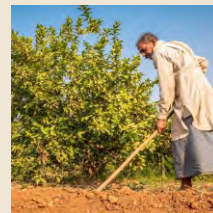


# ANNUAL REPORT 2021



Development Alternatives

# ORGANISATION AT A GLANCE

## **Annual Report 2020-2021**

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## **Society Registration**

Society Act XXI of 1860; Registration No. 12964

## **FCRA**

Section 6 (1) (a) of the Foreign Contribution  
(Regulation) Act 1976 (FCRA Reg. No. 231650202)

## **Development Alternatives**

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New Delhi 110 016

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## **Vision**

A world where every citizen  
can live a secure, healthy,  
and fulfilling life, in harmony  
with nature

## **Mission**

To create models that  
generate sustainable  
livelihoods in large numbers

## **Approach**

Innovation, incubation,  
implementation and  
influence to create a large-  
scale impact



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## *Message* *From the Chairman*



# Building a New India

Building a New India by 2050 is the short name we give to the most urgent task of our time. It is now 70 years after the formal adoption of the Constitution and its underlying vision, based on the values stated in the preamble – Justice, Liberty, Equality, and Fraternity – to be achieved through a sovereign, socialist, secular, democratic republic. It is clearly time to evaluate whether these aspirations expressed in the preamble of the nation's Constitution have been met and, if they have not been realised, to design strategies that will enable the country to achieve them.

It is no one's case that India has made no progress over these decades. On the contrary, there are manifestly many more citizens of our country who live longer, healthier, better educated, and more productive lives than ever before. More than doubling of the life expectancy from 32 to 69 years is



just one outstanding example. We can be proud that some among our fellow citizens are capable of competing in the spheres of business, finance, science, medicine, engineering, information technology, and many other domains, even some sports, with the very best in the world. And we have built up an enviable infrastructure, production capacity, institutional framework, and economy.

At the same time, we continue to have more hungry, undernourished and malnourished, frequently sick, illiterate, jobless, poor, and marginalised people than any other country in the world. The opening resolve of the Constitution does not seem to have adequately transformed the lives of these huge numbers of our fellow citizens. They got left out of the mainstream economy and survive beyond the edges of regular society, continuing basically to be sub-citizens. The first job of all of us, those in politics and Government, those in industry and business, and those in civil society institutions (CSIs), including the academia and the media, is to bring these several hundred millions of people up to full citizenship, with decent lives and livelihoods for themselves and a better life for their children.

The country adopted a socialist mixed economy model in its first four decades, and moved to a “liberalised, privatised, and globalised” model after 1991. Both delivered many good things for part of the citizenry, but neither could address pervasive poverty and massive destruction of the environment and depletion of natural resources, or revive community and social capital that existed before these models were implemented. The evident structural flaws in

the nation’s economic systems and governance institutions that COVID-19 exposed highlight the folly of going back to business in either model of the economic development adapted earlier. The pandemic presents us with a rare opportunity to embrace development pathways that are more suited to fulfilling India’s founding vision, duly contemporised, and updated.

Establishing new values and principles is a long-term agenda, sometimes requiring a whole generation. This kind of transformation can only be brought about through the leadership of CSIs, working in collaboration with the State and market institutions. “We the People” will need to be mobilised to begin to develop a consensus on emerging principles and priorities outlined in previous sections. That discourse needs fertile ground of “civic space” for conversations, dialogues, debates, confrontations, conscientisation, all following the value premises and principles mentioned earlier. It is unlikely that either the State or the corporate sector will kindle or promote this discourse. Thus, the lead will have to be taken by CSIs undertaking the transformational tasks needed. Development Alternatives recognises its own leadership responsibility in this process.



Dr Ashok Khosla  
Chairman



## The Year at a Glance

Development Alternatives continues to prioritise sectors of the economy in which green and inclusive businesses have the potential to create significant social and environmental impact. So far, through our work across various geographies, we have touched 19 million lives.





Year 2020-2021

## Empowered Communities

17,057

households accessed basic needs services such as WASH, clean energy, housing, and literacy



442 new SHGs formed

40 SHGs linked to banks

## Clean and Green Environment

2,110 farmers trained on water management, sustainable agriculture, and climate change adaptation planning



410 million liters of water conserved

3.2 million tonnes of top soil saved

## Income Generation Opportunities

682 enterprises setup and supported, creating 8,702 jobs



5,747 people trained with employability and vocational skills

3,226 jobs created through skill enhancement

Generating INR 300 million revenue

16,000+ artisans, crafts persons, and farmers livelihoods enhanced

# Our Approach

The Development Alternatives Group is committed to actions that eradicate multi-dimensional poverty and build a world where everyone can live secure, healthy, and fulfilling lives, in harmony with nature. We support and promote a just transition to green, inclusive, and resilient economies in India and globally. Our work focuses on designing and developing circular economy models with small entrepreneurs, keeping local community's interests in the center. The Bundelkhand region is our social laboratory and our '*karmabhoomi*' where we concentrate our efforts to build

## Innovation



Innovation for sustainability demands new benchmarks of performance in products, techniques, services, and social value creation that realise green and inclusive development outcomes across all communities, small enterprises, industries, and local and national governments. Transformation to sustainable societies will be led by innovative business models and institutional systems with distributed epicenters of local value creation and value retention. We design and foster innovative technology and enterprises solutions to shifts towards low carbon, resource-efficient, and regenerative production systems creating positive impact on people's lives and the environment.

## Incubation



Mainstreaming innovative solutions requires the right scaling of technology packages and building capacities of the local institutional eco-system and enabling policy and regulatory environment. Our work focuses on incubating appropriate technical, institutional, and market solutions to foster livelihood resilience among small and marginal agricultural communities, enhance resource efficiency and circularity in construction, water, and waste management systems in human settlements, catalyse local economic actions through access to renewable energy, support small enterprise development, and build skills of the youth for job creation.

local capacities, regenerate natural resources, and infuse science and technology-based solutions to catalyse social change processes and demonstrate sustainable development in action. We transfer our knowledge and technical and social change models in geographies including India, South and Southeast Asia, and Africa. Our work involves sustainability research, green technology innovation, small enterprise development, skill building for employment, capacity building for action, advocacy and planning support for appropriate policy development.

## Implementation



We work with a wide spectrum of stakeholders to demonstrate viable and scalable development solutions that deliver eco-friendly building materials, affordable housing, safe water, sanitation and waste management services, natural resources management, and resilient agriculture models. These solutions are then taken to scale through building capacities of local communities, civil society partners, small entrepreneurs, local governments, and public institutions.

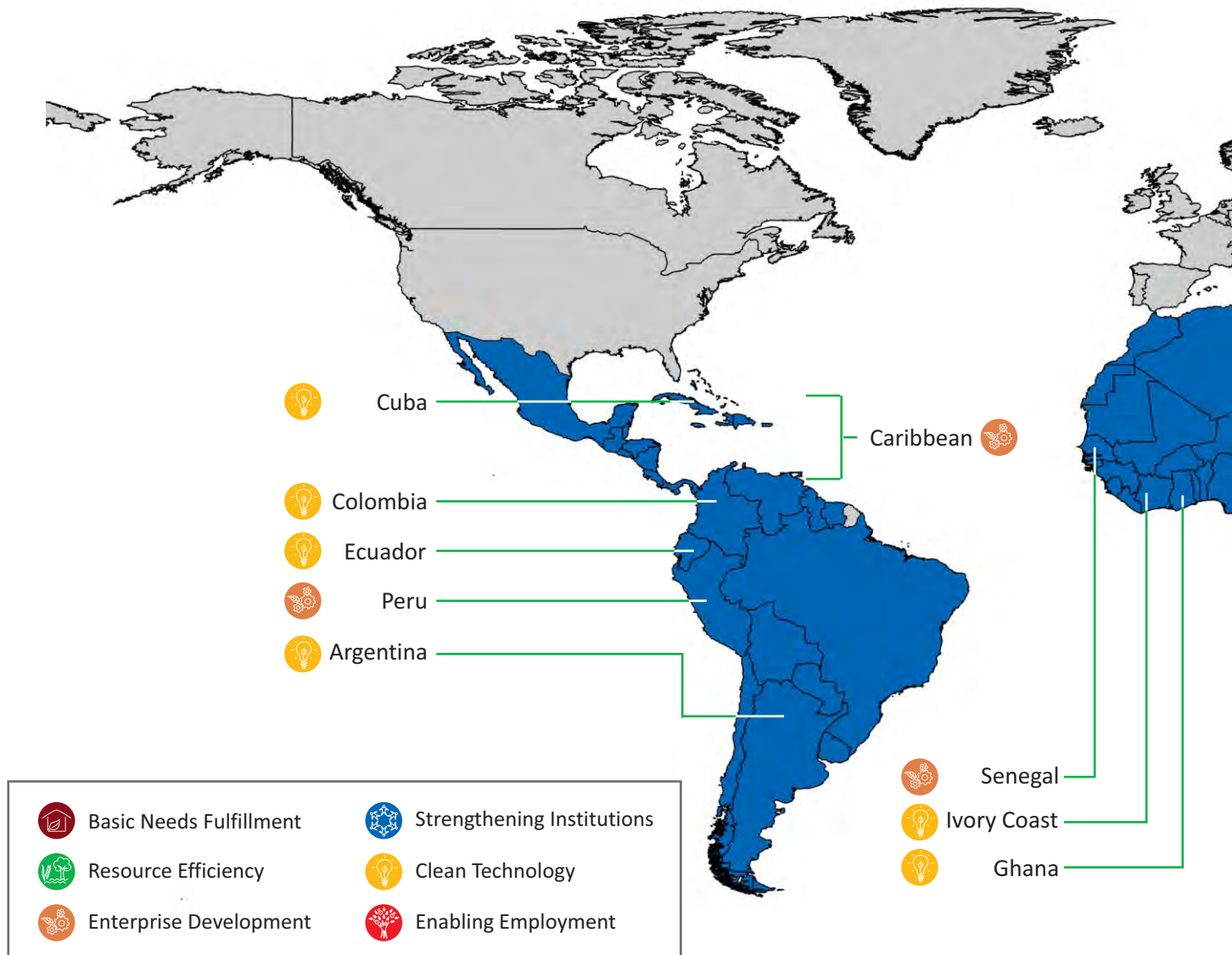
## Influence

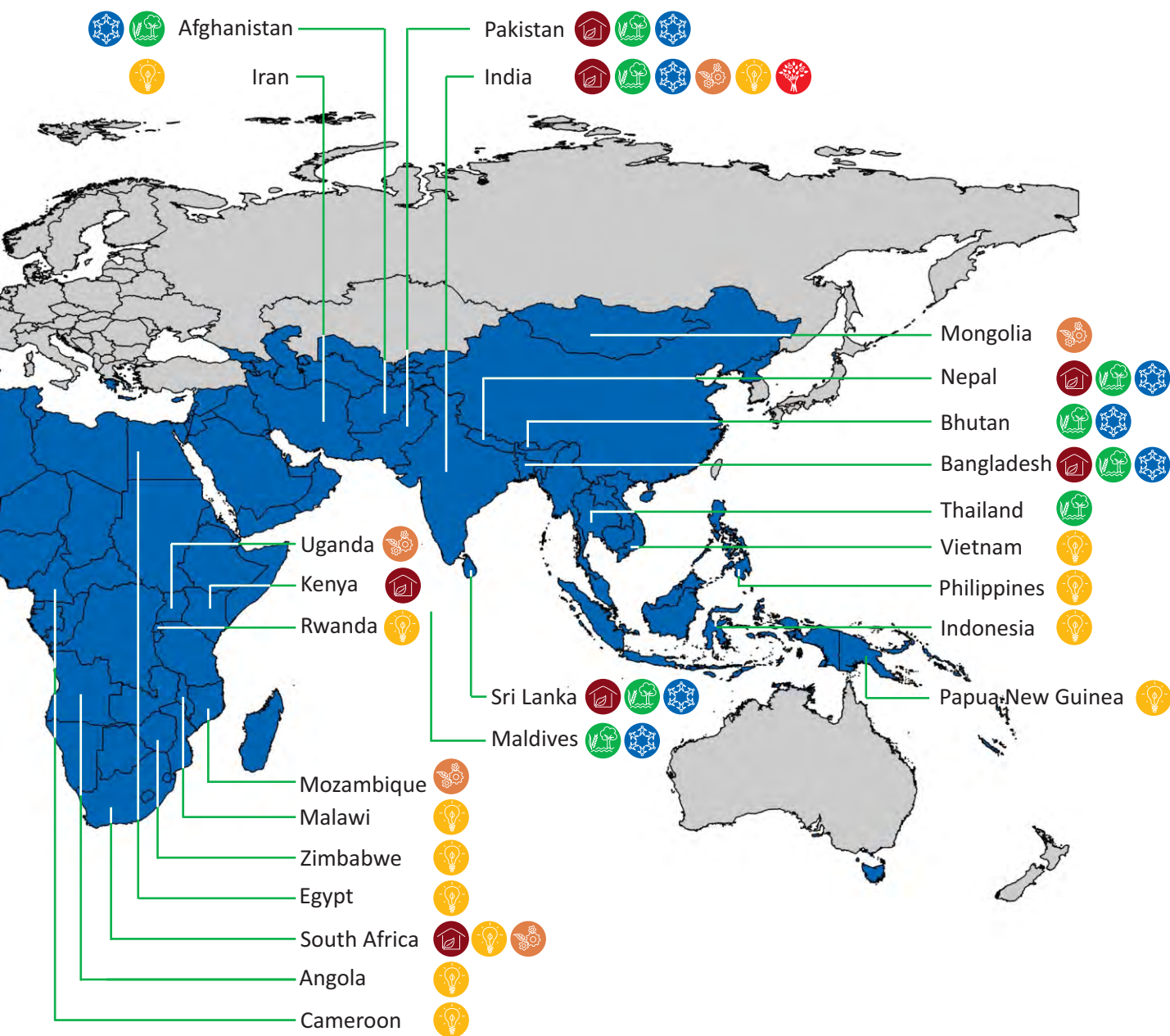


Enabling policy and market eco-systems are required to mainstream and scale-up good practice solutions. Evidence from practice, study of past trends, and future scenario forecasts are used to develop recommendations for informing policy design at state and national levels. Dialogues and debates on multi-stakeholder knowledge sharing networks are a preferred mechanism to co-create shared narratives and advocate for green, inclusive, and resilient development models with policymakers and businesses. Public awareness and behaviour change campaigns are organised from time to time to inspire sustainable consumption, climate action, and participatory local self-governance.



# Our Footprint in Global South











## Message From the President



India, like the rest of the world, has endured the havoc created by the COVID-19 pandemic while struggling to combat the challenges and threats amid severe disruptions. In the wake of repeated waves of destruction, India has chosen the path of long-term economic expansion and sustained growth. The clarion call for Atmanirbhar Bharat by the honorable Prime Minister focuses on building a robust Indian economy.

Development Alternatives has with active collaborations promoted multiple initiatives that focus on rebuilding a “Green Circular Economy”. An Indo-Australian collaboration project with multiple partners aims to develop a roadmap for circular economy of plastic resources in India. For the state of Bihar, DA in partnership with Bihar State Pollution Control Board and support of Shakti Sustainable Energy Foundation is developing a framework for a carbon neutral construction sector and building economy. At the global level, the work on Limestone

Calcined Clay Cement (LC<sup>3</sup>) has found wide acceptance with the cement industry majors in India, Malawi, Egypt, Thailand, and Sri Lanka.

In the post-COVID-19 era, the opportunity of mass entrepreneurship is being driven through multiple initiatives, including a digital platform for entrepreneurship, udayME, Entrepreneurship Coalitions and Partnership with Transforming Rural India Foundation, Trust for Retailers, and UP. State Rural Livelihood Mission. The flagship SFURTI programme drives cluster-based traditional industries for enhancing value creation.

In the upcoming year, Development Alternatives will expand its work on farmer collectives (FPOs) and use of digital technology for scaling up and growth of enterprises and local economies.

Dr Arun Kumar  
President



# Resource Efficiency

## Overview

Decoupling resource use and environmental impacts from development is a prerequisite to sustainability. Our work on resource efficiency and circular economy involves sustainability research and policy analysis, technology and business model innovation, design and demonstration of enterprise-based circular economy solutions, and capacity building and planning support to policymakers and practitioners. We advocate for appropriate policy measures through collaborative perspective building and research and industry partnerships. Our practical solutions maximise material and energy efficiencies and minimise waste and landfill load, and promote local value and wealth creation.

## Highlights

Our interventions included Indo-Australia Collaboration project, which aims at developing a circular economy roadmap for plastics in India. Taisei Soil System (TSS), a decentralised environment-friendly waste water treatment technology, was piloted and two TSS pilot plants were established in Varanasi and Muzaffarnagar, Uttar Pradesh (UP). Our support to Bihar government enabled a substantial replacement of soil-guzzling red bricks with fly ash bricks (FAB). In 2020, the FAB industry market share rose to 2.3% of the total brick industry, and the number of fly ash brick enterprises in Bihar reached 210.

# Key Thrust Areas



## Material and energy efficiency in the construction sector

*promoting cross-sectoral circularity and management of construction and demolition (C&D) waste in systems using local resources; enhancing local skills and economic growth*



## Urban transformation

*encouraging resource efficiency and circularity in municipal waste sectors, with a focus on plastics and C&D waste, to enhance efficiencies and reduce ecological footprints*



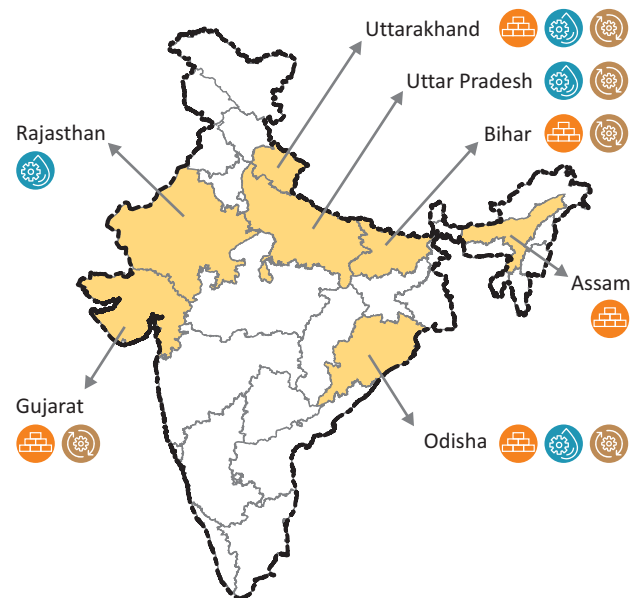
## Water system management

*systemic solutions for water supply and waste water in human settlements for greater efficiency, resilience, access, and health*

## Achievements

The Fly Ash Brick Quality Rating System (FABQRS) was validated by the Quality Council of India and the Bihar State Pollution Control Board (BSPCB). Also a FAB Training Manual was launched by the Hon. Deputy Chief Minister of Bihar and a Memorandum of Understanding was signed with the BSPCB and Shakti Sustainable Energy Foundation to help the construction sector in Bihar become carbon neutral. The Indo-Australia Collaboration for building a roadmap for circular economy in plastics in India will strengthen innovation capacity for plastic recycling and industrial redesign. A Centre of Excellence for Resilient Human Settlements in the Western Himalayas was initiated in partnership with the DIT University to address key issues endemic to the region.

## Geographies



# Flagship Interventions

**PILOTING DECENTRALISED WASTE WATER TREATMENT TECHNOLOGY:** Construction and commissioning of environment-friendly plants was done in Varanasi and Muzaffarnagar, UP, with Japanese partnership using TSS technology

**INTEGRATED WATER RESOURCE ASSESSMENT OF UDAIPUR DISTRICT:** A Danish-India research partnership is collecting and sharing data to improve the basis for a sustainable integrated water resource management system

**MAPPING WATER FLOWS IN INDIAN CITIES FOR FOSTERING EFFICIENCY AND SUSTAINABILITY:** Building capacity of local bodies for urban water system management in Dehradun, Jhansi, Haridwar, and Orchha

**PROMOTING ENERGY-EFFICIENT RED BRICK PRODUCTION PROCESSES:** Using waste/low calorific coal as internal fuel for red brick production to save energy and cost and reduce carbon emissions while improving compression strength, in Bihar

**DEVELOPING ENERGY AND RESOURCE-EFFICIENT BUILDING MATERIALS:** Industrial waste (fly ash) or C&D waste to support entrepreneurs in establishing FAB enterprises in Bihar

**LEVERAGING ENTREPRENEURSHIP AND MULTI-STAKEHOLDER PARTNERSHIPS FOR URBAN TRANSFORMATION:** A collaborative platform, 'eleven', brings together city governments and other stakeholders to conduct participatory research and co-create and deliver relevant solutions

## Foundry Waste Technology Dissemination



The production of paver blocks using foundry waste was popularised in Punjab, Haryana, UP, and Rajasthan. Nearly 1,800 people attended sensitisation workshops. Production skills of 365 people were enhanced, and 40 new paver block enterprises were created, which generated direct employment for nearly 90 people and indirectly to 180 people. Turnover of these 40 paver block enterprises has been enhanced by almost INR 3.5 million.

Mahinder Singh adopted the technology in March 2019 after seeing a pilot demonstration of the use of foundry waste slag in place of virgin stone aggregate. This is not only environmentally benign but also saves up to 50 per cent on the cost of raw material. His unit produces 3,00,000 waste slag-based paver blocks of M40 grade in 10 months, demonstrating profits as well as quality.

# Impact

Dialogue in three states engaged and influenced policy processes around sustainable construction, demonstrating the powerful role of citizen voices and actions. In Bihar, the establishment of over 300 sustainable FAB enterprises is leading to conservation of topsoil and coal, mitigation of carbon emissions, and creation of green enterprises for local employment. The dissemination of foundry waste technology in four states (UP, MP, Bihar, and Odisha) has enhanced the skills of 365 people. A total of 40 foundry slag-based paver block enterprises were created, enhancing the turnover of foundry slag-based paver block enterprises by INR 3.5 million. Over 25 national and international cement companies were sensitised on Development Alternatives' innovative low carbon cement (LC<sup>3</sup>) technology. Around 2 million litres of waste water has been treated and prevented from polluting underground water and soil through the pilot application of TSS technology. Around 360 million litres of additional water potential has been created through our water conservation initiatives.

## Way Forward

Our aim is to bring about systemic changes in resource-intensive sectors to enhance resource circularity and reduce environmental impact. We plan to address the value chains of water systems, urban construction, and plastics in urban systems and symbiotic linkages between industrial wastes and the construction sector. We continue to provide technology and enterprise-based solutions, build capacities of practitioners, and support science-based policymaking and implementation. We will associate with academia and industry for research and product development and will facilitate Municipality–MSME partnerships for deploying circular economy solutions.



### Innovation and Research

- Studies on the urban water–energy nexus and secondary material flows in the construction sector in tier II cities
- A Centre for Resilient Human Settlements in the Western Himalayas launched in partnership with DIT University
- Collaboration with Doughnut Economics Action Lab (DEAL) for application of the City Portrait Methodology in tier-II and III cities and census towns in India
- Innovative technologies in using Kota stone waste in building materials and agricultural waste in developing low density/high strength bricks

### Implementation

- 80 enterprises enrolled and serviced under FABQRS and 49 training programmes held for FAB manufacturers and stakeholders in Bihar
- Field implementation of waste water reuse for agriculture, through focus group discussions and training programmes with farmers, villagers, and schools

### Influence

- Findings from the UNEP Countermeasures Project on marine plastic pollution were shared across India and the Asia Pacific region.
- Workshops in Jhansi, Orchha, and Dehradun facilitated linkages with private players who can set up decentralised waste water treatment plants
- University-level course module on resource efficiency and urban systems were developed and delivered at Anant National University
- Development Alternatives was nominated as a CSO representative to the government-convened Expert Committee on Developing the Green Economy Action Plan for India





# Economic Empowerment

## Overview

We focus on supporting decentralised, green, and inclusive economies for the empowerment of local communities, farmers' collectives, small businesses, thus, fostering a direct path towards reduced inequalities, poverty eradication, and gender equality. We work with local and state governments, civil society organisations, and industry to enable decent work opportunities through jobs, skill training and apprenticeships, and micro and small enterprises creation. Our work is centred on the 3Ps: innovative Products, Platforms, and Partnerships.

## Highlights

Collaboration, at local and national levels, is central to our work. In addition to our long-standing partnership with ILO's *Global Initiative on Decent Jobs for Youth*, partnerships were initiated with Transforming Rural India Foundation (TRIF), Trust for Retailers & Retail Associates of India (TRRAIN), and Uttar Pradesh State Rural Livelihood Mission (UPSRLM). Our standardised toolkit on digital literacy and financial management for women and the youth is now used to transfer knowledge to partner organisations and enhance our reach to communities both nationally and globally.

# Key Thrust Areas



## Creating new economic opportunities

*through setting up and supporting individual and clusters of micro and small enterprises and facilitating technology, finance, market, and information services to entrepreneurs*



## Promoting an enabling eco-system for green and inclusive entrepreneurship

*through partnerships, ground-level research and analysis, and demonstrating innovative solutions in markets and income generation*



## Harnessing technology to link job seekers with income opportunities

*through creating and strengthening localised and nationwide digital platforms*



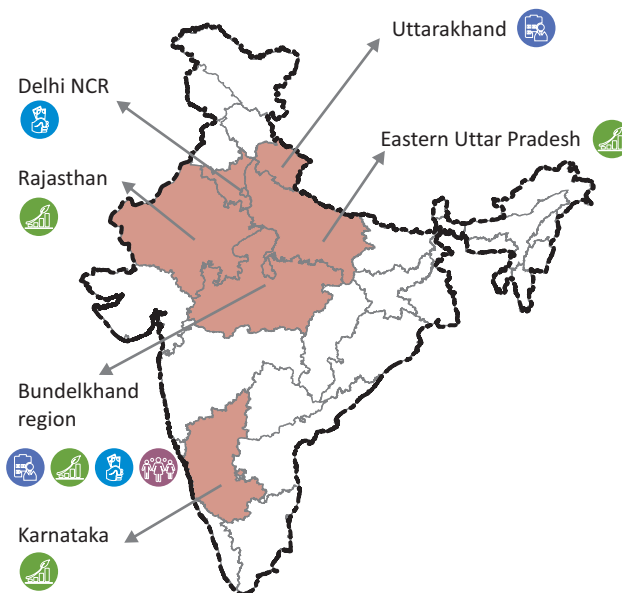
## Enhancing employability of women and young people

*through partnerships with corporates, collectives, and others to provide skills training, apprenticeships, and placement opportunities*

## Achievements

Our digital platform for entrepreneurship, udyame, has over 2,400 registered potential and existing entrepreneurs, while the Bridge2Naukri platform has reached out to over 20,000 job seekers, facilitating placement to and placed 1,800 candidates in the last year, including work-from-home opportunities. This is supported by digitised training content career counselling workbooks and vocational training modules. Innovative platforms were designed for safe spaces for women, entrepreneurship coalitions, and introduction to entrepreneurship through the programme Kaun Banega Market Leader. Tools for transferring know-how on progression maps for tracking individual enterprises and micro-financing were also developed. Technical and implementation partnerships and common facility centres were established under the Ministry of MSME's SFURTI programme to regenerate traditional industries.

## Geographies



# Flagship Interventions

**ENCOURAGING ENTREPRENEURIAL AND EMPLOYMENT VENTURES** by creating networked service delivery systems, including financial institutions, aggregators that enable micro-businesses to realise economies of scale, and government institutions that can co-fund

**DEVELOPING A SUSTAINABLE SKILLS TO LIVELIHOODS MODEL** for the youth and women through aspirations mapping, online soft skills training, exposure visits, special sessions with industry experts, and market and bank linkages for women's groups

**LEVERAGING DIGITAL TECHNOLOGY TO BRIDGE INFORMATION,** resource, and skill gaps, creating sustainable economic opportunities for girls and women through the WE-LEAD initiative

**CONSTRUCTING A ROADMAP FOR SUSTAINABLE FINANCING OF GREEN LOCAL ENTERPRISES** through civil society participation, dialogue to understand specific issues and roadblocks in accessing finance, and stimulating action-for-learning

**PROMOTING GROUP-BASED ACTION FOR SUSTAINABILITY** such as women's self-help groups, farmer producer organisations, and clusters of artisans producing similar products within a contiguous geographical area and facing common opportunities and threats

**CREATING SUSTAINABLE ECOTOURISM OPPORTUNITIES** involving the youth and women in the mountain ecosystems of Uttarakhand and Himachal Pradesh

## *Building People's Capacities for Economic Empowerment*



Since 2019, Raqib, aged 32, has been participating in community meetings, peer-to-peer learning, business plan co-creation, and enterprise development training and has benefitted from technology, market, and credit linkages. After receiving the training, he set up a flour mill, followed by a tyre puncture repair shop. Recently, he expanded his business with a spice-grinding unit. His average monthly revenue is around INR 40,000.

Building people's capacities for economic empowerment is the core objective of the HSBC-EE project, which is being implemented in villages in Delhi NCR, Uttarakhand, and UP. Through a 3E people-centred approach: building capacities of Entrepreneurs, setting up and supporting sustainable Enterprises, and creating a nurturing Ecosystem for entrepreneurship, the initiative has supported 300 enterprises. After the COVID-19 outbreak, transition support was provided to 450 individuals. The project is scaling-out to accelerate livelihood creation through udyAME.



# Impact

Livelihoods were created or enhanced for more than 4,800 individuals across various sectors, including handicrafts, retail, IT/ITES, and green building materials. A total of 2,800 people were trained and 1,125 individuals linked to decent job opportunities, particularly women and rural youth who were given access to economic participation. Altogether, 682 enterprises were set up or supported, creating 1,100 jobs and earning revenue of INR 47.6 million. Last year, more than INR 40 million were added to the economy through initiatives in livelihood enhancement. The technology challenge initiative for access to entrepreneurial information and communication technology (ICT) work opportunities for women in UP resulted in 23 women-led enterprises. Community energy and livelihood assessments led to solar energy-driven models to support and promote livelihood creation, which could lead to economic empowerment of 10 to 15 villages.

## Way Forward

We responded to the challenges of the COVID-19 pandemic by integrating digital media, service packages, and platforms to ensure hassle-free delivery of our training initiatives. Going forward, creating social innovation products and disseminating our existing enterprise and employability products are a priority. To increase employment opportunities, we will strengthen and expand our community, financial, and digital platforms for placement and entrepreneurship. Community-level interaction will stay at the forefront to enhance income ecosystems and build stakeholder coalitions for sustainability. Sectoral, academic, and social innovation partnerships will be at the core of our work to accelerate innovations and consolidate knowledge.



### Innovation

- udyAME (enterprise support system) and Bridge2Naukri (job readiness and linkage platform) serve the livelihood aspirations of the youth and women in particular
- Social innovation in rural communities by enabling the provision of basic needs amenities through local green enterprises

### Implementation

- Enterprise and employability solutions, particularly, green micro and small enterprises, for local economic development and job creation
- Standardised skilling, livelihood readiness, and enterprise development packages for employability and new economic opportunities
- IMEDF, an enterprise support service, provides technical, financial, and market access support; 15,301 artisans are supported by IMEDF across various states

### Influence

- Technical assistance to implementing partners across five different geographies (UP, Rajasthan, Uttarakhand, Bundelkhand region, and Delhi NCR), sharing tools and processes developed under entrepreneurship projects
- Knowledge and communication products, such as digital Guided Tour, Publications, Social Innovation Tools and Methodology, animated videos, and social media campaign
- Platforms and partnerships for scale, including Systems Play, a global network for knowledge exchange on social innovation and strategic partnerships with industry experts and organisations



# Resilient Bundelkhand

## Overview

The Bundelkhand region, spanning 14 districts in Madhya Pradesh (MP) and Uttar Pradesh (UP), is severely impacted by climate change. It suffers from severe water shortages that are exacerbated by unsustainable farming practices. We work with local communities, civil society organisations and local governments to promote sustainable land and water management measures. We build capacities of farmers in climate-resilient agriculture practices and work with women and the youth to create alternative opportunities for income generation, promoting livelihood security. Through collaborative efforts, nearly INR 1000 millions were invested in the local economy and new jobs created.

## Highlights

Water storage potential of 144.7 million litres was created in 2020-2021 by rejuvenating 27 traditional waterbodies in the Niwari district. Water resources work was consolidated through the newly launched Centre of Excellence on Water for All and Always. Neo-entrepreneurs invested INR 948.6 million in the local economy. Additionally, 320 jobs were created during the COVID-19 pandemic. Furthermore, Radio Bundelkhand celebrated its 13th anniversary and played a vital role in the pandemic by continuously broadcasting information for migrant workers returning home.

# Key Thrust Areas



## Water for all and always

*Harvesting and conserving water, strengthening surface water systems, boosting groundwater recharge through aquifer recharging and sustainable farming, and efficient irrigation systems*



## Climate-resilient farming

*Addressing climate change impact, introducing sustainable practices, demonstrating mitigation models, and encouraging adoption of climate-resilient farming practices*



## Capable institutions

*Empowering farmer producer organisations, women's federations, and local panchayats. Implementing principles of responsible investment by women's groups for supporting the delivery of safe and affordable basic needs, goods and services through responsive, locally owned community-operated enterprises*



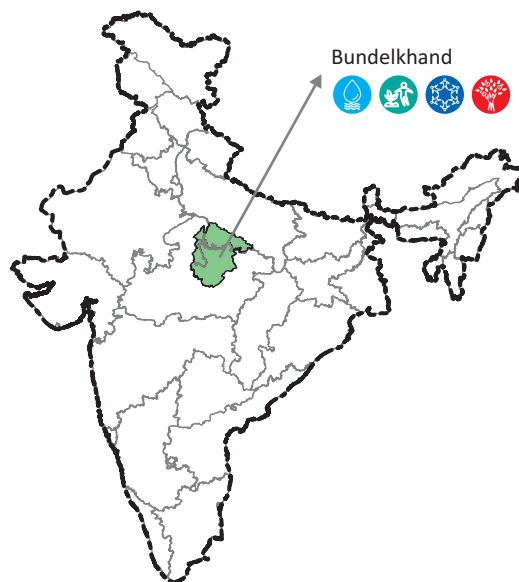
## Employability for all

*A women-friendly enterprise ecosystem, enhancing women's knowledge and capacity concerning climate change adaptation, functional literacy, clean energy, affordable housing, safe drinking water, and sanitation solutions*

## Achievements

Maintenance support was provided to 2,080 Watershed Development projects (WADIs) in Shivpuri and Sonebhadra. Sixteen water conservation structures were constructed and plantation was done on 32 hectares (ha) in Pura, Budpura, Khajraha Khurd, and Khajraha Bujurg villages, Jhansi district. Also, 200 GIS-based village development plans were prepared and a farm-equipment bank was created, which provides agricultural equipment on rent and input supplies to farmers at minimum price. A total of 300 new enterprises were set up and supported. Six district coalitions for enterprise support were organised. Conducted 678 community dialogue sessions for enterprises. Partnered with district agricultural departments to strengthen the enterprise ecosystem in Bundelkhand. Also, 1,500 radio programmes on COVID-19 precautions and support for migrant workers were developed and broadcasted.

## Geographies





# Flagship Interventions

**HAMARA GAON:** Integrated Village Development model

**INTEGRATED WATERSHED DEVELOPMENT:** An approach to conserve our natural resources

**LOCALLY OWNED AND COMMUNITY OPERATED (LOCO) MODELS:** Decentralised delivery of safe piped water supply

**WADI:** Food, nutrition, and income security model

**GAUSHALA:** A circular economy-based model for rural development

**LITERACY TO SELF-RELIANCE:** Women's empowerment model community radio – a platform to connect with the community using local dialect and enhance their knowledge on critical issues

## *Rejuvenating Tank-based Ecosystem as an Adaptation Strategy in Changing Climatic Conditions in Bundelkhand*



Among Bundelkhand's greatest assets are many surface water tanks that were constructed hundreds of years ago by the Chandela and Bundela dynasties. Rejuvenation of this ancient but effective tank-based ecosystem has the potential to relieve acute water shortages and improve agricultural production in the Niwari district, Bundelkhand.

Under the project on tank rejuvenation, funded by Marico India, 27 traditional tank ecosystems were rejuvenated and additional water storage potential of 144.7 million litres was created.

As a result, more than 20 villages in the district benefited from increased water availability. A total of 1,500 local people were trained in community-based tank management, water budgeting, and climate-smart farming practices. In addition, 64 ha of land was treated through farm bunding, and green cover increased through the plantation of 5,450 trees. General awareness about water conservation and climate-smart farming was also increased.

# Impact

Our work in Bundelkhand was based on 'integration' and 'sustainability'. Land and water conservation interventions for 1,880 ha of land in the Jhansi district were completed. Nutritional security was ensured for 2,081 families through WADIs and sustainable farming. Under conservation initiatives, 247.10 ha of land was converted from barren to agricultural land and 29.5 ha as converted from single- to double-cropping. Also in addition, organic farming was adopted by 201 farmers. Livelihood security was improved, and local incomes rose by 35 per cent. Moreover, 322 additional jobs were created, and entrepreneurs invested INR 948.6 million in the local economy. Also, 15 information kiosks now deliver an IT-based enterprise support system, and more than 300 new and existing enterprises were supported. The community radio initiative informed 40,000 local people about issues such as climate change, weather forecasts, agriculture, and the Bundelkhand heritage.

## Way Forward

Development Alternatives will build on its extensive experience in the area and focus on emerging as an expert and training partner in watershed management, enterprise development, and enhancing livelihoods. There will be an emphasis on strengthening existing partnerships, alliances, and networks to create influence and deepen impact. Increased literacy for women will be a pillar of our work in the region, and to strengthen the Centre for Excellence on Water for All will continue to be a prime objective.



### Innovation and Research

- Demonstrating drip irrigation facility on 6 ha of land with 50 per cent water savings
- Establishing soil testing labs; conducting more than 200 soil tests
- Informing farmers about soil nutrition and crop choice for particular soil conditions
- Setting up two farm-implement banks supplying agricultural equipment and materials at minimum prices
- Empirical research in three districts on economics of land degradation

### Implementation

- Completed five watershed projects in the Jhansi district covering 1,880 ha
- Worked with partners to develop a new vision of agriculture systems across Niwari, Datia, and Shivpuri districts in MP; engaged with farmers and stakeholders through workshops
- Provided Start Your Business Idea Training to aspiring entrepreneurs
- Complete revamping of Radio Bundelkhand e-platform was done; five climate change radio programmes were created

### Influence

- Strong partnerships developed with district agricultural departments, RSEAT, CAFRI & IGFR, KVKs for inputs and training support
- Two journal articles and one book chapter on Economics of Land Degradation published
- Regional newspaper coverage of puppet shows for awareness of tanks and water conservation and on the 48 TARA Akshar+ women honoured by Bundelkhand team for creating awareness regarding COVID-19



# South-South Cooperation

## Overview

A rapidly growing trend towards development cooperation has facilitated the creation of innovative mechanisms to confront the challenges of climate change, growing demand for natural resources, and rising socio-economic inequality. We are committed to addressing these challenges in the Global South. Working with a global network of collaborators and partners, we have transferred technologies and know-how, established enterprises, and built local capacities in Africa and South-East Asia.

## Highlights

During the COVID-19 pandemic, Development Alternatives collaborated with other organisations to build local capacities for environment-friendly economic resilience. During travel restrictions, ICT-based solutions were leveraged to implement green entrepreneurship. Three EcoKiln enterprises in Malawi were initiated to create employment, conserve resources, utilise waste, and mitigate carbon emissions. Furthermore, Development Alternatives assisted leading cement and concrete industries to reduce their carbon footprint by using the Limestone Calcined Clay Cement (LC<sup>3</sup>) technology.



# Key Thrust Areas



## Delivering green and inclusive technologies

*Our energy-efficient, low carbon, cleaner production technologies utilise wastes and conserve virgin resources. In addition, our technologies, processes, and services create not only enterprises but also equal employment opportunities in developing economies*



## Enabling access to clean electricity

*By providing access to clean and reliable electricity, we promote the economic development and well-being of village communities. Our solar-powered mini-grids supply electricity, and we deploy appropriately scaled technologies to create rural micro-enterprises and local jobs*



## Adding value to natural resources

*We catalyse sustainable management of natural resources by transferring knowledge and building communities' capacities on climate-resilient models*

## Achievements

Partnered with several international groups and platforms for greater visibility and positioning. These include the Alliance of NGOs and CSOs for South-South Cooperation, Climate and Clean Air Coalition, Global Green Growth Institute – Nepal and Africa, India Climate Collaborative, Green Climate Fund, and Diesis Network. A 'CleanTech Africa' website was launched to reach out to large audience in Africa. In-principle approval from Atmosfair, Germany, to finance TARA EcoKiln Enterprises in Malawi under Carbon Offset Mechanism was obtained. Furthermore, using ICT-based solutions, 4500+ potential entrepreneurs for the promotion of EcoKiln entrepreneurship in Malawi were contacted. In addition, a standard guided tour of knowledge resources on clean energy-led local economic development was created.

## Geographies



*We transferred technologies including LC<sup>3</sup> and TARA EcoKiln and their know-how in Africa (Senegal, Rwanda, Malawi, Zimbabwe, Egypt) and Southeast Asia (Thailand, Philippines, Indonesia, Papua New Guinea)*

# Flagship Interventions

**DISSEMINATION OF TARA ECOKILN TECHNOLOGY**, which is the most energy-efficient technology for brick production, in Malawi

**DELIVERING SOLUTIONS FOR VALUE ADDITION** to existing systems, such as process improvement in the production of Shea Butter in Burkina Faso

**CONSULTANCY AND TECHNOLOGY TRANSFER** to companies for the introduction of low-carbon cement- LC<sup>3</sup> in Malawi, Uganda, Egypt, Zimbabwe, Rwanda, Thailand, Oman, and Saudi Arabia

## *Training in Reinforced Cement Concrete Door Frame Production to Create Income and Employment in Malawi*



The use of steel door frames in Malawi is problematic due to their high cost and short life. However, reinforced cement concrete (RCC) frames are a cost-effective substitute. Green Cast Frames, developed by the Development Alternatives Group are high quality, long-lasting, and affordable concrete frames. This technology has considerable potential in Malawi, and the cost savings can be more than 35 per cent as compared to steel frames.

Precast door frames are manufactured by a low-cost system suitable for micro-scale enterprises and are ideal substitutes for steel or timber frames. The system optimises the size of precast components, further optimising the quantities of concrete and steel required.

A pilot plant, Eco-Crete (a department of Eco-Matters Ltd, Malawi), for precast concrete production was established. To improve quality and reduce breakage, a 10-day training programme was organised by Development Alternatives Group in association with CCODE and GIZ Malawi. During the programme, 10 local people were trained in making precast products.



# Impact

Since its inception, Development Alternatives has been actively involved in technology and knowledge transfer through the South-South Cooperation mechanism to other developing countries in Asia-Pacific and Africa including Nepal, Sri Lanka, Vietnam, Bangladesh, Indonesia, Bhutan, Afghanistan, Malawi, South Africa, and Cameroon. The introduction of energy-efficient and environment-friendly brick-firing technology in Bangladesh was recognised by the country's government as a profitable replacement for existing technologies. Our low-investment roofing technology solution for CemenSibinong, a Holcim company, aided in tsunami reconstruction in Indonesia. Furthermore, the transfer of our technologies helped promote entrepreneurship and create local jobs through Self Employed Women's Association in Sri Lanka, Mipromalo in Cameroon, and Tarayana Foundation in Bhutan. The South-South Cooperation initiative in Malawi, in collaboration with GIZ, provided core support to our 'More Income and Employment in Rural Areas' (MIERA) programme.

## Way Forward

In partnership with other agencies, Development Alternatives will promote COVID-19-crisis recovery by prioritising long-term measures to build economic resilience in the Global South. Community empowerment through renewable energy-based entrepreneurship in priority countries will be focused, and cleaner building materials production technologies will be extended to at least one more Southern Africa geography. Our LC<sup>3</sup> technology will be established in at least two new African geographies. Moreover, this will be coupled with our innovative Vertical Shaft Calciner and a proof of concept for a resource- and energy-efficient cement production process will be established.



### Innovation and Research

- LC<sup>3</sup> feasibility study expanded in seven new geographies – Senegal, Zimbabwe, Uganda, Malawi, Saudi Arabia, Oman, and Thailand

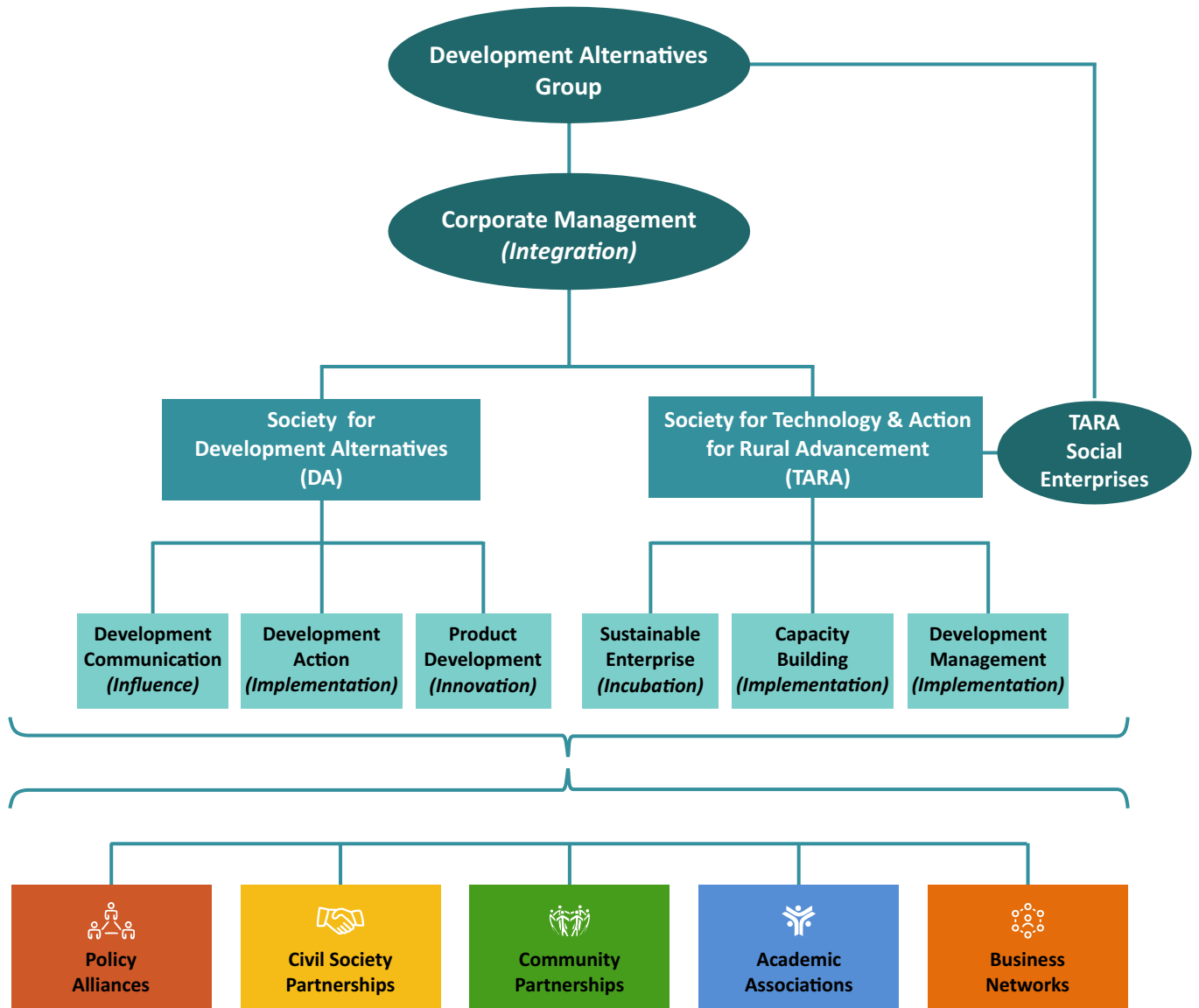
### Implementation

- To overcome the barriers related to distance and travel created by the COVID-19 restrictions, ICT-based solutions were leveraged to promote EcoKiln Entrepreneurship in Malawi
- GIS was used to disseminate accurate resource mapping to the participating countries
- As part of the TARA EcoKiln Technology Dissemination in Malawi in 2020-21, 15 MoUs were signed with entrepreneurs for a feasibility study. Of this, a total of eight MoUs were signed with selected entrepreneurs for the construction and commissioning of TARA EcoKiln Enterprises

### Influence

- Collaboration with Sustainable Minerals Institute (SMI), IIT Delhi and Australian Institute for Bioengineering and Nanotechnology (AIBN) to assess the feasibility of introducing LC<sup>3</sup> and other emerging technologies to the Asia-Pacific region

# Development Alternatives Group



# Board of DIRECTORS



## Dr Ashok Khosla

Chairman

Development Alternatives

For nearly five decades, Dr Ashok Khosla has been a pioneer in finding paths for development whose benefits reach everyone and can be sustained by the Earth's resources. He has been Co-Chair of the UN's International Resource Panel, President of the International Union for Conservation of Nature (IUCN), and President of the Club of Rome. He was a member of the Government of India's National Security Advisory Board and Scientific Advisory Council to the Cabinet. For his contribution, he was awarded the OBE by the UK Government, the UN Sasakawa Environment Prize, and the Zayed International Environment Prize, among others.

## Members



## Mr Lalit Mansingh

Former Foreign Secretary

International Relations

A former Indian Diplomat, Mansingh has more than 40 years of extensive international experience across Europe, Africa, Asia, and the Middle East. He is also a former foreign secretary. He has served as the Indian Ambassador to the United States and the United Arab Emirates and as India's high commissioner to the United Kingdom and Nigeria. Mansingh has dedicated his career to promoting India and its role in the global marketplace. He is also the chairman of Kalinga International Foundation, a national think tank focusing on India's relations with Indo-Pacific.

Date of Enrollment	Membership ceased
10-Sep-83	Till date
19-May-05	Till date



### Prof. Ravinder Kaur

Professor  
IIT, Delhi

She serves as a Professor of Sociology and Social Anthropology in the Department of Humanities and Social Sciences, Indian Institute of Technology, Delhi. Her core specialisation includes Sociological Theory (Classical and Contemporary), Sociology of Gender, Development, Urban Social Systems, Technology and Society, Kinship, Family, and Marriage studies. She has also worked as a consultant for various national and international organisations such as the World Bank, UNDP, and UNFPA.



### Prof. Amitabh Kundu

Professor of Economics  
Jawaharlal Nehru University

Distinguished Fellow at Research and Information System for Developing Countries, he chairs the Standing Committee for the National Survey for the Swachh Bharat Mission at the Ministry of Drinking Water and Sanitation. He has chaired Committees on Housing Start up Index at RBI and Committee to Estimate Shortage of Affordable Housing, and Post Sachar Evaluation Committee, Government of India. He has been Regional Advisor on Poverty at UN, Professor and Dean at the Jawaharlal Nehru University, and a member of National Statistical Commission Government of India. Professor Kundu was Director at the National Institute of Urban Affairs, Indian Council of Social Science Research, and Gujarat Institute of Development Research.



### Mr Salman Haidar

Former Foreign Secretary  
International Relations

He is a former Foreign Secretary and has served as the Indian Ambassador to many countries including the United Kingdom, China, and Bhutan. He has also served as head of the Diplomatic Service, Secretary East, and spokesman for the Ministry of External Affairs, and later chief of protocol, among other diplomatic positions. In 1977–80, he was the Minister/Deputy Permanent Representative of India at the UN in New York.

Date of Enrollment	Membership ceased
19-Mar-16	Till date
19-May-05	Till date
10-Sep-04	25-Aug-21



**Ms Gita Sidhartha**  
Former Chairperson  
Indian Council for Child Welfare

As President and Secretary General of the Indian Council for Child Welfare for nearly 30 years, she has implemented programmes that cover a gamut of concerns in every state of India. She has overseen and promoted programmes covering street and working children, child labour, children of sex workers, malnutrition, among others. She has played a pivotal role in advocating for the rights of children and articulated plans for their welfare and development.



**Dr Arun Kumar**  
President  
Development Alternatives

An engineer by profession, Dr Arun has extensive experience in the areas of technology design, system engineering, and research. Since 1989, Dr Kumar has been involved in the development and liberation of sustainable technology packages in the areas of low-cost construction, decentralised energy production, clean and green technologies, among others. He pursued his Ph.D from the University of Birmingham, England.



**Lt Gen Arun Kumar Sahni, PVSM, UYSM, SM, VSM (retd.)**

Lt Gen Arun Sahni is a decorated, scholar – soldier, with 40 years of commissioned service in the Indian Army. He was the General Officer Commanding-in-Chief of one of the six operational commands of the Indian Army, at the time of superannuation. He is the President ‘Council of Information Security’, and is the Honorary Chairman of the International Committee of ‘National Cyber Safety & Security Standards’, Chennai. A Trustee and Director General of the Indian Association of the ‘Club of Rome’, he is on the Managing Board of a reputed public school in Delhi and a University in Jaipur and a Trustee of ‘Duke of Edinburgh’ Award Programme in India for children in schools and colleges. He is a Distinguished Fellow with two premier think tanks in Delhi, the USI and CLAWS, and on the Board of ‘India Foundation’. He is also an Advisor to a major corporate in defence initiatives. He also mentors startups in the domain of cyber, robotics, and AI.

Date of Enrollment	Membership ceased
19-May-05	Till date
10-Sep-04	25-Aug-21
25-Aug-21	Till date



## Mr Mathew Cherian

Chairperson  
CARE India

A graduate in engineering from the Birla Institute of Technology, Pilani and the Institute of Rural Management, Anand. He has worked for four decades in the social sector. He has served as Director of Oxfam in India, Charities Aid Foundation, and has been Chief Executive of HelpAge. He served on the Board of HelpAge International in London and is a Member of India's highest body-National Council of Senior Citizens and is the current Chair of Empowered Committee of Government of India on Elderly Start-ups. He is now the Global Ambassador for Ageing with HelpAge International. A speaker at the World Economic Forum (WEF), he is on the Global Council for Ageing and Longevity with WEF. Currently, he officiates as Chairperson of CARE India, which works with 5 million marginalised women and girl children.



## Mr Shrashtant Patara

Senior Vice President, Development Alternatives Group  
and Chief Executive Officer, TARA

Shrashtant Patara is an architect by training. He has been with the Development Alternatives Group since 1988, providing research expertise, management capability, and strategic direction to teams working in the areas of Entrepreneurship Support Systems, Habitat, Renewable Energy and Waste-to-Wealth initiatives. His current work is focussed on systems change, social innovation, and entrepreneurship, resulting in the co-creation of multi-stakeholder-based service delivery models that promote sustainability through local economic development, regeneration of the environment, and greater social equity. Patara is a Fellow of The Rockefeller Foundation's Global Programme on Social Innovation and has completed a programme on Leadership for System Change conducted by Harvard Kennedy School in conjunction with the Schwab Foundation. Patara has been instrumental in the establishment of several social businesses within the Development Alternatives Group and currently leads the team that is incubating "TARAurja", a renewable energy-based micro-utility business and the Indian Micro Enterprises Development Foundation.

Date of Enrollment	Membership ceased
26-Oct-21	Till date
25-Aug-21	Till date

# Significant Events

## LC<sup>3</sup> at the Countdown Global Launch organised by TED

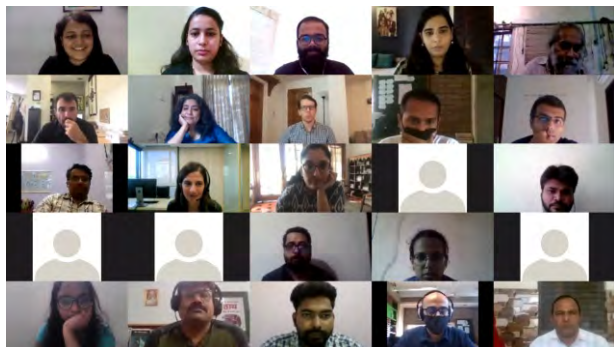


As part of a global initiative to support and strengthen solutions to the climate crisis, a TED Event was organised on 10 October, 2020, which was streamed live through the TED official YouTube channel. The five-hour virtual event featured climate leaders to give a glimpse of what a healthy, abundant, zero-emission future can look like, and further turning ideas into action for battling the climate crisis. All the talks carried TED's signature blend of actionable and research-backed ideas, cutting edge science, and moments of wonder and inspiration. The fourth segment in the series titled 'Breakthroughs' highlighted the novel Limestone Calcined Clay Cement (LC<sup>3</sup>) technology, which the Development Alternatives Group has pioneered in India for the last decade, and is now spreading to different parts of the globe. LC<sup>3</sup>, which is based on a blend of limestone and calcined clay, can reduce CO<sub>2</sub> emissions by up to 40 per cent.

It is made using limestone and low grade clays, which are available in abundant quantities. It is cost-effective and does not require capital-intensive modifications to existing cement plants. Representing the LC<sup>3</sup> technology, Prof. Karen Schrivner, Head of Laboratory of Construction Materials at Ecole Polytechnique Fédérale de Lausanne Switzerland, brought out the entirety of the LC<sup>3</sup> process into a comprehensive perspective. She reiterated, in resonance, with her co-speakers that to fight climate change, we need to protect and regenerate nature and transform materials into low or zero carbon alternatives. She also pointed out that the possibility to replace portland cement with a different material with same properties but with a much lighter carbon footprint, is really crucial to confront climate change. "It has the possibility to eliminate more than 400 million tonnes of CO<sub>2</sub> every year." The LC<sup>3</sup> technology has taken form as LC<sup>3</sup> Training Resource Center India over the last three years, which is in active collaboration with cement manufacturers in India and Africa to carry out feasibility studies in and around its cement plants. The Development Alternatives group finds itself in the driver seat of this major breakthrough that will encompass all the international cement companies and soon enough revolutionise the outlook of the building materials industry, especially concerning climate change.



## Community Listening – Work 4 Progress Approach for Accelerating Entrepreneurship



As part of the Work 4 Progress (W4P) programme, which is a joint initiative of Development Alternatives and "la Caixa" Foundation, a webinar on "Community Listening: A W4P Approach for Accelerating Entrepreneurship and Economic Development" was organised on 1 October, 2020. Its objective was to share perspectives on the need for deep listening to communities and stakeholders and its potential in informing the co-creation of relevant solutions for job creation and entrepreneurship. The W4P programme aims to accelerate the creation of meaningful and dignified employment through various platforms for innovation, action, and continuous learning. It adopts a social innovation methodology using which it listens to the community through dialogue, finds answers through co-creation, and then develops prototype solutions. Further, it shares learning to eventually create impact at scale. The participants in the webinar included members from W4P India and the global network – "la Caixa" Foundation, Action Aid, Transforming Rural India Foundation, Vikas Anvesh Foundation, Institute of Rural Management Anand, Manviya Drishtikon Sewa Samiti, Swami Vivekanand Sewa Samiti, Janastu, and Medha Learning Foundation.

The first session of the webinar focused on 'Why listening is important and its relevance in the field of entrepreneurship and livelihood creation', wherein Gorka Espiau, Director, "Agirre Lehendakaria Center for Social and Political Studies" and Kanika Verma, Programme Director, DA spoke about ways in which deep listening gives insights for social innovation. They shared how it enhances the quality of data collected from research and also builds trust with communities to make collective interpretations, which goes on to inform the design of relevant solutions for job creation. In the next session on 'Inquiry and adaptive management', Vrinda Chopra, Lead, Learning and Knowledge, W4P India, elaborated on the need to understand different actors, flows, and processes of the local ecosystem to create a culture of entrepreneurship. The session on 'Experience sharing of international programmes' had perspectives by Itziar Moreno, Programme Lead, "Agirre Lehendakaria Center for Social and Political Studies". Moreno shared cross-country examples to provide a deeper understanding of how listening is being incorporated in development programmes at the international level with diverse communities. In the last session on 'First look of W4P India's 'Community Listening' toolkit' Ankita Pant and Upma Singh shared about the first look of the Community Listening Toolkit. The W4P India team talked about its relevance and implementation in diverse situations especially during disruptions like COVID-19. The toolkit is the first of the Finding WHY Toolkit series being developed under the programme to assist development practitioners in listening to communities, prototyping solutions, and taking collective action.





Creating Action Plans for Building Job-Centric Value Chains in Rural India at Charcha 2020



National Policy Workshop on 'Countermeasures for Riverine and Marine Plastic Litter in India'



A Story of the Red Fields of Visakhapatnam and Resilient Enterprises



Webinar- Greening the Economic Recovery Package of the Government of India



Supporting Green MSMEs with Clean Technology - Pilot Demonstration



Relief Initiatives for Vulnerable Communities to Battle COVID-19



Webinar- Adaptation Fund Projects in South and South-east Asia: Insights from CSO Perspectives



Sharing Nature-based Solutions from Bundelkhand for Regenerating Natural Resources



Training Women on COVID-19 Safety Measures, First Aid and Water, Sanitation and Hygiene (WASH)



Greening the Brick Sector in Bihar



Fostering Sustainable Livelihoods and Traditional Crafts through Tourism Commerce



Launch of 'The Center of Excellence' at Bundelkhand



Providing Trainings through Farmer's Field School in Bundelkhand



Development Alternatives joins UN Partnerships for SDGs Platform



Training Workshop under PANI-WATER supported by Department of Science and Technology



Launch of Kaun Banega Market Leader in Eastern Uttar Pradesh



Training Programme on Advanced Trek Guiding Skills in Uttarkashi



Promoting Inclusive Entrepreneurship at the Livelihoods India Summit

# Awards and Achievements

- **Recognition certificate from District Magistrate, Bhadohi**

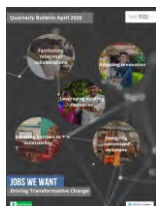
Development Alternatives' flagship programme, TARA Akshar+ received an appreciation letter from the District Magistrate (DM), Bhadohi, Uttar Pradesh for the exemplary work done by Development Alternatives to impart functional literacy and WASH literacy in the district.



- **TARA Akshar+ appreciated under Mission Shakti Abhiyan**

TARA Akshar+ programme was praised and appreciated by the Member of Rajya Mahila Ayog Uttar Pradesh, Ms Anita Singh and DM, Bhadohi on the eve of Uttar Pradesh Foundation Day and National Balika Diwas function held in Bhadohi on 24 January, 2021, for having made more than 56,000 women literate in Bhadohi District. Rajesh Kushwaha, TARA Akshar+ Block Coordinator, Bhadohi was felicitated with a certificate on the occasion.

# Publications



## Work 4 Progress Bulletin April 2020 Issue

The Work 4 Progress (W4P) programme of Development Alternatives and "la Caixa" Foundation aims to provide decent work opportunities for youth and women in three developing countries including India. The April 2020 bulletin of W4P India talks about how W4P prototypes, which are driving transformative change by breaking silos, facilitating collaboration, leveraging existing resources, and designing customised solutions to ensure no aspiring entrepreneur is left behind.



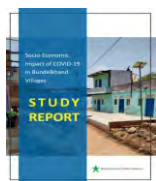
## Environmental and Resource Assessment for Uptake of LC<sup>3</sup> in India's Cement Mix

This report provides a detailed description of the study undertaken to ascertain the potential sustainable impact of LC<sup>3</sup> in India's cement mix. It shows a comparative analysis of the environmental and resource performance between two diverse cement production scenarios - Business As Usual (BAU) and Low Carbon Pathway (LCP).



## Triple Bottom Line Impact of MSMEs

Through this paper, the authors aim to bring about the need and importance of frameworks especially the Triple Bottom Line (TBL) approach of measuring the economic (beyond financial), social, and environmental impacts.



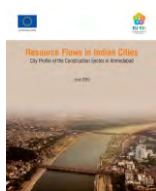
## Economic Impact of COVID-19 in Bundelkhand

The report assesses the challenges and the effects of COVID-19 on the livelihoods and food security of the rural community and the reverse migrating communities in the Bundelkhand region.



## Promotion of Countermeasures Against Marine Plastic Litter in Southeast Asia and India

This report encapsulates the implementation of the project, Promotion of Countermeasures against Marine Plastic Litter in Southeast Asia and India, by Development Alternatives with the support from UNEP in two cities – Haridwar and Prayagraj. The project aimed at reducing the usage of plastic and its disposal in the river Ganga, through various awareness campaigns, clean-up drives, and capacity building.



## Economics of Land Degradation

This report encapsulates the costs and benefits of the programmes implemented by Development Alternatives by applying ELD methodology in three districts of Bundelkhand. The assessments looked into natural, social, and human capital based on multiple indicators.



## Resource Flows in Indian Cities: City Profile of the Construction Sector in Ahmedabad

The report encapsulates the findings of Material Flow Analysis of the housing sector in Ahmedabad (Gujarat) and its environmental footprint (CO<sub>2</sub> emissions- equivalent) and identifies the measures that can be undertaken to enhance resource efficiency and utilisation of secondary raw materials.







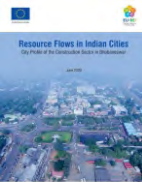
## State of Play for Circular Built Environment in Asia

The report provides an overview of the state of the built environment and the construction sector in Asia in relation to the practices and potential of establishing a circular economy in the region. The overview sets out the characteristics of the sector and explores how it can be made more sustainable through circular economy approaches.



## Mainstreaming Material Flow Assessment to Enhance Resource Efficiency of Construction Sector in India

This policy brief is based on a study on Analysing Resource Flows in Indian Cities (with a focus on the Construction Sector), undertaken as part of European Union's Resource Efficiency Initiative (EU-REI) in India. The policy brief focuses on resource flows in the construction sector in two cities – Ahmedabad and Bhubaneswar and points to possible actions that may be taken at the city level for reducing virgin resources consumed by the sector through utilisation of secondary resources.



## Resource Flows in Indian Cities: City Profile of the Construction Sector in Bhubaneswar

The report encapsulates the findings of Material Flow Analysis of the housing sector in Bhubaneswar (Odisha) and its environmental footprint (CO<sub>2</sub> emissions- equivalent) and identifies the measures that can be undertaken to enhance resource efficiency and utilisation of secondary raw materials towards a circular economy.



## Concrete Block Production and Construction Guide

This manual was prepared as part of a project on 'Delivery Model for Eco-friendly Multi Hazard Resistant Construction Technologies and Habitat Solutions in Mountain States', implemented in Uttarkashi (Uttarakhand) under the TIME LEARN (Technology Innovation in Mountain Ecosystem Livelihood Enhancement through Action Research and Networking) programme of the Department of Science and Technology, Government of India. It is prepared as a guide for the use of building artisans, entrepreneurs, and government officials for production and implementation of Stabilised Compressed Earth Block wall masonry in mountain regions.



## Water–Energy Nexus Dehradun

The study tries to assess the energy and GHG emission footprints of municipal water along with its life cycle in urban human settlements in Dehradun. The findings of the research indicate the most pressing issues the city faces and the tremendous scope for improving the services efficiency and resource sufficiency, equity, and resilience of the system.



## Stabilized Compressed Earth Blocks

This manual was prepared as part of a project on 'Delivery Model for Eco-friendly Multi Hazard Resistant Construction Technologies and Habitat Solutions in Mountain States', which was implemented in Uttarkashi (Uttarakhand) under the TIME LEARN (Technology Innovation in Mountain Ecosystem Livelihood Enhancement through Action Research and Networking) programme of the Department of Science and Technology, Government of India.

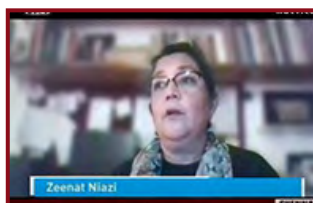


# DA in News



## How to Address India's Plastic Waste Problem?

As India fights the coronavirus pandemic, the use of plastic products has been on the rise. On this special episode of *We The People*, Dr. Ashok Khosla, Chairman, Development Alternatives along with UNEP's Goodwill Ambassador Dia Mirza and other environmentalists answered the million-dollar question on how to address India's mammoth plastic waste problem.



## Plastic-free Ganges

A short film made by NDTV highlights our efforts to reduce marine plastic litter by taking appropriate measures and by creating awareness among people in Haridwar (Uttarakhand) and Prayagraj (Uttar Pradesh). This was a part of our project "Promotion of Countermeasures against Marine Plastic Litter in Southeast Asia and India" along with UNEP, under which we also conducted a comprehensive study to gather data on plastic pollution in rivers. The film was telecasted on NDTV on 25 May, 2020.



## Lockdown Cuts Rural Areas Spending On Food: Report

Development Alternatives has surveyed 29 villages in Bundelkhand region to analyse the impact of COVID-19 on the rural population. One of the important observations of the report is that people have changed their food habits in rural areas despite the government's welfare scheme claims.



## Handmade Dil Se

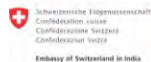
NDTV, in collaboration with the Habba, initiated a fundraiser for weavers and artisans. The main aim of the special telethon was to bring back the demand for the 'handmade' and revive weavers' and artisans' livelihoods. Dr. Ashok Khosla, Chairman, Development Alternatives highlighted the need to go back to the values of Mahatma Gandhi. Kanika Verma, Programme Director, DA added that the voice of the artisans must be given importance in order to truly address the problems that they are facing.



## TARA Akshar+ Awards 2020

TARA Akshar+ Awards for exemplary performances in 2020 were organised in four geographies – Aurai Block in Bhadohi district, Jakhaura Block in Lalitpur district, Bhagwanpur Block in Haridwar district and Babina Block in Jhansi district where 48 TARA Akshar+ Awards recipients were felicitated. The events were covered widely by most local newspapers.

# Partners and Collaborators





# Compliance

## Auditors' Report

Society for Development Alternatives  
Balance Sheet as at 31 March 2021

	Schedule	As at 31 March 2021 ₹	As at 31 March 2020 ₹
<b>Sources of funds</b>			
<b>Funds</b>			
General fund	1	(5,14,59,582)	(5,32,35,325)
<b>Liabilities and provisions</b>			
Unspent grants, net	2	7,63,82,008	12,92,27,169
Current liabilities	3	1,97,33,817	1,35,69,536
Provisions	4	27,54,264	68,36,855
		<u>4,74,10,507</u>	<u>9,63,98,235</u>
<b>Applications of funds</b>			
Property, plant and equipment	5	1,48,37,590	1,63,11,396
<b>Current assets, loans and advances</b>			
Cash and bank balances	6	2,61,83,421	7,34,82,064
Loans and advances	7	63,89,496	65,92,445
Other current assets	8	-	12,330
		<u>3,25,72,917</u>	<u>8,00,86,839</u>
		<u>4,74,10,507</u>	<u>9,63,98,235</u>
<b>Summary of significant accounting policies and other explanatory information</b>	13		
The schedules referred to above form an integral part of the financial statements.			

As per report of even date  
For K G Somani & Co LLP  
Chartered Accountants  
FRN:006591N / N500377



(Bhuvnesh Maheshwari)  
Partner  
M.No.088155

Place : New Delhi  
Date : 18-12-2021



For and on behalf of the Society for Development Alternatives



Shrashtant Patara  
Chief Executive Officer



Vinod Nair  
GM Finance





**Society for Development Alternatives**

**Income and Expenditure Account for the year ended 31st March 2021**

	Schedule	Year ended 31 March 2021 ₹	Year ended 31 March 2020 ₹
<b>Income</b>			
Grant income	2	17,18,73,745	21,42,41,860
Other income	9	2,05,922	7,56,270
		<b>17,20,79,667</b>	<b>21,49,98,130</b>
<b>Expenditure</b>			
Grant expenses	2	11,28,25,930	15,64,59,998
Personnel expenses	10	4,07,77,851	6,10,96,658
Finance costs	11	38,768	28,635
Depreciation	5	14,73,806	16,46,969
General and administrative expenses	12	1,51,87,569	1,95,17,165
		<b>17,03,03,924</b>	<b>23,87,49,425</b>
<b>Surplus/(Deficit) before prior period item</b>		<b>17,75,743</b>	<b>(2,37,51,295)</b>
Less : Prior period expense		-	(22,62,589)
<b>Surplus/(Deficit) for the year transferred to general fund</b>		<b>17,75,743</b>	<b>(2,60,13,884)</b>

Summary of significant accounting policies and other explanatory information 13

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

**As per report of even date**

For K G Somani & Co LLP

Chartered Accountants

FRN:006591N / N500377




(Bhuvnesh Maheshwari)  
Partner  
M.No.088155

Place : New Delhi  
Date : 18-12-2021

For and on behalf of the Society for Development Alternatives



Shrashtant Patara  
Chief Executive Officer



Vinod Nair  
GM Finance





**Independent Auditor's Report**

**To the Members of Society for Development Alternatives**

**Opinion**

1. We have audited the accompanying financial statements of Society for Development Alternatives (the Society), which comprise the Balance Sheet as at 31 March 2021 and the Income and Expenditure Account, for the year then ended, and a summary of the significant accounting policies and other explanatory information.
2. In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give a true and fair view in conformity with the accounting principles generally accepted in India, including the Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI), to the extent considered relevant by the management of the financial position of the Society as at 31 March 2021 and its financial performance for the year ended on that date.

**Basis of Opinion**

3. We conducted our audit in accordance with the Standards on Auditing (SAs) issued by the ICAI. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Society in accordance with the Code of Ethics issued by ICAI and we have fulfilled our ethical responsibilities in accordance with the Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

**Responsibilities of Management for the Financial Statements**

4. The Management is responsible for preparation of these financial statements that give a true and fair view of the state of affairs, results of operations of the Society in accordance with the accounting principles generally accepted in India, including the Accounting Standards issued by the ICAI to the extent considered relevant by the management. This responsibility includes maintenance of adequate accounting records for safeguarding the assets of the Society and for preventing and detecting fraud and other irregularities; selection and application of appropriate accounting policies; making judgements and estimates that are reasonable and prudent; and the design, implementation and maintenance of adequate internal control, that were operating effectively for ensuring the accuracy and completeness of accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.
5. In preparing the financial statements, the management is responsible for assessing the Society's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the management either intends to liquidate the Society or to cease operations, or has no realistic alternative but to do so.



#### **Auditor's Responsibilities for the Audit of the Financial Statements**

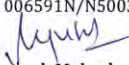
6. Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Standard on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.
7. As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
  - Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on whether the Society has in place an adequate internal financial controls system over financial reporting and the operating effectiveness of such controls.
  - Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.
  - Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Society's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Society to cease to continue as a going concern.
  - Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
8. We communicate with the those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



**Other Matter**

9. We did not audit the financial statements of the branch (Orchha), whose financial statements reflect total assets of Rs.1,84,24,322 and as at 31 March 2021 and total revenues of Rs.1,24,55,232 for the year then ended on that date, as considered in the financial statements. These financial statements have been audited by M/s. SKA & Associates whose audit report have been furnished to us by the management, and our audit opinion on the financial statements of the Society for the year then end to the extent they relate to the financial statements not audited by us as stated in this paragraph is based solely on the audit report of M/s. SKA & Associates. Our opinion is not modified in respect of the above matter with respect to our reliance on the financial statements audited by M/s SKA & Associates.
10. We did not audit the financial statements of the Society for the year ended 31<sup>st</sup> march 2020. These financial Statements have been audited by M/S Walker chandiok & Co LLP, retiring auditor and had expressed an unmodified opinion on the above. Reliance has been placed by us on the figures and other information pertaining to the said period as incorporated in these financial statement. Our opinion is not modified in respect of this matter.
11. There was only one bank account with the syndicate bank (Now Canara Bank) till September 2020 for receipt and utilization of fund under FCRA. After September 2020, the society has shifted the account to Axis Bank after obtaining the permission from MHA. As such there was no separate utilization account throughout the year. However, a new account with SBI has been opened w.e.f 26<sup>th</sup> March 2021 for the Receipt under FCRA. As informed to us, now the Axis Bank account will be used exclusively for Utilization of fund.
12. No balance confirmation/ bank statement is made available for our verification in respect of the one inoperative bank account with syndicate bank (A/C No. 89001010001896) Shimla branch having balance of Rs. 4802/- as on 31<sup>st</sup> March 2021.

For **K G Somani & Co LLP**  
Chartered Accountants  
FRN: 006591N/N500377

  
**(Bhuvnesh Maheshwari)**  
Partner  
M. No. 088155



UDIN: 21088155AAAACJ9722

**Date: 18-12-2021**  
**Place: New Delhi**

# Credibility Alliance

## Identity

Society for Development Alternatives is registered as a not-for-profit society under Society Act. XXI of 1860 (Reg. No. 12964).

Society for Development Alternatives is registered under the Foreign Contribution (Regulation) Act, 2010 (FCRA Reg. No. 231650202).

Visit us at the addresses given on the 'contact us' link on our website: [www.devalt.org](http://www.devalt.org)

Name and address of main bankers:

Axis Bank Limited, K-12, Green Park,  
New Delhi - 110 016, India

Name and address of auditors:

K G Somani & Co LLP,  
Delite Cinema, Asaf Ali Road, 3rd Floor,  
New Delhi - 110002, India

## Governance

None of the Development Alternatives' board members are related to each other.

The board members met once in the FY 2020-2021, on 13 January, 2021

The minutes of the board meetings are documented and circulated.

## Accountability and Transparency

No sitting fee or any other form of compensation has been paid since the inception of the Society of Development Alternatives to any board members.

Staff Details (as on 31 March, 2021)

Salary Range (INR)	Regular Staff		
	Male	Female	Total
10000 - 25000	43	5	48
25001 - 50000	13	10	23
50001 - 100000	13	14	27
>100000	4	3	7
Grand Total	73	32	105



# Business Affiliates

Technology and Action for Rural Advancement (TARA) continues to act as the “incubation engine” of the Development Alternatives Group. The mandate of TARA, which was set up in 1985, is to test, adapt, and productionise the innovations of its sister concern not-for-profit Development Alternatives, and make them ready for dissemination, primarily through market channels. Over the years, it has incubated several business units and as a promoter, hived off new special purpose vehicles in an attempt to take sustainable development solutions to scale.

## Incubatee Business Units

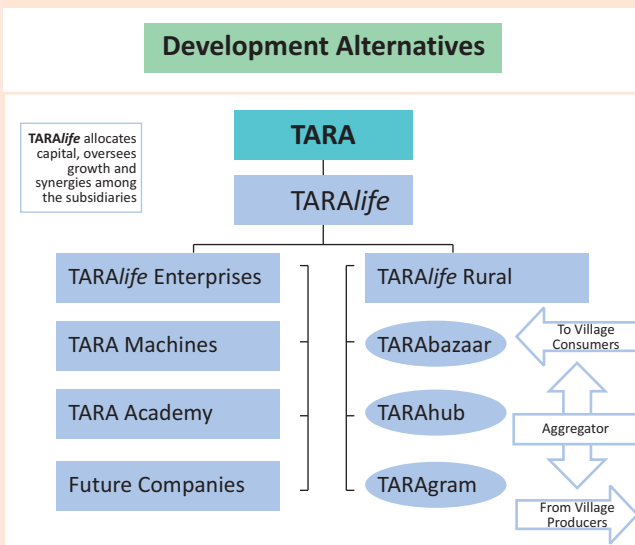
### TARAAurja

As an incubatee business unit, TARAAurja, has pioneered the successful establishment and operation of ‘micro grids’ to deliver decentralised solar energy to village households and businesses in a commercially viable manner. It has grown to become a leader among micro grid operators in India, with cutting edge automated customer interface and power management systems, providing solar powered electricity to village communities in UP and Bihar.

TARA’s model of using energy as an accelerator for the economic growth model is unique as it recognises the dual role of people in villages, i.e., of “producers” as well as “consumers”. Our approach focuses on social inclusion, local growth, and basic needs fulfilment to ensure:

- Business viability of mini-grid operations by engaging with the community for building up demand with different stakeholders and use of technology for leak-proof energy and revenue management

## Development Alternatives Group Social Enterprises



New site at Laxmanpur Bazaar, Uttar Pradesh - Under construction



- Greater incomes, creation of new jobs, new enterprises run by women/youth through co-creation of enterprise packages for existing and new entrepreneurs
- Use of electricity to put money “in to people’s pocket”, cash that can be used to pay for not just lighting but improved nutrition, entertainment, healthcare, and other needs
- Customer delight by allowing customisation of product offerings via application and platforms to build reliability

In close collaboration with Smart Power India, TARAurja operated mini-grids in 18 locations and undertook energy and revenue management services at 32 additional locations for the HCL Foundation and 2 locations for Dalmia Bharat Foundations, under the Smart Power for Rural Development (SPRD) programme. TARAurja cumulatively serviced 3400+ households with a cumulative revenue of INR 21 millions during FY2020-21. A significant portion of this revenue was generated by catering to the local enterprises with reliable energy for running businesses and ensuring customer delight, which is indicated by the Average Revenue per User (ARPU) of INR 508 per month. TARA, through its approach of community engagement and load acquisition via microenterprise development has ensured energy utilisation up to 84.2% out of the total 403+ MWh green energy generated during the year.

The reliable solar energy provided by TARAurja has substantially enhanced the average energy consumption of rural consumers, a key indicator of social and economic development. The average consumption has gone up from the 15.87 units per month to 16.09 units per month, an increase of 1.4%.



Lithium-ion battery energy storage system and grid-lock, Shivpura, Uttar Pradesh

#### Highlights of the Year:

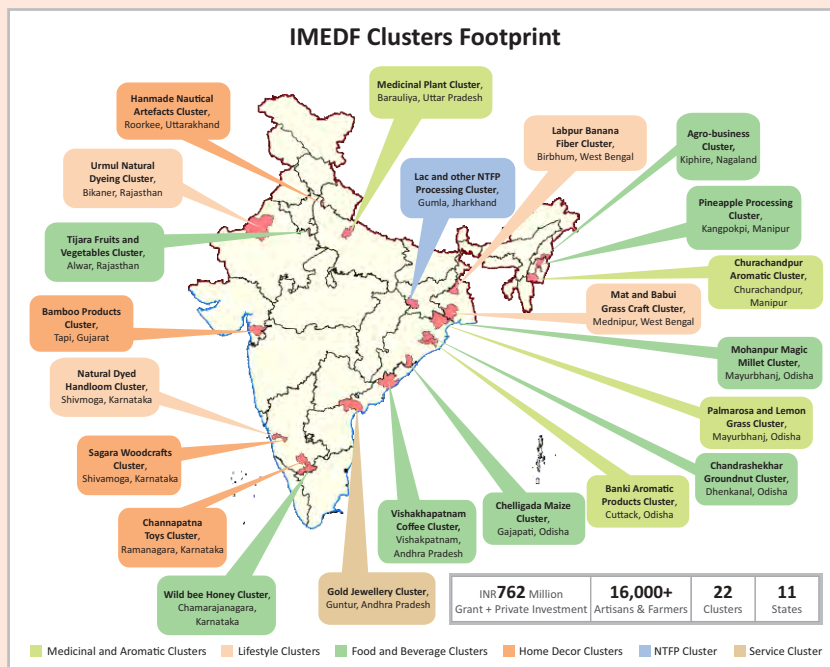
- Marginal drop of -0.75 % in revenue from sale of energy, despite COVID-19 catastrophe.
- Marginal drop of -1.37 % in revenue collections, averaging over 96% in all months.
- Capacity enhancement of Maharajganj Tarai (UP) and Garkha (Bihar) solar power plants to 45 KWp from 33.75 and 30 KWp, respectively.
- Installation of “Lithium-ion Battery Energy Storage System & Grid-lock” at Shivpura, UP.
- Automated SteamaCo smart meters installed at Sonwa and Laliya sites in UP and Nabiganj sites in Bihar, to allow cloud controlled customer servicing.
- Construction of a new site at Laxmanpur Bazaar, UP was initiated.

## Indian Micro Enterprises Development Foundation (IMEDF)

TARA has enhanced its commitment in the area of livelihood security and enterprise development through investment in the Indian Micro Enterprises Development Foundation (IMEDF), a special purpose vehicle set up by the Development Alternatives Group to accelerate impact in the area of green and inclusive economic development.

Capitalising upon innovation undertaken in the area of entrepreneurship and sustainable livelihood models for marginalised classes, IMEDF has positioned itself as a major catalyst in the cluster development arena, acting as a nodal agency of the Ministry of MSME, SFURTI.

In the FY2020-21, 12 more clusters were added to the IMEDF Portfolio taking the tally to 22 clusters across 11 states (Andhra Pradesh, Odisha, West Bengal, Manipur, Nagaland, Jharkhand, Uttar Pradesh, Uttarakhand, Rajasthan, Gujarat, and Karnataka), reaching out to over 16,000+ artisans, crafts persons, and farmers, more than 6,500+, out of which 40 per cent of total were women. As on 31 March, 2021, the IMEDF footprint was extended to 11 States with a SFURTI grant of INR 701.139 millions and investments by our partners to the tune of INR 60.865 millions in these clusters.



#### IMEDF initiatives with clusters

During the FY2020-21, 15 clusters were made functional and entered into production stage. High-end and environment-friendly technologies in clusters like medicinal and agro based were used to get optimum outputs and green renewable energy sources like solar energy panels, water recycling, and waste water treatment technologies were encouraged at the clusters.



*Drying of coffee taking place  
at Visakhapatnam Coffee Cluster*



*Cutting of Lemongrass taking place  
at Churachanpur Aromatic Cluster*

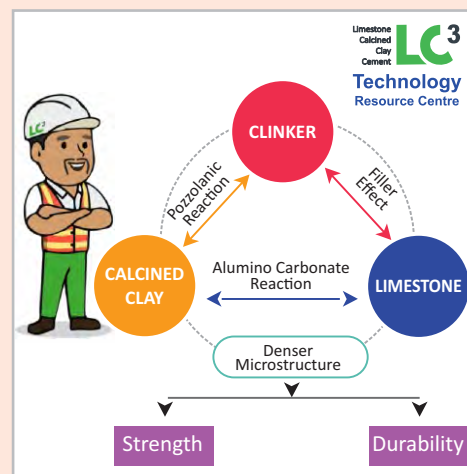
United Nations Department of Economic and Social Affairs has listed IMEDF Cluster Development Programme as SDGs Good Practice under SDG 9 and 10. Two case studies that were submitted under Sitaram Rao Livelihoods India Competition 2021 were shortlisted as the top 10 case studies. The case study on lemongrass cluster in Churachandpur, Manipur was placed as the second runner-up.

## TARA - LC<sup>3</sup> Technology Resource Center

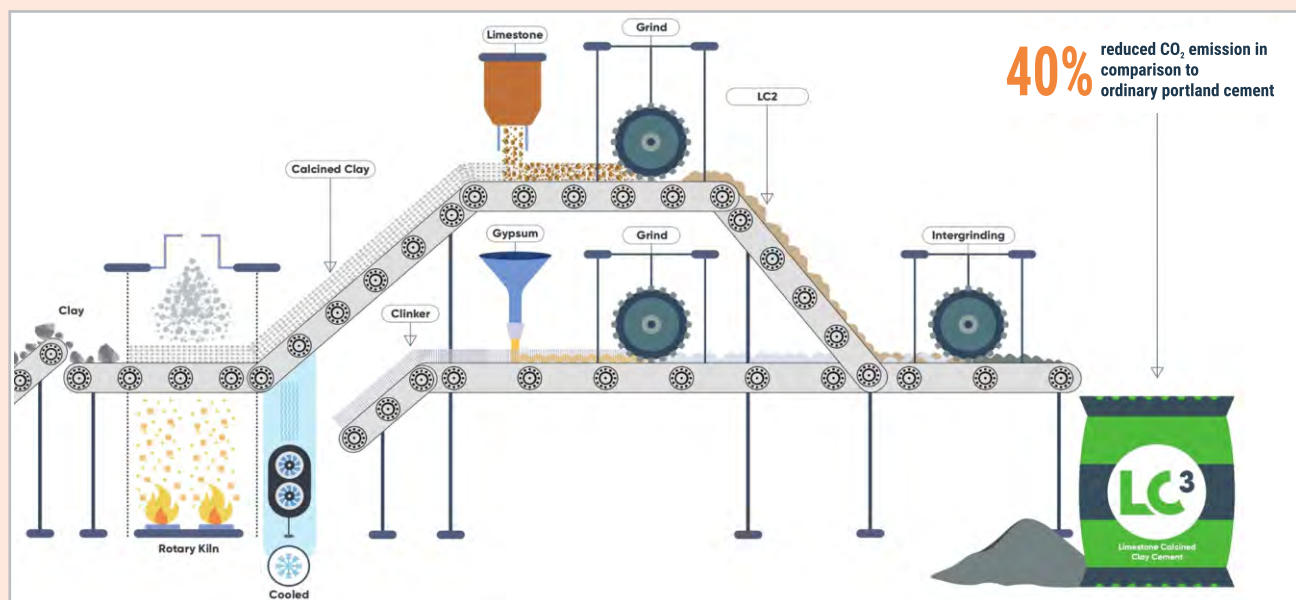
TARA has spearheaded the successful implementation of many building material technologies, taking them from their nascent stage in labs, to standardisation and upscaling them for subsequent applications in the industry.

The LC<sup>3</sup> Technology Resource Center (LC<sup>3</sup>TRC) at TARA identifies that cementitious materials make up more than half of all the materials we use. Capitalising on the rising global population and urbanisation patterns, coupled with infrastructure development needs, driving up the demand for cement and concrete, LC<sup>3</sup>TRC has positioned itself to directly intervene in India, Africa, Middle East, and South-East Asia. The countries are set to increase their domestic cement production capacity to fulfil their infrastructure development needs.

The traditional cement sector is the third-largest industrial energy consumer, comprising seven per cent of the global industrial energy use.



*Right chemistry is important to produce the best results certified by the LC<sup>3</sup>TRC expert*



*Process diagram for producing LC<sup>3</sup> blend of cement*

Cement production involves decomposition of limestone (calcium carbonate), which represents about two-thirds of the total CO<sub>2</sub> emissions generated in the process, with the remainder of CO<sub>2</sub> emissions being due to combustion of fuels.

With funding from the Swiss Agency for Development and Cooperation, TARA transformed the novel research and findings of LC<sup>3</sup> as a new type of cement into a sustainable business model, which offers technical services for supporting the uptake of LC<sup>3</sup> and was divided into a couple of phases. This lab to industry transformation by the LC<sup>3</sup>TRC provides the top cement manufacturers and companies to relook at their cement plants for decarbonising the entire cement manufacturing process.

During the FY2020-21, to fulfill the objective of rapidly speeding and scaling up the dissemination of the TARA incubated LC<sup>3</sup> technology, the business unit has earned considerable credibility as well as revenues. It made significant partnerships with Indian companies including Ultratech Cements, and JK Cements and International Companies such as SCC Cements.

In its services of providing expertise to finding out the suitable clay, technical feasibility of clays in LC<sup>3</sup> as well as advisory consultancies, as per projections and the current clientele, an income for the period of April 2021-March 2022 is estimated in the order of INR 3 million and more.

### **TARAbazaar: Delivery IN to the village**



Despite growing aspirations, increasing purchasing power, and vast unmet needs, the village consumer is still largely underserved today. Remote, ill-connected markets are hard to serve and most business models that rely on limited revenue streams cannot generate adequate revenues to cover operational costs. TARAbazaar will deliver a wide range of ‘quality of life’ products and services to village customers, thus reducing customer acquisition and distribution costs.

These products include a variety of basic needs fulfilment products for water purification, lighting and energy, preventive healthcare, and clean cooking fuel. The average purchasing power per capita across the target geographies is INR 3,000 (approximately \$ 50) for non-food products. The products represent a mix of daily, weekly, or monthly consumables, as well as one-off purchases.

### **TARAgam: OUTsourcing from the village**

TARAgam increases local incomes through marketing of value-added products made in local village production centres using efficient technologies - many of them supplied by TARA Companies - to process local or recycled materials. TARAgam will establish production centres across UP, MP, and Bihar, to make handmade paper, fabric and textiles out of recycled





waste material, products from these paper and textiles, processed foods and traditional medicines, domestic products, and other revenue-generating activities.

Through this, TARAGram will continue to provide livelihood security for village communities, creating employment and home-based income generation opportunities for women organised in producer groups as well as productivity enhancement, quality assurance, value addition, and aggregation services.

Sufficient revenue/value is always built into the value chain for each stakeholder of the supply chain, making the total delivery system financially sustainable. By fulfilling basic needs and promoting livelihood security, it will build an unmatched brand equity.

### **TARAhubs: Points of Presence**

TARAlife Rural's last-mile connectivity with village customers will be enabled by strategically located "TARA hubs" - mini-malls, where sale of incoming products and aggregation of exports will create a commercially viable marketplace.

The primary function of the TARAhub is to provide operating facilities for TARAbazaar, TARAGram, TARA Machines, and TARA Livelihood Academy. Space will also be rented to external partners for financial services, IT and mobile repair services, and

retail outlets such as for beauticians, tailors, and household appliances. The facility will be powered by a TARA Urja unit, a sister concern under the TARA umbrella, using solar and other renewable energy, ensuring reliable power for the facility and enabling the unit to sell its surplus power off-site to neighbouring clients.

The three pillars of TARAlife's rural presence, TARAbazaar, TARAGram, and TARA hubs, are together the key supports for the local community to generate a new and vibrant economy.

## TARA Machines

TARA Machines and Tech Services Pvt. Ltd. ('TARA Machines') develops and markets innovative green building and waste-to-wealth solutions for micro, small, and medium enterprises. The USP of TARA Machines is the capacity to deliver total business solutions to green building material entrepreneurs and recycling enterprises, with strong focus on technical support, material and product testing, training, and regular servicing. TARA Machines expects to establish numerous enterprises producing building materials in the next five years.



*Fly ash bricks machine being operated to produce energy-efficient bricks substituting clay bricks*

## TARAhaat

TARAhaat is the leading provider of literacy and numeracy skills for adults, particularly women, in rural India. The primary product of TARAhaat is TARA Akshar+. TARA Akshar+ is an ICT-based programme that imparts functional literacy in Hindi and basic arithmetic in just 56 days. After this, Gyan Chaupali is established as a post-literacy programme for six months, which strives to strengthen and build upon what the learners have already learned, and provide access to effective information.

## ACRONYMS

C&D Waste	-	Construction and Demolition Waste
CSO	-	Civil Society Organisation
CSR	-	Corporate Social Responsibility
DITU	-	Dehradun Institute of Technology University
EU	-	European Union
FABQRS	-	Fly Ash Brick Quality Rating System
FPO	-	Farmer Producer Organisation
GEC	-	Green Economy Coalition
IMEDF	-	Indian Micro Enterprises Development Foundation
IUCN	-	International Union for Conservation of Nature
LC <sup>3</sup>	-	Limestone Calcined Clay Cement
LO-CO	-	Locally Operated Community Owned
MIS	-	Monitoring and Information System
MoEF&CC	-	Ministry of Environment, Forest & Climate Change
MSME	-	Micro, Small and Medium Enterprise
NSDC	-	National Skill Development Corporation
RRA	-	Revitalising Rainfed Agriculture Network
SCP	-	Sustainable Consumption and Production
SDGs	-	Sustainable Development Goals
SFURTI	-	Scheme of Fund for Regeneration of Traditional Industries
SHG	-	Self-help Group
UNDP	-	United Nations Development Programme
UNEP	-	United Nations Environment Programme
WADI	-	Watershed Development Projects







## The Development Alternatives Group

Development Alternatives (DA)  
[www.devaltd.org](http://www.devaltd.org)



Technology and Action for Rural Advancement (TARA)  
[www.tara.in](http://www.tara.in)



TARAhaat Information and Marketing Services Ltd.  
[www.taraaat.com](http://www.taraaat.com)



TARAlife Sustainability Solutions Pvt. Ltd.  
[www.taralife.in](http://www.taralife.in)



TARA Machines and Tech Services Pvt. Ltd. (TMTS)  
[www.taramachines.com](http://www.taramachines.com)



TARA Livelihood Academy Pvt. Ltd.

