Package consists of required testing of fly ash for suitability in brick making with cost benefit analysis in comparison to building materials available in the region. The service package consists of information on process design and raw-material composition combined with training of workers at site on benchmark operating practices. The

hardware package consists of semi-automatic and automatic machines of various capacities to suit the needs of different scales of enterprises. In 2011-2012, the technology and support services package was commercialised. It is now being marketed through TARA Machines and Tech Services Pvt. Ltd., a commercial affiliate of the DA group.

To ease decision-making by entrepreneurs and technology suppliers, a fly-ash database has also been initiated. This is an interactive and easy-to-use tool through which a first time entrepreneur can base his decision to set up a fly ash brick production business in his area of operation. This package has earned a nomination for the St. Andrews Prize for Environment by the University of St Andrews in Scotland and the international integrated energy company, ConocoPhillips.

Brick Moulding Machine

In response to a strong demand from the fired clay brick sector for a low cost and easy to use brick-moulding machine, two types of machines (TARA Brick Mek) with varied capacities were sourced and adapted to field conditions. Supporting accessories were also developed. These machines are expected to benefit small scale brick makers besides assisting the existing enterprises to diversify. Commercial dissemination is being undertaken through training of vendors and entrepreneurs. Equipment design transferred to TARA Machines and Tech. Services Pvt. Ltd is now in the market. More than 20 machines have already been sold with increasing demand for more.

Carbon and Resource Calculator for Buildings

Construction activity accounts for a large proportion of CO2 emissions and use of energy. This indicates a need to measure and reduce energy inputs and reduce CO2 emissions in construction. A major component of energy use in construction is the embodied energy in buildings representing the non-renewable energy consumed to produce the materials, construct the structures, maintain, repair, restore, refurbish or replace materials, components or systems during the life of a building. Besides energy, the increasing need for finite and virgin materials such as soils, stones and water required in construction especially in growing economics is a matter of growing concern.

A need to reduce energy and virgin resource use in construction has to be supported by suitable tools to measure the same. To measure this embodied energy and to reduce the carbon footprint of building technologies, a special tool has been developed by the DA group. It is called the Carbon and Resource Calculator for Buildings. The tool is currently directed at rural housing and community infrastructure. It has been useful in promoting eco-construction through deriving values of carbon emissions reduction by use of eco-building materials and practices.

Eco-Habitat Delivery Model for Rural Areas

The central theme of the eco-habitat delivery model supported by FEM

Greening Social Housing in Madhya Pradesh by Skilled Eco-Artisans

As part of the Madhya Pradesh Road and Rural Development Authority (MPRRDA), an artisan's training programme was conducted in Chimka village of Bhind District where 10 local masons were trained by master masons of TARA Karigar Mandal in eco construction technologies like Rat Trap Bond for masonry walls, Micro Concrete Roofing Tiles (MCR) and Plank and Joist Roofing. National and State Rural Housing Schemes have lot of potential for greening the rural construction industry and creating livelihood opportunities for local masons and artisans. As a part of this training programme, a community building was constructed for the demonstration of eco - friendly technologies. After this training programme, 25 Mukhya Mantri Awas Yojana (MAY) houses were also constructed using these technologies.



Janki Builds a Pucca House

Mrs. Janki Yadav is, a resident of village Pipra in Tikamgarh district had been observing the construction of eco houses in her village for the past one year. This construction was being done with the support of TARAGram and Madhya Bharat Gramin Bank who were providing a bank loan of Rs. 30,000/-. Taking advantage of the scheme 'Build Together and Pay Together', Janki constructed her own pucca house along with four other members of her housing group. They learnt a new technology of 'Rat-Trap Bond' masonry wall construction which she says has many advantages as it reduces cost of construction and improves thermal comfort of the houses. She is really happy to shift in her new house from her old kachha house and says shyly, "My husband works in the Army and is very proud of me as I constructed this house in his absence."



Italia is to design and field test an enterprise model for the delivery of eco-materials and construction services coupled with financial services to support people's housing and toilet construction needs. The model is being tested in Bundelkhand. It consists of a multi-stakeholder rural business eco-system, wherein materials produced locally are supplied for construction of houses, toilets and community buildings. Local trained artisans provide construction services and families are linked with local banks for housing and sanitation credit. The model is being facilitated by Development Alternatives. A protocol of delivery, monitoring and tracking, financing model by local banks, client selection, construction, and repayment have been successfully developed. In 2011 - 12 the system was set up and it is being monitored. As part of the system development, tangible outputs consisted of the provision of durable and ecological houses and toilets for 66 families in 10 villages, local production enterprises to manufacture and supply roofing tiles and sanitation infrastructure and the conversion of the TARA Karigar Mandal (TKM), an association of masons providing eco-construction services, into a business unit.

Water and Sanitation Solutions

In the past year, Development Alternatives has been involved in new technology development and exploratory research on cutting edge options for clean drinking water. It has also studied and tested delivery models for safe drinking water through enterprise and community modes.

Exploratory research on the potential of nanotechnology to provide economically feasible specialized water filtration services for the poor

New and emerging technologies such as nanotechnology offer an immense potential in tackling issues of access to clean water while contributing to poverty alleviation. Given the water crisis faced by the world today, research is needed into the most effective, safe and affordable approaches for applying these new technologies in the given situations and ensuring that benefits are derived by the poorest. The challenge lies in taking these technologies from the laboratory to the bottom or base of the pyramid (BoP). In this regard, Development Alternatives undertook an exploratory research on the potential of nanotechnology for water filtration. In the year 2011-12, the nanotechnologies in the water sector were mapped and an understanding of market barriers and strategies for large scale market roll out to Bottom of Pyramid (BoP) markets was developed. The lessons were documented and disseminated to a wide audience. The research is being continued to develop market based models to disseminate the technology to serve the interests of the BoP market segment.

Increasing Uptake of Renewable Energy Solutions

The Government of India has formulated various policies [such as Electricity Act (2003), National Tariff Policy, Integrated Energy Policy, National Electricity Policy, Rural Electrification Policy, Rajiv Gandhi Grameen Vidyutikaran Yojana to encourage use of renewable energy in rural electrification. However, policies formulated by the government both at the state and the central level follow a top down approach with limited emphasis on a participatory process. It is important to ensure participation of local stakeholders (such as PRI members and village communities) in the planning, production and distribution of energy for the success and sustainability of Decentralized Renewable Energy (DRE) plants in rural areas. This will enable the proper siting, resource management (especially in case of bio-mass based plants), demand management, and payments for services leading to the long-term sustainability of decentralized renewable energy (DRE) supply. DRE is being seen as a key factor in greater economic development of remote villages through supporting livelihood opportunities and higher standards of living in the long run.

Participatory Planning Tool for the Use of Decentralized Renewable Energy in Rural Electrification

In the year 2011-12, Development Alternatives took strides in improving its knowledge of decentralized renewable energy through improved understanding of sustainable energy solutions and village energy planning processes. A tool-kit for village energy planning was developed and tested on the ground. The tool consists of a decision support package that takes into account resource availability, socio-economic situations, village institutional capacity and village energy needs juxtaposed with availability or lack of grid based electricity in the short, medium and long term. It enables a village local body to decide to opt for decentralized energy installation and to integrate the same in their village development plans.

In the past year, communication materials were developed for creating awareness on toolkit among the stakeholders, the village energy planning tool-kit was used to prepare a Village Energy Plan (VEP) for selected Gram Panchayat (s) in Bundelkhand region. The VEP was integrated in the village micro plan. The tool-kit was shared with the district planning body as well as by the Madhya Pradesh Vidyut Board and a strategy to integrate the tool-kit in the district planning processes was designed and initiated.



A Village Plans for Energy Security

In the Niwari Bhata village of Madhya Pradesh, emphasis was laid on the importance of participatory energy planning. The primary energy plan prepared by the Development Alternatives team estimated plant size based on energy requirements and resource availability in the village. When this plan was discussed with members of the Village Energy Cluster (VEC), the Sachiv - Manoj Gosava and Sarpanch- Shri Malkhan Singh of the village got interested in introducing the village to renewable energy concepts. Mr. Prabhat Kanoje, Divisional Officer of Madhya Pradesh Urja Vikas Nigam was brought as an expert who helped in designing the financial plan specifically by providing links with schemes that are available at the state and national level. Eventually this renewable energy based plan was presented to the community in the Gram Sabha on the 2nd of October 2011 and was favorably accepted.



Implementation

A large part of the Development Alternatives' strength stems from the work undertaken directly on the ground to influence change and advocate it at a larger level to replicate solutions, making implementation activities an important thrust of our work. Grant based development services and business oriented social enterprises are the two mechanisms of direct action on the ground. In 2011-12 the DA group forged a better implementation combined with a greater spread of influence across the thematic areas of natural resource management, basic needs fulfilment, strengthening of institutions and enterprise development. 2011-2012 has seen a significant enhancement of direct action by the DA groups on ground in Bundelkhand supporting the delivery of development services. Both in intensifying action in the four clusters of Orchha, Niwari, Pahuj and Datia and in increasing the coverage through community partnerships, DA reached out to more than 400 villages and 10,000 rural families in the year.

Natural Resource Management

Integrated Watershed Management Programme (IWMP) of the Government of Madhya Pradesh and the Watershed programme of ICRISAT demonstrated a strong participatory and scientific method of improving soil moisture and ground water regimes in the Datia and Jhansi districts. These interventions in ten micro-watersheds of the Datia district covering eight villages have created a greater resilience within the community, enabling it to deal with climate change impacts. The MGNREGA supported programmes for integrated micro-planning in eleven villages in Orchha have also contributed to the learning and strengthening of natural resource regime in the Bundelkhand region.

2011-2012 saw intensive activity in Bundelkhand to demonstrate improved farm productivity through efficient land-water-energy management practices. Community-based solutions that reduce vulnerability to climate change impacts and carbon footprint of local economic activities have been important components of the work. In this regard, the activities of the Farmers Adaptation Cluster and the Women

Energy Cluster set up under the Sustainable Civil Society Initiatives (SCSI) programme are highlighted below.

Farmers Adaptation Cluster

An intervention with approximately 300 farmers in the Jhansi district created on-farm demonstration of various improved farming techniques to enhance water use efficiency and improve farm productivity. These included drip/sprinkler-based irrigation, line sowing, raised bed techniques, seed treatment, shade-net technology, improved seeds, breeder seeds, agro-forestry, and agriculture-horticulture models. Replication of resource efficient farming practices across 11 villages was seen in the year.

Farmers were aggregated to deliver three critical supports: capacity building, technical inputs and links to public programmes. The activities undertaken included exposure to improved and new practices, training in new techniques, formation and strengthening of farmer collectives, and information dissemination. Cost-benefit analysis and access to public funds was also undertaken to motivate farmers and make small but significant changes in their agricultural practices.

A combination of information access and enhanced knowledge helped farmers to access various government schemes such as National Horticulture Mission and National Food Security Mission. The farmers understand the growing impacts of the changing climate on farm productivity and they want to know how they can reduce their vulnerability. In 2011-12, the promotion of good quality seeds (750 ha), appropriate practices (covering 3550 ha) demonstrated benefits of resource efficiency as well as improved farm productivity and incomes to farmers. Discussions reveal that farmers are able to connect falling water tables in their wells to deforestation and over-extraction of water for irrigation. This is supported by action taken by them to reduce irrigation intensities. Improved irrigation by the Farmers' Adaptation Cluster has been registered as a Program of Activities (PoA), a modality of project development under the Clean Development Mechanism (CDM) of the United Nations Framework Convention on Climate Change (UNFCCC).

Lessons from the Farmer's Adaptation Cluster and watershed management for climate resilient development in the region were shared at a state level workshop in Bhopal. Attended by state government functionaries from water resources, agriculture and planning departments, CSOs from the region and academic institutions such as the Indian Institute of Forest Management, National Research Centre for Agro-Forestry (NRFAC) and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) attended the workshop. The Environment Planning and Coordination Organization of the Government of Madhya Pradesh (EPCO), co-organizers of the workshop indicated that evidence emerging from ground action provides useful lessons for operationalizing the Madhya Pradesh State Action Plan for Climate Change.

Punya Pal Singh Adapts to Climate Change

Punya Pal Singh and other farmers of Dikholi village in Bundelkhand used to grow wheat during the Rabi season. The wells and ponds would start drying up during the first week of February and the crop would fail without proper irrigation. Farmers were in trouble as productivity remained stumpy since 4 irrigations are normal for the wheat crop. To help farmers adapt to climate change, Barley was introduced on a trial basis in 3 villages by 74 farmers covering a total area of 110 acres. The result was overwhelming and the experience of Punya Pal Singh is mentioned here. "I have given 3 irrigations to my crop. The production of my crop has been 1.5 times more. Impact of climate variation like cold is less on barley. Fodder produced is of much better quality than that of wheat. Harvest time is also 20 days less as compared to wheat. Market price of barley is Rs 13 per kg which is comparatively higher than wheat price of Rs 10 per kg." As a result of this experience, the demand for barley seeds has started increasing.



The Power of Collective Will

In 2004, the State Government of Madhya Pradesh donated 20 acres of wasteland to a federation of local Self Help Groups (SHG's) - Sankalp Swashakti Mahila Mandal (SSMM) for a Gaushala (Cowshelter). SSMM promoted by Development Alternatives (DA) has 43 women's groups from 13 villages. This is the first Gaushala established by women Self Help Groups in the state of Madhya Pradesh. This 20 acres was not only a wasteland but was encroached upon. The women petitioned and struggled to get the land freed. Over the years, with the dedication and commitment of the women, the Gaushala has developed into a centre for livelihood products & services. Today, the Gaushala has about 70+ cows, a spice production unit, a ground-nut decorticator machine, a vermi-compost unit and an office building/community hall. Fodder as well as horticultural crops are grown in this Gaushala area.



Women Energy Cluster

Livelihood security for the Sankalp Swashakti Mahila Mandal (SSMM), the Federation of Women Self Help Group in Orchha, has been a focus of attention due to their increasing vulnerability to recurring droughts, inadequate livelihood options and poor energy sources. The SSMM manages the Shri Ram Raja Gaushala (shelter for non-milch cows) The Women's Energy Cluster; a group from the SSMM was provided capacity building and technical supports for over three years to enhance energy availability at the Gaushala. New economic opportunities such as spice grinding and milk collection were introduced here. In 2011-2012, the SSMM and the Gaushala were linked to the forest department of the Government of Madhya Pradesh who endorsed the bio-energy potential of cow-dung and assigned the SSMM the task of operationalizing household level biogas units. Five biogas plants of two cubic meter each have been constructed in forest villages, so as to reduce the drudgery of fuel-wood collection and protect the forests.

The Women Energy Cluster (WEC) is involved in five enterprises, namely oil expeller, groundnut decorticator, milk collection, grinding unit and nimboli (fruit of the tree *Azadiracta Indica* (L)) collection. In all the five enterprises the activities involve purchasing the raw materials from the villages, grading, extracting, testing and selling. The first three enterprises are regular activities, grinding unit is service based and nimboli collection is seasonal.

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 them on their premises.

Basic Needs Fulfilment

The Basic Needs Programme in the year 2011-2012 focused on demonstrating safe water and sanitation interventions on ground and increasing awareness of hygienic practices of the communities. This was done through community mobilization as well as advocacy for their increased inclusion in plans and policies. The programme created awareness on safe drinking water in the rural and urban settlements of the poor.

Demonstrating access to safe drinking water -Aqua+ and SODIS

Communities living in slums lack access to safe water and are unaware of basic personal hygiene practices. With the onset of the yearly monsoons, sanitation conditions in slums deteriorate drastically; drinking water gets polluted and water collected at various places provides a breeding place for vectors. Under such conditions, incidence of waterborne diseases increases with negative impacts on life, health, productivity, and economic conditions of the already poor. Promotion of Household Water

Treatment Systems (HWTS) and innovative delivery models to improve access of poor families to safe water were a key focus in 2011-2012. Action concentrated on community mobilization as well as advocacy for increased inclusion of household based water treatment systems in our plans and policies. The low-cost Solar Disinfection system (SODIS) was promoted in 20 slums of Delhi reaching 10,000 families through a partner network. 200 community mobilizers were trained through the Government of India's 'Mission Convergence' and capacities were built amongst 50 organisations to promote HWTS and Hygiene. SODIS was also introduced into the Mission Convergence WATSAN manual.

In addition, supported by Antenna Technologies, Geneva and in partnership with TARA, a social enterprise of the DA group, the organization introduced active chlorine solutions into the low income markets as a business model. Active chlorine is stored in bottles and sold at affordable price to the households for disinfection of water. Once active chlorine solution is consumed, it is refilled by the entrepreneur and re-supplied to the households. By doing so the entrepreneur can earn meaningful revenues, which ensures sustainability in the long run and also addresses the health issues in slums due to contaminated water.

In rural areas of Bundelkhand the eco-habitat delivery model, tested the delivery of toilets and pucca houses financed by local banks and through supports leveraged from government schemes such as the 'Total Sanitation Campaign' and the 'Mukhyamantri Awas Yojna' of the Madhya Pradesh government.

Strengthening of Institutions

During the year the major emphasis was laid on strengthening community institutions for economic empowerment. The thrust of DA's work is:

- Institutionalizing community groups to enhance their negotiating capacities
- Building and increasing the sphere of influence of community institutions
- Strengthening backward and forward linkages of community economic activities
- Increasing credibility of their work amongst primary stakeholders in villages and amongst local government agencies to improve uptake of eco-friendly practices in farming, construction and energy use.

The Farmers' Adaptation Cluster, which is working with farmer groups from around 20 villages, has been strengthened into a Federation. The Federation and Farmers Clubs have become vehicles for propagating improved agriculture practices among farmers. The credibility of the institutions has also been enhanced among primary stakeholders in the villages. Farmers Adaptation Cluster is now planning to increase its membership to include farmer groups from other villages as well.



Safe Water for Ishwari Kaur

Ishwari Kaur lives in a slum in Delhi with her husband and 2 children. For years, Ishwari's family had been drinking water from the bore well after it was sanitised through a filter. When the filter got damaged, the family could not afford another filter and so they had to use the water directly from the bore well. The children soon began complaining of frequent stomach problems.

One day as she was walking back home, she noticed a wall painting regarding Solar Water Disinfection (SODIS). Without wasting much time, Ishwari immediately inquired about this method from some of her neighbours who seemed satisfied with the results. After Ishwari started using SODIS, her family members stopped complaining of stomach aches and headaches. She religiously keeps water bottles out in the sun every day. In her own words, "SODIS not only treats water and makes it drinkable, but it really is economical too. Now we do not need to think about wasting money on another filter. That money can be wisely invested elsewhere and our health will still not be compromised. I am really happy and satisfied with SODIS."

A New Cadre of Eco-Artisans

Latchhi Ram, a local mason from Pratappura village joined TARA Karigar Mandal (TKM) 8 years ago. Over the years, he has demonstrated excellent work using environment friendly technologies like Rat-Trap Bond for masonry wall construction, stabilised mud block construction, plank and joist roofing, brick arch panel roofing, ferro-cement channel roofing, brick domes etc. Today, he has turned into a fine master mason, supervisor and master trainer of TKM. He has also developed strong project management skills and is now able to take contracts for eco construction work in different parts of India.



TARA Karigar Mandal

Development Alternatives has been training local masons and artisans in eco-construction in different parts of the country. In Bundelkhand, an intense and focussed effort has resulted in enhanced skills, aggregation of masons who now work together in an entrepreneurial mode opening out the market for green construction. In the year 2011 – 2012, the TARA Karigar Mandal (TKM), an association of building artisans in Orchha and Jhansi districts of Bundelkhand were registered as a Mutually Aided Cooperative Society. Besides regular skill building, promotion of the masons' skills in the local private and government market has led to strengthening of their brand value and position. In addition to eco-construction services, masons added the production of eco-materials to their portfolio. A significant addition has been a unit of women's group producing pre-fabricated building products as a women's wing of the TARA Karigar Mandal. Over 200 masons are associated with the TKM and there is a steady increase in incomes specifically through providing 'eco-construction' services.

In 2011-2012, the TARA Karigar Mandal provided construction services to public buildings of the State of Madhya Pradesh for the forest department and some private housing initiatives. They provided training services in 17 districts as part of the social housing programme of the Government of Madhya Pradesh. They also provided training services to projects outside the state in Haryana and Sikkim.

Women's Collectives

In line with strengthening community level institutions, especially Self-Help Groups (SHGs), in the past year, the organisation worked with a network of NGOs to organise 10,000 women into 1000 Self Help Groups in seven districts of Bundelkhand region (U.P.). These SHGs were linked with financial services and capacity building processes are on-going enhance their negotiating abilities and social capital. Capacity building of local NGOs, SHG development in leadership, socio-economic and political empowerment, creating access to and control over credit dimensions for SHGs and building skills in managing livelihoods have been the activities under this initiative. This initiative was supported by the Uttar Pradesh state office of the National Bank for Agriculture and Rural Development (NABARD).

Enterprise Development

The Enterprise Development Programme focuses on the creation of sustainable self-employment opportunities for individuals and community groups SHGs. Development Alternatives works in close association with its enterprise incubating arm – TARA for the purpose. Testing of enterprise solutions, skill building modules and enterprise training programmes are the key activities on ground. The work stretches across Bundelkhand, Bihar, Chhattisgarh and Orissa in sectors such as eco-housing, renewable energy and water enterprise models.

In 2011-12, implementation action has revolved around enterprise creation in the fields of safe water enterprises, women's enterprises in the production of building materials and development of business plans and viability testing for farm related enterprises for women such as poultry, dairy, fisheries, goat rearing and service based enterprises.

A significant breakthrough was made in leading adult women from illiteracy to empowerment through a step by step process of basic literacy, numeracy, skill building and entrepreneurship training. This model of 'literacy to self-reliance' has been packaged for replication with support from corporate CSR funds.



From Literacy to Self-Reliance

Living with her husband and five children, Kusum spent her entire day on finishing household chores and looking after the needs of her family. With a desire to be financially independent, Kusum joined the 'Literacy to Self-Reliance' programme initiated by TARA Kendra and studied Hindi and Maths as part of the TARA Akshar+ programme. Kusum continued her association with the Kendra and learnt stitching and tailoring. She learnt to stitch ladies garments, shirts, trousers, and children's clothes. She started with stitching clothes for her family members and soon she was stitching clothes for her neighbours. She now earns upto Rs. 6,000 per month. Kusum's family members are very supportive and are happy for this change in her life.



Influence

Development Alternatives operationalizes its mission to create sustainable livelihoods at a large scale by influencing mind space and behaviours towards sustainable development policies and actions. This is attempted through a strong practice to policy connect, transfer of good practice models in sustainable development and communication of perspectives on the issues of national and global import. In this endeavour, Development Alternatives conducts evidence based research for policy development, creates communication tools and knowledge products and maintains a continued engagement with stakeholders in order to influence practitioners and decision-makers catalyzing the process of change. Over the years the DA group has contributed its modest share to national and global policy development on issues of environment and development.

Evidence based research and assessments of development programmes at the state, national and regional levels form a large part of policy research activities across the six thematic programmes. Work on ground in Central India in Bundelkhand and other grass roots initiatives provide lessons for perspective building on sustainable development issues.

In the year 2011 – 2012, Development Alternatives focused on influencing community behaviour in the area of climate change adaptation and low carbon construction in Bundelkhand. In addition, the DA Group reached out to state and national policy makers to support policy development in the area of renewable energy and improving access of poor families to eco-housing and safe drinking water. The organisation also contributed to South Asian and Global debates on climate change adaptation, green economy and sustainable development goals.

Task Force for the Promotion of Clean and Low-Carbon Brick Technologies in Bihar, India

In the past year, extensive work has been done to influence policy in the area of low carbon construction especially in the states of Bihar, Orissa and Madhya Pradesh. Efforts regarding the same have led to the formation of a Task Force in Bihar by the department of Environment and Forest, of the state government to promote low carbon brick production technologies.

There are around 5,500 authorized brick making units in Bihar producing around 11 billion bricks per year. More than 90 per cent of the brick

making activity in Bihar uses agricultural top soil. Additionally, the brick industry in Bihar consumes around 2.2 million tonnes of coal each year with an additional 60,000 tonnes of fuel wood. While technological options for energy and resource saving brick production do exist, there are no financial incentives available to a brick maker to switch over to low carbon technologies. There is a tremendous lack of information about the technology options and their potential economic and environmental benefits amongst both brick producers and public as well as financial sector agencies.

The work being done through the project 'Accelerating Clean and Low Carbon Technologies in the Indian Brick Sector' by Development Alternatives supported by Shakti Sustainable Energy Foundation, promoted a two pronged approach to bring to notice of policy makers and entrepreneurs, the benefits of new technologies and materials like fly ash, vertical shaft brick kiln and improved mechanization with emphasis on improved profitability. In Bihar, efforts have been made to influence policy makers and financial agencies for bringing in a conducive and favourable investment atmosphere and setting up an encouraging financial regime. Along with the demonstration of incremental improvements of existing technologies to benefit the existing brick makers, this approach will seek to encourage new entrepreneurs to adopt cleaner brick production technologies.

DA is a member of the government Task Force on cleaner brick production along with relevant line departments such as the Bihar Industries Association, National Thermal Power Cooperation (NTPC) and Bihar Brick Association. This task force will work on increasing awareness, demonstration for producers and consumers and favourable policy regime in the sphere of clean brick production.

Gender and Innovation Knowledge Platform

DA made strides in the past year to highlight women empowerment through innovation as a permanent feature of its operational and communication strategies. The Gender and Innovation project supported by the IDRC has provided a way of strengthening DA's previous efforts under the Gender and Innovation umbrella. A part of this initiative was the formation of the Gender and Innovation Knowledge Platform (www.genderandinnovation.org), which allowed the exchange of knowledge and experiences across project partners and geographical boundaries.

The online knowledge exchange platform will continue to evolve into an information hub for development practitioners specialising in gender-sensitive approaches to innovation research and implementation. The initiative produced two issues of 'Imagine'- a newsletter dedicated to the subject of Gender and Innovation. The newsletters collated and disseminated topical contributions by practitioners working in the field of gender-sensitive innovation and development.

Connecting Practice to Policy on Climate Change Adaptation – the Bundelkhand Knowledge Platform

Knowledge sharing and collaborative action forms a key component of our approach. In Bundelkhand, the focus on improved agriculture and livestock to reduce livelihood vulnerability led to the formation of the Bundelkhand Knowledge Platform (BKP) in 2010. It continues to facilitate knowledge sharing, consolidation of shared concerns, identification of intervention areas and connecting voices from

“Reality Show creates awareness about climate change in Bundelkhand. Small measures by village families can make a big difference to help them cope with incomes and food security in drought conditions”

*As reported by:
Hindustan, 28 September 2011*



TARAgam Mela: The TARAgam Mela (fair) was a unique working exhibition of practices and technologies engineered and implemented by the DA Group. Highlights of the exposition included onsite demonstration of social enterprise models, community radio (live), decentralized energy systems and many more. It was an interactive exhibit of these practices and technologies in eco-responsible agriculture, resource efficient construction, renewable energy systems and social enterprise models including training groups and cooperatives, women empowerment associations, community radio programming and an award winning rural reality show.



grassroots with policy makers and researchers. The BKP provides an opportunity to build and strengthen relationships with Civil Society Organisations, government agencies and financial and academic institutions in Bundelkhand. The Platform was strengthened in 2011 by regular engagement with CSOs, and government departments working on land – water management and sustainable agriculture issues. The Platform organized a series of workshops, significant amongst them was the State level workshop in Bhopal, Madhya Pradesh on Climate Change and food and water security in Bundelkhand in association with the Environment Protection and Coordination Organisation (EPCO) in September 2011 and a science – practice connect workshop in association with the National Resource Centre for Agro-Forestry in Jhansi in March 2012. Knowledge products and films released on the occasion highlighted community based green enterprise models for climate change adaptation and mitigation relevant for the region.

Reducing Barriers to Change - Rural Communication for Climate Change Adaptation

Rural communication initiatives in Bundelkhand continued to focus on creating awareness about climate change adaptation practices and interventions to reduce barriers to behaviour change. The Shubh Kal initiative (a campaign for climate change adaptation by communities for a better tomorrow) has grown over the last four years with a strong understanding of local communication needs and gaps in information especially regarding climate change issues. The Shubh Kal Campaign for a better tomorrow in Bundelkhand was a winner of the Development Marketplace award of the World Bank. Under this Campaign, the world's first Rural Reality show using a community radio format was launched. Other contemporary and traditional media technologies such as Internet based Video Resource Centres and local theatre were also availed of to increase the participation of communities in the show. The program reached out to 100 villages and facilitated over 500 families to initiate small home level activities to conserve resources, grow food and improve soil quality to enhance resilience to weather variability.

Connecting Practice to Policy – Green Economy in Action - TARAgam Yatra 2011

TARAgam Yatra, an annual event of Development Alternatives is designed to deliberate upon germane issues of sustainability with the mission of inspiring sustainability in policy and practice. The Yatra brings together global minds to discuss debate and define directions of action to tackle poverty and environmental degradation, especially in the South Asia Region. With a mix of dialogue and field visits, the Yatra provides a platform for exchanging cutting edge ideas on how to realize a sustainable future. The event provides leads for follow-up on policies and action at the global, national and local levels.

In the past two years, TARAgam Yatra's contributions have helped form opinions around the concept of 'Green Economy' debated at the Rio +20 conference of nations and helped build ideas for action for the Asia Pacific region presented to the International Poverty and Environment program. In 2011, TARAgam Yatra brought together practitioners and policy makers from the South and South East Asian countries to focus on 'resource efficiency and green growth in action'. TARAgam Yatra 2011 was designed as a capacity building initiative with a theme of 'Resource Efficiency and Green Transformation: Driving Change in Asia'. It was planned as a practice to policy event with field visits associated with the 9th Meeting of the UNEP International Resource Panel (IRP) facilitating

networking between UNEP panelists and development practitioners at the Yatra.

Discussions and learning at the Yatra revolved around scalable practices for green economic growth relevant for our region. Group consultations resulted in the production of three significant concept notes outlining the way forward in future international efforts on streamlining resource use, sharing scalable technologies, implementing ecologically responsible habitat construction and addressing poverty and deprivation in developing regions.

Hosting the International Resource Panel

Policy makers attempt to address the pressing issue of resource scarcity. Existing policies and initiatives, however, do not always interlock with the greatest possible degree of efficiency and coherence. The task for the 9th Meeting of the UNEP International Resource Panel (IRP) that took place in November 2011 in New Delhi, was therefore to evolve a holistic methodology for resource management and systematize the mobilization of existing and prospective measures for green transformation. The meeting was organised by Development Alternatives and Dr. Ashok Khosla as the co-Chair of the International Resource Panel, co-hosted by the Ministry of Environment and Forests (MoEF) - Government of India.

The International Resource Panel's first meeting in Asia was unquestionably timely. Issues of resource management are particularly germane in rapidly developing Asian economies. Concerns of poverty and inequitable resource distribution as well as those of significant climate change vulnerability, align with opportunities for laying genuinely green economic, infrastructural and policy foundations to ensure sustainable and ecologically balanced development.

Annual Conference of the Club of Rome

Already within the first decade of the new millennium, the World is confronted by an explosion of crises. These crises are related to poverty, unemployment, food security, global economy and environmental degradation. Some of them diminish human wellbeing, others threaten our institutions, social systems and perhaps even our civilizations and still others endanger the very processes of nature that support life on Earth. The Annual Conference of the Club of Rome organised in November 2011 in collaboration with the Indian National Association of the Club of Rome, discussed many specific concerns facing our world today. It highlighted the interdependence between economy, ecology and values, as the basis of creating a world that is more sustainable, equitable and peaceful and examined innovative ideas that can shift the world to a more sustainable path.

Participants from across the globe visited the work of Development Alternatives in Bundelkhand and discussed how the solutions in practice can be replicated at scale.



“The first priority of Asian countries in the next few years would have to be on how to achieve resource efficiency because Asia of the expected rapid population growth and pressure on resources. Our resources on this planet are limited and while there is growing understanding of how finite physical resources such as metals, water, land and soils etc. are, the policy and market instruments are not in place to contain their rampant use and look at conservation, reuse and recycling of all materials.”

Resource Efficiency and Green Transformation: Driving Change in Asia



Impact

Development Alternatives continues to invest in innovation of job creating clean technology packages, environmental management systems, institutional models, social enterprises and capacity building modules, planning support tools and services. Development Alternatives further works with policy makers, corporate sector and Civil Society institutions to influence mind space so that the agenda for sustainable livelihoods and sustainable development reaches scale. The impact of this work is seen both at the micro-level in the lives of the poor as well as large scale change in programmes, policies and therefore improvements in social, economic and environmental indicators that the organization in association with its affiliates and partners is able to influence.

The DA Group has organized its work around six thematic programmes. The programmes track their interdependent outcomes with respect to savings in energy and finite resources, reduction in carbon footprint of economic actions, regeneration / conservation of natural resources, community empowerment to access basic needs and entitlements, job creation, economic growth of target population and creation of physical assets that lead to improvement in the quality of life of the poor.

The year 2011-2012 has been significant with respect to strengthening community institutions, enabling large numbers of poor women and men to access their rights and financial, information and technical services. Cumulatively, the organization has enabled 61,500 illiterate women to read and write, linked 25,000 women with financial services, 30% of whom, i.e. 7,500 have availed credit services and has supported 14,000 families to access public programmes through information and capacity supports. The organization has transferred lessons from its work through association with Civil Society Organisations, government agencies and businesses to state, national, regional and global levels. In Bundelkhand, partners of the Bundelkhand Knowledge Platform have benefitted from DA's work to replicate it in the 13 districts of the region. The assessment of vulnerability to climate change in Madhya Pradesh and the adaptation models tested on ground informed the development of the State Action Plan for Climate Change (SAPCC). The responsibility of management of the National Resource Cell for District Planning (NRCDP) has provided Development Alternatives the opportunity to mainstream sustainable development issues in grassroots planning systems and add value to the planning processes in the selected seven states of India. The sharing of

DA's work in the in the South Asian region through the basin-South Asia and Climate Action Network South Asia (CAN-SA) platforms has benefitted practioners across the region. Through CAN-SA, Development Alternatives contributed significant inputs to the tracking of the 'Thimpu declaration' of SAARC countries for climate change action. Development Alternatives also contributed to the South Asian perspective on 'green economies' and regional for debate at the Rio+20 conference.

In the year 2011-2012, Development Alternatives consolidated its work in the area of enhancing community access to basic needs. In each of the areas of eco-habitat, safe water and clean energy, the organisation has developed technology packages, transfer and support systems, social enterprise models, training and capacity building systems and market outreach mechanisms. Development Alternatives and its affiliates have worked with policy makers in the states of Madhya Pradesh and Delhi to mainstream eco-technologies and eco-enterprises for basic needs goods and services in public programmes and schemes. Cumulatively over the years, the organization has enabled over 500,000 families to access eco-habitat, safe water and clean energy solutions, leveraging over Rs. one billion in public and private spending towards this end.

The outcomes of Clean Technology programme are now becoming evident in the form of measurable savings in virgin resources, fossil energy and reduced pollution from manufacturing. Development Alternatives initiatives have been able to influence public policy in Orissa and Bihar towards cleaner production in the brick sector. Technologies promoted by the DA group have the potential to utilize industrial wastes and their transfer to other developing countries in South Asia and other countries in Africa and South-East Asia are an indication of the benefits these may provide. Over the years, clean technologies promoted by the group have provided environmental, economic and social development benefits. Through the work of the brick sector alone, a seed capital from the Swiss Agency for development and Cooperation of Rs. 38.15 million in the 1997-2003 period has leveraged cumulative revenues of 1500 million for entrepreneurs, generated 2000 direct jobs and saved over 320,000 tonnes of CO2 and 100,000 tonnes of coal in comparison with the conventional/ business as usual.

The Natural Resources Management programme has contributed to the regeneration of 11,500 hectares of land and interventions have directly contributed to an enhancement of 15 to 20% in the incomes of 3500 farmers over 100 villages in Bundelkhand. Lessons from the NRM programme have been integrated into the state climate action plans, and programmes for integrated watershed management and the Mahatma Gandhi National Rural Employment Guarantee Scheme in Madhya Pradesh.

Systems to roll out skills for green job creation and enterprise development have been set in place. The TARA Livelihood Academy has been fully integrated with the business affiliates and has begun job oriented training in a profit mode. Over the last four years, training services reached 9000 persons; from amongst them 2400 were placed in jobs and 3800 linked with self-employment opportunities. In the last year alone, 3033 people have been given training in employability skills under various programmes through its efforts in job creation and enterprise development, the Group has been able to create economic value amongst its target communities of poor, especially women, farmers and artisans in Bundelkhand.

The DA Group focuses on empowering communities through strengthening people's institution and facilitating their access to basic needs; enabling economic opportunities through skill development for green jobs and enterprise creation; promoting low carbon pathways for development through natural resources management models and clean technology solutions.





While the DA Group has demonstrated pockets of excellence in sustainable development initiatives over the last three decades, its latent potential to create a large-scale impact has yet to be explored. The new DA Headquarters building has demonstrated an innovative model for sustainable urban living and its lessons have inspired urban designers, development practitioners and policy makers across geographies. Work in Bundelkhand demonstrates practical solutions for management of natural resources that enhance community resilience to climate change, information literacy and awareness for empowering rural poor, especially women and creation of sustainable economic assets for to enable the poor to break out from the vicious poverty cycles. The Organisation's efforts are being recognized through national and international awards and accreditation. In 2011-2012, the Fly Ash Technology package was nominated for the second round of St. Andrews Prize as one option among 30 shortlisted from total of 200 applications; the DA Green Building was awarded NDTV-Toyota Green Award 2010 in the category of Green Design, Development Alternatives was recognized amongst the top 50 policy think tanks to influence global public policy, and amongst the world's top 30 organisations demonstrating transparency, good governance and use of communication media by the University of Pennsylvania's 2012 International Relations Program Report. DA Founder and Chairman Dr. Ashok Khosla was conferred the WWF Duke of Edinburgh Conservation Medal 2011 at the Buckingham Palace in recognition of outstanding service to the environment. The Dindigul project of DA's CLEAN INDIA programme won a 2nd runner-up position in the 2011-JCB - Confederation of Indian Industry- APTDC Award for Excellence in Waste Management, 2011 for its community initiative involving students in setting up an entrepreneurial waste management system and Radio Bundelkhand, the community radio managed by Development Alternatives received a special mention in the 2011 Manthan Awards for enabling informed dialogue and rural empowerment. The Radio also won the Commonwealth Educational Media Centre for Asia Award for promoting the local culture of Bundelkhand through its programmes.

30 years of delivering EcoSolutions

THE IMPACT

Institutional Strengthening

- 11020 HHs aware of entitlement schemes
- 25,000 women linked with financial services
- 14,000 families access public programmes and schemes

Natural Resource Management

- 11,500 ha of land regenerated
- 3,500 farmers adopt sustainable agricultural practices
- Climate change adaptation models in over 200 villages

Clean Technology

- 320,000 tonnes of carbon dioxide saved
- 100,000 tonnes of coal saved
- 25 clean technology option for livelihood creation packaged

THE IMPACT

Basic Needs

- > 30,000 HHs access clean drinking water
- 61,500 rural women made literate
- > 300,000 HHs access safe eco-housing and sanitation get safe housing

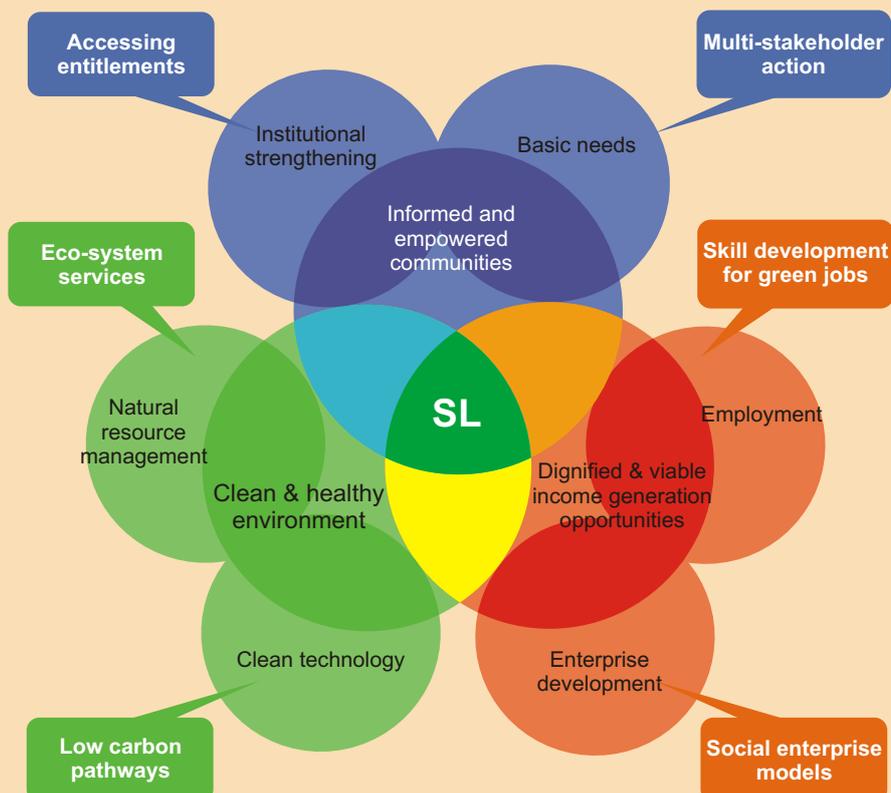
Green Jobs

- 9,000 people trained in employment skills
- 2,500 placed in jobs and 3,800 linked with self employment
- > 2,000 direct green jobs created through eco-enterprises

Enterprise Development

- > 300 micro enterprises created
- > Rs 1,500 million revenue generated by green enterprises
- > 300 small income generating activities promoted

SUSTAINABLE LIVELIHOODS





Development Alternatives TARAgam Office Staff



Development Alternatives Delhi Office Staff

Compliance

- Partners, Collaborators and Affiliates
- Auditors' Report
- Credibility Alliance Norms Compliance Report
- Board of Directors

Partners, Collaborators and Affiliates

International Organisations

Council for Interior Design Accrediation (CIDA)
Climate and Development Knowledge Network
ClimateWorks foundation
Department for International Development (DFID) UK
EAWAG SOLAQUA
European Commission (EC)
FEM ITALIA ONLUS
Henrich Boll Foundation
International Labour Organization (ILO)
International Crops research Institute for the semi Arid tropics (ICRISAT)
International Development Research Centre (IDRC) Canada
Japan International Cooperation Agency (JICA)
Japan External Trade organization (JETRO)
Ministry of Environment & Forests, India
Practical Action
Swiss Agency for Development and Cooperation (SDC)
Swiss Red Cross
The Asia Foundation
United Nations Development Programme (UNDP)
United Nations Environment Programme (UNEP)
United States Agency for Advancement International Development (USAID)
United Nations Institute For Training on Research (UNITAR)
World Bank
The World Wide Fund for Nature (WWF) India

Academic Institutions

Indian Institute of Technology, Delhi
Indian Institute of Technology, Chennai
Indian Institute of Tropical Meteorology (IITM) Pune
School of Planning & Architecture (SPA) Delhi

Companies

ACC
Ambuja Cements
Cisco
Holcim
Hewlett Packard
Microsoft

Shell
Samsung
SCATEC Solar
Shiseido
Tata Chemicals Limited
Tata Iron & Steel Company (TISCO)

Government Institutions

Building Materials & Technology Promotion Council (BMTPC)
Central Pollution Control Board (CPCB)
Department of Science and Technology (DST)
Government of Himachal Pradesh
Government of Madhya Pradesh
Government of Uttar Pradesh
Government of Bangladesh
Government of Delhi
Indian Space Research Organisation
Ministry of Environment and Forests
Ministry of Science and Technology
Ministry of Rural Development
Ministry of Panchayati Raj
Ministry of Information Technology
Ministry of Water Resource
National Wasteland Development Board (NWDB)
National Bank for Agriculture and Rural Development (NABARD)
National Housing Bank
The National Research Centre for Agroforestry (NRCAF)
Rajeev Gandhi Watershed Mission
The Planning Commission

Financial Institutions and Foundations

Ford Foundations
MacArthur
Madras Crocodile Bank Trust
Omar Dengo Foundation
Rockefeller Foundation

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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 2012 and also the Income and Expenditure Account for the year ended on that date which is 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. We did not audit the financial statements of branch (Jhansi), whose financial statements reflect total assets of ₹ 17,565,476 as at March 31, 2012 and total revenues of ₹ 14,946,884 for the year then ended. These financial statements and other financial information have been audited by SKA & Associates whose reports have been furnished to us by the management and our opinion is based solely on the reports of SKA & Associates.
4. 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 2012; and
 - b) the Income and Expenditure Account, of the deficit for the year ended on that date.
5. The prescribed particulars are annexed hereto.

Walker, Chandniok & Co

for Walker, Chandniok & Co
Chartered Accountants
Firm Registration No. 001076N

B.P. Singh



Place : New Delhi
Date : September 27, 2012

B.P. Singh
Partner
No. 70116

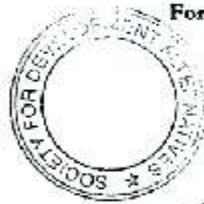
Society for Development Alternatives
Balance sheet as at 31 March 2012

	Schedule	2012 ₹	2011 ₹
Sources of funds			
Capital and other funds	1	19,166,640	26,124,227
Unspent grants, net	2	4,524,483	11,984,861
Deferred grants		125,922,868	120,506,798
Unsecured loans	3	13,782,692	13,782,692
		<u>163,396,683</u>	<u>172,398,578</u>
Application of funds			
Fixed assets	4	156,408,387	141,390,974
Current assets, loans and advances			
Cash and bank balances	5	19,204,868	23,103,617
Loans and advances/ receivables	6	13,812,792	17,481,773
		<u>33,017,660</u>	<u>40,585,390</u>
Less: Current liabilities & Provisions			
Current liabilities	7	24,988,872	11,606,146
Provisions	8	1,040,492	971,640
		<u>26,029,364</u>	<u>12,577,786</u>
Net current assets		<u>6,988,296</u>	<u>28,007,604</u>
		<u>163,396,683</u>	<u>172,398,578</u>
Significant accounting policies and notes to the financial statements	13		

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

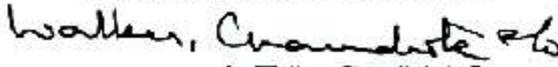
For and on behalf of the Society


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.


for Walker, Chandiook & Co
Chartered Accountants

Place : New Delhi
Date : September 27, 2012




B.P. Singh
Partner

Auditors' Report

Society for Development Alternatives
Income and Expenditure account for the year ended 31 March 2012

	Schedule	2012 ₹	2011 ₹
Income			
Technical and other receipts			
Recovery towards establishment and infrastructure		42,421,439	38,034,700
Donations		3,465	5,059
Other income	9	2,962,744	624,920
Grant for assets of projects		9,349,909	4,370,678
		<u>54,737,557</u>	<u>43,035,357</u>
Expenditure			
Personnel expenses	10	32,882,499	32,716,834
General administrative expenses	11	14,308,131	17,548,176
Finance charges	12	1,644,508	1,654,912
Deficit of closed projects, net	2	3,439,145	3,996,330
Depreciation	3	11,028,721	4,638,207
		<u>63,303,004</u>	<u>60,554,459</u>
Deficit for the year		(8,565,447)	(17,519,102)
Deficit for the year transferred to capital fund		<u>(8,565,447)</u>	<u>(17,519,102)</u>

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 E. Varghese
 President

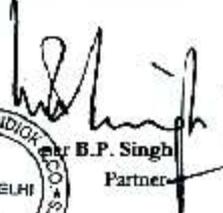



 Wg. Col. Vijay Raj (Retd.)
 Manager Finance

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, Chandniok & Co
 for Walker, Chandniok & Co
 Chartered Accountants

Place : New Delhi
 Date : September 27, 2012


 B.P. Singh
 Partner



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 Chandio & Co.
L-41, Connaught Circus
New Delhi 110001, India

Regular staff	Male	Female	Total
<2500	0	0	0
<7000	1	0	1
<15000	35	6	41
<30000	16	11	27
<50000	9	3	12
>50000	3	3	6
Total	64	23	87

Staff Details (as on March 31, 2012)

Governance

None of the Board members is related to each other.

The Development Alternatives Board members met once in the FY 2010-11 in 20th Dec 2011.

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	Consultants	Project Appointees
Male	73	8	8	60
Female	27	1	7	14

Distribution of Staff (as on March 31, 2012)

Board of Directors

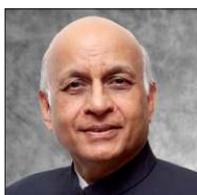
Chairman



Dr. Ashok Khosla

Chairman, Development Alternatives
Area of Competency: Institutional Development

Members



Mr. Lalit Mansingh

Former Foreign Secretary
International Relations



Mr. Vikram Lal

Chairman, Vikram Sarabhai Foundation
Business



AVMS Sahni

Senior Advisor, Development Alternatives
Watershed Management



Ms. Gita Sidhartha

Chairperson, Indian Council
for Child Welfare



Mr. Salman Haidar

Former Foreign Secretary
International Relations



Prof. Amitabh Kundu

Prof. of Economics, Jawaharlal Nehru University
Development Economics



Dr. Arun Kumar

President, Development Alternative
Technology and Business Development



Mr. George C. Varughese

President, Development Alternative
Institutional Development

Annexures

- Business Solutions



Business Solutions

Creating enterprises for local communities

The Business Solutions Branch of the Development Alternatives Group (DA Group) creates, customizes and delivers market driven technology-based products and services for various target groups. They also extend and manage DA's network of franchised telecentres and micro-enterprises and promote environment friendly products and services. Presently the DA Group has several special purpose vehicles such as TARA Machines and Tech services Private Ltd. and TARAhaat Information and marketing Services Ltd. These vehicles promote sustainable technology solutions for small and medium enterprises.

Technology and Action for Rural Advancement (TARA)

“Development Alternatives realized some thirty years ago, that no mechanisms existed to produce innovations, either in technology or in institutions that took care of the needs of the poor or recognized the constraints of the nature. There was no science for the poor, much less technology.” Ashok Khosla

The DA group set up a not for profit flagship entity called TARA in 1983 in association with the parent institution Development Alternatives. Since its inception, TARA has been transforming the landscape of rural India by creating new opportunities to build village economies. TARA has been working to bring people, environment and technology closer fulfilling the mission to create sustainable livelihoods at a large scale.

TARA's Mission: “Build capacity, incubate business models and manage processes to create economic, social and environmental value on a large scale”.

TARA's Mandate: 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, helps large corporations explore new markets and also aggregates the output of local producer groups including micro, mini and small enterprises and connects 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.

TARA has five Lines of Businesses

1. Training and Capacity Building Services
2. Green Products and Services (B2C)
3. Livelihoods and Market Access
4. Technology Management Services
5. Programme Management Services

In the Year 2011-2012, TARA's lines of businesses have strived to contribute towards the DA Group mission of creation of sustainable livelihoods at a large scale in a manner that generates surpluses and contributes to the financial stability of the Group. In doing so, they have aligned their work to the six programmatic areas.

1. Training and Capacity Building Services (TARA Livelihood Academy): The TARA Livelihood Academy (TLA) leads the line of business for training and capacity building. During the Financial Year 2011-2012, TLA achieved more than the targeted revenue, generated surplus and shared with others. It expanded area of operations to 6 districts of Bundelkhand and delivered around 60 training programmes. Ten master trainers were developed and ten training modules were packaged. TLA developed various promotional tools such as their website, brochures, standardized bags, folders, notepads and a set of case studies. New clients were added to their business such as the National Power Corporation Limited, Bajaj, the District Poverty Intervention Programme, Rajive Gandhi Watershed Mission amongst others.

2. Green Products and Services (B2C): This line of business connecting businesses to consumers has two products lines in its portfolio; the TARA Paper and TARA Water products from the environment monitoring facility.

TARA Paper: In the Financial Year 2011-2012, TARA paper showed a balance sheet indicating sustainability. A focus on value added products and profits led to consultancy initiatives to new clients for customized products. Customized marketing, retention and strengthening of customer relationship complemented the efforts to add new customers such as IGRMS, EKLAVYA Bhopal for paper bags, CMS Environment, M/s Hindustan Paper Bangalore, BPCL and MPREIS.

TARA Environment Monitoring Facility (TEMF): The focus of TEMF during the Financial Year 2011-2012 has been on stabilizing and streamlining operations. All TEMF procedures have been documented, it has thus led to less time spent on fire – fighting. An updating of production costs for Jal-TARA Kits and Jal-TARA Filters has helped strategize Jal-TARA Filter pricing. With openings in Dubai and Sri Lanka, TEMF have started targeting the more lucrative



international market. Corporate sector has become a focus and the Jal-TARA filter based concept note prepared - approached Canon, Jochnick Foundation and Ford Motors.

3. **Livelihood and Market Access:** This line of business that addresses the Bottom of Pyramid market and access worked to streamline its operations. Tools such as questionnaires, reports etc. to understand the BOP market were developed. Lessons from the Dairy sector in Jabalpur, India were documented for replication. A strong consultancy relationship was developed with KMC and with respect to TARA's relationship with ILO, it graduated to that of 'India Partner' from 'facilitator'.
4. **Technology Management Services:** In 2011-2012, Technology Management Services has concentrated on south-south technology transfer on one hand and waste based technology transfer in Orissa and Bihar. The TARA eco-Kiln technology (VSBK) was transferred successfully to South Africa and one kiln has been commissioned. Supported by the TARAYana Foundation, Bhutan, TARA has conducted an exchange programme with 3 countries in South Asia (India, Bhutan and Nepal) on promotion of green technologies. In association with Development Alternatives, TARA has promoted a fly-ash brick cluster in the state of Orissa and Bihar. Additionally in Bihar, the water filter technologies for removal of arsenic were promoted.
5. **Programme Management Services:** The Programme Management Services has focused on renewable energy initiatives. The SPEED (Smart Power for Environmentally Sound Economic Development) project identified 21 energy supply companies (ESCOs) and formed a high level advisory group under chairmanship of Mr Jamshyd Godrej. Various decision making tools were developed (ESCO assumption template, site assessment tools). A catalytic fund leveraging strategy and a knowledge management system have ensured that the programme will be able to scale up and speed up as per design in the coming years.

The Ve-SURE Project looks at renewable energy plants in association with the National Thermal Power Corporation thermal and hydro-plants for communities. Under this initiative, one biomass gasification plant (Beharatola) of 40 kiloWatt (2x20 KW) capacity is now fully operational and handed over to the community. Capacities of operators and local service providers were built and all systems were set in place to ensure power distribution to 110 households and a 10 HP Flour mill. The total generation of 560 kWh and Biomass stock reached 12000 kg. The initiative also prepared a draft micro-hydro policy for the state of Sikkim.

TARA Machines and Tech Services Private Limited (TMTS)

TARA Machines and Tech Services Pvt. Ltd delivers green business solutions to SMEs 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.



In the year 2011-2012, its income from the sale of equipment grew from Rupees 36.5 million Indian Rupees (approx.) in 2010-11 to 41.7 million in 2011-12 registering a modest 15% growth. However, the fly ash and eco-concrete businesses continued their impressive growth, bearing proof of the company's strategy implemented during the past year. The TARA Mech Ram-MX and MV packages were aggressively marketed in Orissa and Maharashtra backed with good service capability. The company will expand its foray into new regions in Bihar, Jharkhand, Eastern Maharashtra, Orissa and Uttar Pradesh. In preparation for continuing its expansion of the Fly Ash business, an office was established in Nagpur to focus on the Vidarbha region with dedicated sales and service manpower. The declines in the Eco-Kiln and the Paper Recycling businesses are not a cause of concern. The Eco-Kiln business showed a slight decline due to a conscious decision on the part of the business as well as the operations team of the company to put in controls to improve the quality of execution.

In Paper Recycling, business has an expanding customer base as the company received orders from Mayo College, Intelligence Bureau as well as the Western Air Command, Subroto Park, New Delhi and will continue to grow rapidly in the next financial year.

The year saw the addition of new customers from Afghanistan, Bhutan and the North-East. The company's promotions during the festive season were successful. Its participation in the India International Trade Fair 2011 at Pragati Maidan, New Delhi generated several enquiries and business over Three million Indian Rupees as well as useful market feedback related to potential in the North-Eastern States.

During the year, TARA Machines has introduced new technology products and made its current portfolio more robust in delivering performance and reliability.

- i) Green Cast Vibrating Table for Roofing; the equipment capability was enhanced for manufacture of concrete planks and joists.
- ii) Brick Mek-Super-X brick moulding machine was developed and launched with models having choice of being operated with electric motor and/or diesel engine; essentially for catering to requirements of fixed chimney entrepreneurs.
- iii) Mech Ram-MX machine is now available with higher compression capability to cater to requirements of Fal-G and fly ash concrete block manufacture.

The company sees opportunities for growth in Uttar Pradesh, Madhya Pradesh, Bihar and the North-East. During 2012-13, TARA Machines is seeking to develop higher capacity brick production equipment:

- a) TARA Brick Mek Extruder for clay brick manufacture.
TARA Mech Ram High Capacity fly ash brick machine.
- b) TARA Low Consistency Pulper for recycling of TetraPak cartons and composite packaging materials.

TARA Nirman Kendra (TNK)

TARA Nirman Kendra delivers environment friendly habitat products and services through a range of sustainable building technologies and advisory support. The design and delivery of these eco-solutions are



driven by the mandate to fulfil basic habitat needs and to enable creation of sustainable environments. The Nirman Kendra offers the following services and products:

- Waste to wealth technologies - TARA fly ash bricks, funicular shell roofing, micro concrete roofing tile technology, concrete blocks
- Prefabricated, low energy technologies - Ferro-cement roofing channels and wall panels, planks and joists roof, arch panels, door/window frames
- Habitat infrastructure - ecological wastewater treatment systems, prefab toilets, roads, drainage, natural water purification systems, water shortage tanks, smokeless cooking stoves.

Seeing the growth pace of business in Jhansi market, a state of saturation or business as usual, TARA Nirman Kendra started exploring chances of business from new market, mainly from Gwalior market. Hence focus area of TNK during the year 2011-2012 was to increase its presence beyond Jhansi to untapped market of Shivpuri, Dabra, Orai, Tikamgarh, Sagar and Gwalior. TNK reached out to institutional clients as well as builders and contractors. They have also engaged with architects to further their business. Business in the year for Rupees 6.4 million and production capacity was enhanced in Datia campus by adding more MCR machines and paving block equipment in entrepreneurial mode. As far as product was concerned we were largely depended upon the business from MCR Tiles and Roofing from this, however with the advent of new innovative products as such R.C.C. Door Frames and Precast Boundary Walls, focus diversified to increase the business.

In the coming year, TNK plans to increase its business to 10.6 million, introduce the fly-ash brick as a new product, rejuvenate the eco-brick production and stabilize production in the Datia campus.



TARAhaat Marketing and Information Services Ltd.

TARAhaat focuses on delivering, on a financially stable basis, ICT products and services that facilitate sustainable livelihoods for youth through franchised networks. There are a total of 60 Kendras till date with 2664 numbers of students enrolled for various skill enhancement programmes.

TARAhaat has invested significant resources to put into place new, standardized operating procedures, for which it was awarded ISO 9001:2008 certification in April 2012. In addition, more frequent training and improved monitoring of our field staff should allow TARAhaat to improve monthly collections and reduce debtors.

TARAhaat is also developing business partnerships with organizations in the skill development arena to provide its franchise network with new products and services to enhance their revenue opportunities, as well as to broaden the distribution of its products in geographies where it has no presence. TARAhaat launched a pilot programme to introduce para-medical (i.e., non-doctor) healthcare courses (ward-boy and nurse training) to a select group of franchisees; this initiative is in collaboration with Navkar Centre for Skills, based in New Delhi. TARAhaat is also working with the NASSCOM Foundation to deliver its courses through the NASSCOM Knowledge Network, which has partners across India. In the coming year, TARAhaat will also collaborate with entities in the Development Alternatives Group to look for Central and State projects for skill development.

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 Ltd.



TARA Environmental Products and Services Pvt. Ltd.



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

