

ANNUAL REPORT

2014-15



Centre for Science and Environment

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Annual report 2014-15

A. Brief introduction

The year 2014-15 was a tough, challenging and yet, satisfying year. It was tough because we began work on our global programme, but without losing focus on what we do in India. It has been challenging year, as we had to find space for our work in new countries. And it has been satisfying because we have managed to do all this and more. We have continued our work in India – with relentless pressure and results – to see how we can bring change on policies and practices for good environmental management in this vast and critical country. And at the same time, we have interacted with large numbers of people and processes across the world for global results.

One learning is that our work in India is important, not just because it brings necessary change, but because it provides us practical hands on experience, relevance and credibility for global work as well. This has become clear as interactions with African and Asian regulators, media and civil society shows that they value our cooperation because of the relevant experience we bring to the table.

High-ranking officials of the Ministry of Environment and Forests, Ethiopia articulated this demand saying that they want to work with CSE on urban air pollution because we understand their local capacity and other governance issues and can help them find approaches that work. They pointed to problems with multi-lateral agencies (in this specific case the World Bank), which had installed equipment for pollution monitoring without factoring in the complete lack of institutional capacity in their countries. As a result, these machines were lying unused they said. They wanted to work with us to build institutional capacity, to network with other regulators to find common solutions and to see how our research on low-cost monitoring systems could work in their countries.

What is certain also is that global action needs local activities and results. This is what our programme must aim to do. And local impact can then be used to inform other countries of future directions and also learn from each other about how to make necessary changes, in situations, which are difficult, contentious and crippled by lack of finance and capacity.

Therefore, it is clear that activities for global environmental-climate friendly sustainable development to meet the needs of poor people, regarding food, energy or water will need action at the national-local level. It is this action that must inform global actors, processes and institutions. CSE activities for global action aim to encompass the local-national-regional and global scales.

B. Global action: highlights and learning of work

B.1 Climate change: It is clear that recent weather events have become unseasonal, erratic, extreme with have devastating impacts on the livelihoods and lives of the poorest and most marginalised. We are seeing victims of climate change and these are not the people who are responsible for the stock of greenhouse gas emissions in the atmosphere. It is imperative that the world moves toward much more aggressive action to reduce emissions and simultaneously build resilience of the poorest to cope and adapt to environmental degradation and climate change impacts.

In our climate change programme, we will work on both pillars – mitigation and adaptation. In 2014-15, we intervened at global meetings with research on the effectiveness of the country mitigation targets – Intended Nationally Determined Contributions (INDCs). This research (on the US-China deal, for instance) helped to make negotiators see beyond the rhetoric of ‘ambition’ that was being projected. This year, we will continue to review and critique country targets from a point of view of equity and effectiveness so that we can contribute to making the Paris agreement important for combatting climate change.

Global agreement will require Southern voices to be heard. Our first Southern global media meeting – held in September 2014 – helped shape understanding of the challenges of climate change and build a strong platform for creating public opinion. The response to the first meeting was tremendous and we have seen results in terms of greater reporting – both in terms of quantity but also depth and rigour. We will build on this in the coming year.

In 2014-15, we also published a detailed report *Rising to the Call: Good practices of climate change adaptation in India* – documenting what adaptation actually means. This learning from South Asia and India (a region, which is seeing huge weather change) will be critical to develop engagement on this issue. All too often we find that there is a complete lack of understanding of what adaptation means. And how strategies for development – water, land, forest management programmes – are linked to adaptation. We will take this programme to regional-global level as our understanding grows of how we can get results – what can we do to intervene in development strategies so that they can work at scale and pace to adapt to climate change and build resilience of the poorest. This understanding from bottom-up is required to influence global processes.

B.2 HFC phase out: In this past year, CSE has intervened in the global process of Montreal Protocol with proposal on how the world needs to leapfrog to non-chemical alternatives and focus on energy efficiency to reduce greenhouse gas emissions. We believe that HFC phase-out is not about chemicals, which benefit one industry or another. It is about climate change and so we have decided to amend our initiative to reflect this imperative – *Reduce GHG emissions including short-lived climate pollutants such as HFCs.*

CSE's position on the issue of HFC phase out helped position Southern perspectives of differentiation and effectiveness in these negotiations. We organised a number of meetings to build consensus on our proposal – the Indian government's proposal to agree to amendment of the Montreal Protocol was first discussed in our event with negotiators in February 2015. The Swedish government's lead negotiator is supportive of our position on leapfrog – moving beyond the chemical treadmill – and has incorporated it in his presentations. It is important to note this is the first time that Southern civil society has taken the lead to argue for positions in these negotiations and this helps to build trust and greater cooperation.

B.3 Black carbon: diesel and cook stoves: The Anil Agarwal Dialogue – CSE annual event – was held to strategize future work on black carbon. The poor in climate change: how the co-benefit agenda of short-lived pollutants can work for or against people and the Planet — brought together top scientists, civil society, practitioners to discuss diesel, brick kiln and cook stoves.

The world's three wicked problems – climate change, growing burden of air pollution in cities, lack of clean energy for cooking – are enjoined because of black carbon, which is today understood to be both a local and global pollutant. The question we asked is how could the co-benefit agenda work: how do we reduce emissions from diesel vehicles and cook stoves, and get the additional advantage of combating climate change?

The key issue that emerged is that the world needs to act differently; it must recognise that global action will be local. In other words, the world must recognise that black carbon is a local pollutant and that action must be directed to address its local health concern. The co-benefit agenda is important but incidental –because CO₂ has a long life, unlike black carbon and action to reduce this pollutant cannot become a proxy for real action to cut CO₂. The meeting also reiterated the need that action on black carbon must differentiate between the luxury emissions from diesel vehicles and the survival emissions from cook stoves of the poor. The fact is that diesel emissions have a higher share of light-absorbing black carbon that has a definite warming impact. Biomass-based cook stoves have a higher proportion of organic carbon that scatters sunlight and cools the atmosphere.

It concluded that while luxury emissions have to be targeted aggressively for both local and global benefits, survival emissions of the poor need supportive and enabling action. And even if this action requires countries to provide LPG, the fossil fuel energy for cooking, then they should do so. What this does suggest is that the world can do things differently. Today, it is the world's poor who are not yet in the fossil trap. They can drive, cook or build homes in the cleanest and greenest manner. Therefore, global action on survival-related short-lived climate pollutants must be done to create enabling action for reducing emissions.

We have based our strategy on the consensus of this meeting. First, we will work on diesel emissions to reduce local air pollution impacts. In 2015-16, we are looking to build partnerships in key African countries to take this agenda

forward. Second, we will work on brick-kilns – to build capacity of regulators to enforce standards, introduce alternatives and work towards cost-effective and yet sustainable building materials for housing. Third, we will work to promote renewable energy access addressed to meeting the needs of the poorest.

B.4 Coal energy and resource-efficiency: Thermal power is the single largest contributor to greenhouse gas emissions. But coal based thermal power remains a sensitive issue for developing countries, which have a desperate need for affordable energy to meet the needs of all. Energy poverty is unacceptable and adds to the inequity and depravation in the world. Therefore, even as the world finds approaches to finance renewable energy (see our related campaign on global feed-in tariff), it is important that coal power is cleaned – as far as possible – so that adverse impacts on poor, environment and climate change are mitigated. CSE has taken a clear position to ‘work’ to improve the environmental performance of coal-based thermal power in India and to use this experience to build confidence in other coal based countries.

In 2014-15, we released a rigorous assessment of thermal power plants in the country, which has helped to build an understanding of the need to improve energy efficiency (and so CO₂ emissions) and environmental performance – air pollution, water consumption and fly ash utilisation. The result of this study has been that the Ministry of Environment, Forests and Climate Change has issued a draft notification (May 2015) amending the standards after over two decades.

The standards once implemented would have major local, national and global impacts – reduce carbon dioxide emissions and local pollution. But more importantly, this revision allows us to build dialogue with other countries like South Africa and Indonesia, which have a similar challenge of poor or non-existent standards (see table below). CSE is also working on protocols on how to operationalize the monitoring and enforcement of these standards.

Country	PM (mg/Nm ³)		SO ₂ (mg/Nm ³)		NO _x (mg/Nm ³)		Mercury (mg/Nm ³)	
	Existing	New	Existing	New	Existing	New	Existing	New
South Africa	100	50	3,500	500	1,100	750	NA	NA
Indonesia	150	150	750	750	850	850	NA	NA

For South Africa, New norms were proposed in 2010 to come into effect in 2015. These have recently been postponed to 2020

	PM	PM	SO ₂	SO ₂	NO _x	NO _x	Mercury	Mercury
	Existing	New plants	Existing	New plants	Existing	New plants	Existing	New plants
India (current)	150	-	NA	NA	NA	NA	NA	NA
India proposed standards	50-100 (depending on age)	30	200-600 (depending on unit size)	100	300-600 (depending on unit size)	100	0.03	0.03

B.5 Renewable energy for energy access for the poor: CSE is clear that renewable energy is not the answer alone. It has to meet the needs of the poorest and most energy deprived in the world. The question is how this source of still relatively more expensive energy will reach the poorest, who cannot even afford the current cheap energy of coal-based power? CSE also strongly believes that energy poverty is unacceptable and that all efforts must be made to find options to deliver clean-sustainable energy to meet the needs of the poorest, particularly women.

To do this, CSE has worked on a proposal for a globally funded payment guarantee/feed-in tariff for electricity access through renewable sources. In 2015 we plan to take forward this proposal – which has been developed after extensive consultations with civil society and key government negotiators from developing countries – to global forums. We would like to see how this proposal could be part of the Paris deal so that not only does the world commit to emission reductions but also finds ways of making the energy transition in the lives of the poor.

C. National-global linkages: local action for global change

In 2014-15, we have undertaken extensive travel, organised meetings and done research to scope issues and role for our global engagement in different countries. We have put together eight scoping papers which details out this process. The papers discuss the process of putting together the strategy, the issues we identified in each country for work and our possible partnerships.

The scoping papers are to develop the following strategies:

- Clean air and mobility
- Rainwater harvesting in Africa
- Septage management in Africa (including decentralized wastewater treatment and reuse)
- Energy access and renewable energy
- Renewable energy and energy access transformation
- Mining sector
- Strengthening environmental governance in the global south
- Strategy for resource efficiency

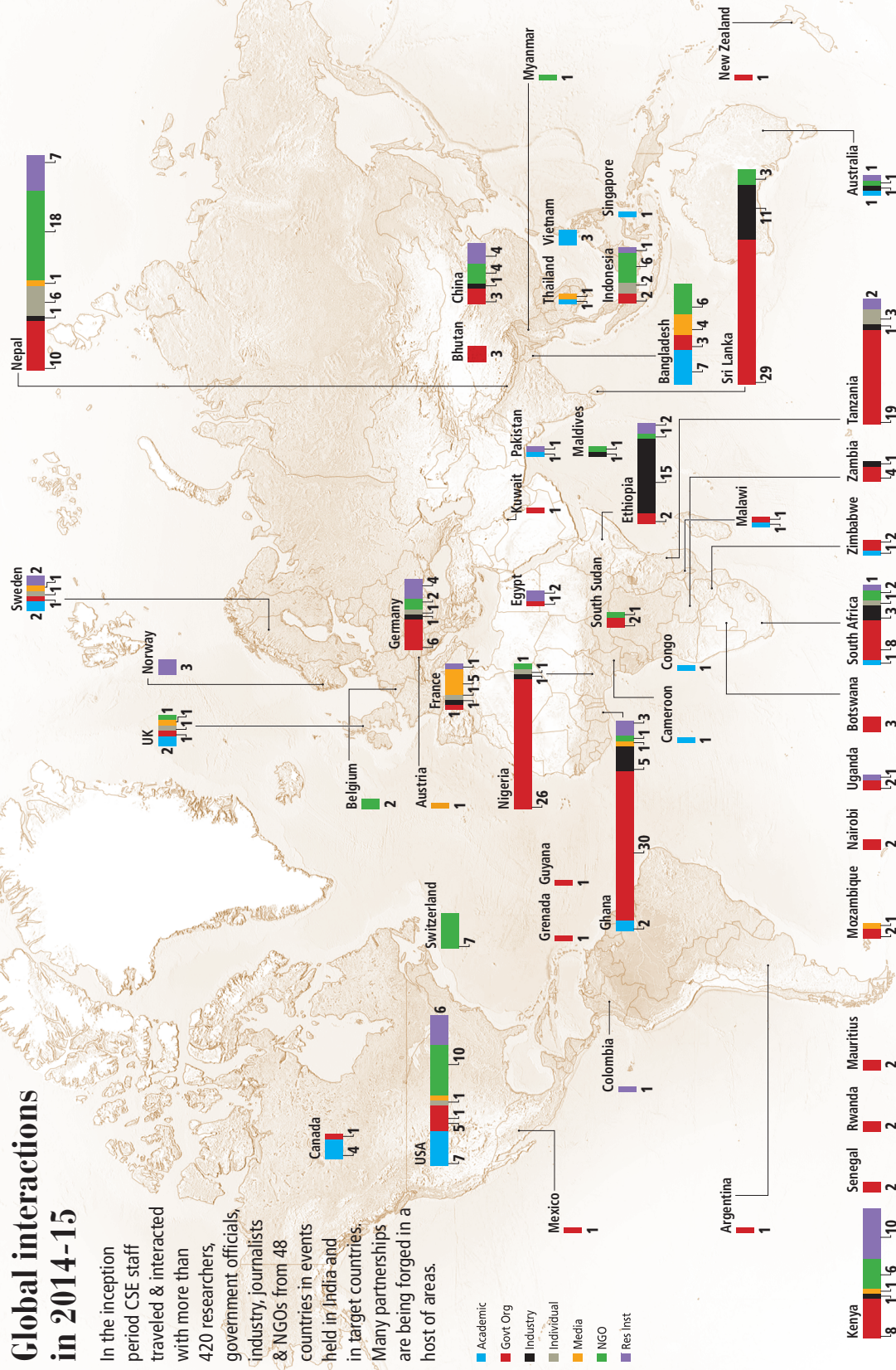
In this process, we have interacted with more than 420 researchers, government officials, media and civil society from different countries. Based on these findings we have put revised our global strategy for engagement. The learning and the future work are included in the review of activities (results framework 2014-15 and results framework for activities in 2015-16).

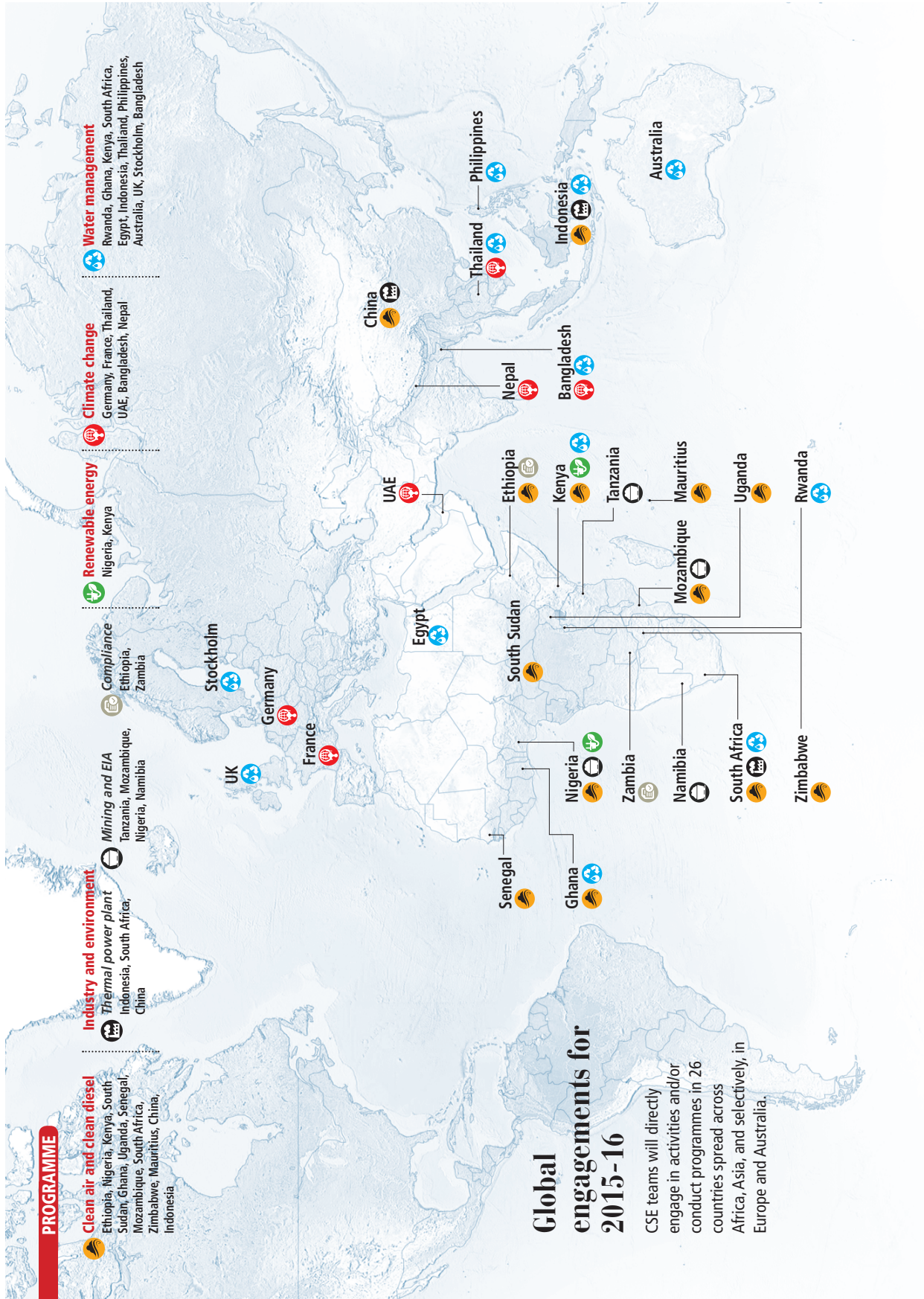
The underlying learning is that there are two major areas for future engagement:

- Strengthening of institutional capacity in environmental management
- Approaches, policies and practices for solving local environmental problems of water, wastewater, solid waste, air pollution

Global interactions in 2014-15

In the inception period CSE staff traveled & interacted with more than 420 researchers, government officials, industry, journalists & NGOs from 48 countries in events held in India and in target countries. Many partnerships are being forged in a host of areas.





Team	Activity	Country	Partner
Clean air and clean diesel	Frame work for air quality management plan: country work	Ethiopia	Ministry of Environment
	Frame work for air quality management plan: country work	Nigeria	Ministry of Environment
	Capacity building on air quality and mobility issues: regional	Kenya, Ghana, South Sudan, Uganda, Senegal	
Industry and environment			
Thermal power plant	Resource efficiency and pollution control of thermal power plant	Indonesia	
	Resource efficiency and pollution control of thermal power plant	South Africa	
Mining and EIA	Share best practices through training programmes	Tanzania	Ministry of Energy and Minerals
	Share best practices through training programmes	Mozambique	National Directorate of Mines, Ministry of Minerals Resources and Energy
			Ministry of Land, Environment and Rural Development
	Share best practices through training programmes	Nigeria	National Environmental Standards and Regulations Enforcement Agency (NESREA)
			Ministry of Mines and Steel Development
	Share best practices through training programmes	Namibia	Directorate of Environmental Affairs
Compliance, monitoring and enforcement	Capacity building programme	Ethiopia	Ministry of Environment and Forest
	Capacity building programme	Zambia	Zambia Environmental Management Agency
Renewable energy	Rural electrification through renewable energy based mini-grids	Nigeria	Not yet identified
	Rural electrification through renewable energy based mini-grids	Kenya	Not yet identified
Water management	Rainwater harvesting training	Rwanda	Rwanda Natural Resource Agency
	Rainwater and Decentralised Waste Water Treatment and ReuseUniversity	Kenya	Kenya Water Institute,
	Rainwater harvesting training	Egypt	National Water Research Centre, Ministry of Water Resource and Irrigation
	Decentralised Waste Water Treatment and Reuse training	Bangladesh	WaterAid
	Decentralised Waste Water Treatment and Reuse training, Septage Management	Ghana	Ministry of Local Government & Rural Development

The biggest demand is for capacity strengthening, mostly from regulators. We have found that civil society is relatively weak. But the question is how do we show results for this capacity strengthening – as government officials often change and work done on training may not result in action or long-term change.

We have deliberated on this issue, based on our Indian and South Asian experience. In our global strategy we have decided therefore, to work at two levels – more in-depth country work, where we will identify policies that require intervention. All capacity building will be addressed to these specific policies. We will also work at the regional level, where our effort will be to build understand of the changes required and then identify partners for future work.

Based on this we have identified the following countries and partners for our work:

Given this ground reality, we will however, work to deepen engagement with civil society and media so that we can build long-term cooperation and change.

D. Institutional challenges

In 2014-15, CSE recruited 41 new staff – which is a doubling over the previous year (see Institutional challenges for more details). Our staff turnover was 19% (slightly higher than the previous year), of which 50% left for better career (and money) prospects. On the whole, it has been a good year in terms of work and performance.

However we are aware that our current systems of personnel management will be tested to sustain future growth. In April-May 2015, our other institutional donor had commissioned external experts to review the programmes and internal management systems. The report of the consultant points to the need to provide specific training on key skill building and management to staff. It has also pointed to the need to conduct orientation for new staff, including on inculcating culture, vision and values of CSE. This is a priority area of work for us.

We have also developed a monitoring and evaluation plan, which will help us to focus not on ‘what’ but the ‘why’ of our work. We also need to build internal capacity on this method of reporting so that it gets incorporated into everybody’s way of thinking of outputs and results.

Lastly, we have worked on a financial sustainability plan, which identifies indicators and measures to measure sustainability and to work on future options. Again, this will be a key area of work for top management of CSE.

Programmatic achievements:

1. Sustainable clean air and clean diesel

1.1. Clean air and clean diesel: To reduce diesel toxicity and black carbon

During the year, the programme was able to present its position on black carbon, health and climate co-benefit agenda to a global audience. A briefing paper, *Diesel at Crossroads: Charting the roadmap for co-benefits of health and climate mitigation*, acknowledges CSE's position on this issue.

The team participated in the symposium at the Better Air Quality (BAQ) conference in Colombo, a major global platform that helped draw lessons from India, China, Germany and the US to accelerate a global technology roadmap and fiscal strategy for climate and health co-benefit. An important result of the meeting was that the BAQ Secretariat included CSE's recommendations on diesel in its list of solutions for the region, marking an important step to integrate a regional roadmap for diesel/black carbon in global discussions and a global action plan.

At its flagship event, Anil Agarwal Dialogue, CSE presented its position on black carbon emissions and mitigation to more than 40 sector leaders from Asia, India, Africa, US and Europe and 300 conference participants. The meeting discussed the science of short lived climate pollutants, local and global impacts of diesel emissions, as well as brick kilns and cook stoves to find approaches for affordable access to sustainable mobility and clean technology, cleaner techniques for building material and energy access for all. Similarly, the event on Short Lived Climate Pollutants (SLCPs) convened by CSE in partnership with the Ministry of the Environment and Energy, Sweden, and the Royal Norwegian Ministry of Climate and Environment, helped clarify CSE's position on the issue of diesel mitigation measures for achieving health and climate co-benefits in Europe and India in front of a diverse set of stakeholders, including more 60 air quality and climate regulators, scientists, academics, industry representatives and senior officials from Sweden and Norway.

As part of the programme's scoping exercise, team members traveled extensively in six countries in Africa and two in Asia, which helped identify potential partners, areas of intervention and scale of work. Meetings in Delhi and Nairobi also helped identify opportunities and allowed for the team to build the nucleus of a network on clean air and transportation issues. Similarly, Asia-Africa meetings convened by the team in India – for instance the meeting on Champion Cities, as well as the Indo-African experience-sharing workshop, allowed the team to better understand the policy and regulatory landscape

concerning transportation management challenges in various countries in Africa, and also to document the specific demands from participating agencies.

The conclave of champion initiatives from Africa and Asia addressed critical issues of common concern and examined a range of indigenous strategies on challenges of public transport, road safety, congestion reduction strategies, public awareness and capacity building. This conference helped capture the lessons learned in Asian and African cities, and helped evolve strategies for policy action by understanding unique challenges in the region. Likewise, the India-Africa experience sharing workshop on clean air and sustainable mobility was a forum where regulators and transport agencies from various countries in Africa shared common as well as unique challenges as well as emerging best practices and solutions in transportation management, including air quality monitoring and management, issues related to vehicle technology and fuel quality, in-use vehicle management, planning for non-motorised transport (walking and cycling), road safety and accessibility, intermediate public transport modes, public transport and multi-modal integration, travel demand management strategies, and aspects of integrated land-use and transportation development with transit oriented development in focus.

The programme was successful in engaging with media to highlight some of the toughest challenges facing cities of the global South — traffic congestion, urban air quality, and sustainable urban commuting practices. CSE's media briefing on air quality and mobility in Nairobi, organised in collaboration with CSE's partner in Nairobi, Media for Environment, Science, Health and Agriculture (MESHA-Kenya), brought together about 50 science journalists from across Africa, as well as regulators, NGOs and researchers generated renewed interest in reportage on air and mobility issues and was effective in bringing air pollution and associated issues in public domain in the participating countries. Team members also participated in pan-regional networks, such as in the 1st Ministerial and Experts Conference on Sustainable Transport in Africa (ASTF), which gave CSE a more regional perspective on the challenges and provided a platform to share experiences from Asian cities.

Such meetings, dialogues, travel, scoping exercises, training events and media engagements have helped establish credentials for future engagement, helped identify issues and strategies for intervention, and have allowed CSE to shortlist possible countries, partners and networks for work in future.

Sr No	Activity	Result
1	Briefing paper on black carbon	<p><i>Publication Diesel at crossroads: Charting the roadmap for co-benefits of health and climate mitigation, put out CSE's position on diesel, health and black carbon co-benefit agenda</i></p> <p>Publication used at media workshop in Nairobi and India-Africa experience sharing workshop in Delhi</p>
2	The symposium at the Better Air Quality (BAQ) conference in Colombo	<p>The symposium at the Better Air Quality (BAQ) conference in Colombo deliberated on how Asian countries could deal with the health impact of particulate matter and black carbon, which is a fraction of the particulate matter implicated for enhancing warming impact. This emerging science has blurred the boundaries between the local and global impact of pollution. In the transport sector particularly, the dominant use of poor quality high sulphur diesel is aggravating both local toxic risks as well as climate risk because of high black carbon emissions. This multiple burden of risks demands active, cohesive and aggressive policy response across regions of the world to phase-out dirty diesel and introduce clean diesel.</p> <p>To achieve the objectives of climate and health co-benefits, it is important to deepen policy understanding of the challenges, policy action and opportunities in different regions of the world – Asia, Europe and the US. This symposium helped to draw lessons from India, China, Germany and the US to accelerate a global technology roadmap and fiscal strategy for climate and health co-benefit that will also benefit Asia. More than 70 regulators, researchers and journalists from around Asia attended the symposium.</p> <p>URL: http://www.cseindia.org/content/diesel-crossroads-charting-roadmap-co-benefits-health-and-climate-mitigation</p> <p>An important result of the meeting was that the BAQ Secretariat included CSE's recommendations on diesel in its list of solutions for the region (http://cleanairinitiative.org/portals/sites/default/files/end_message.pdf), marking an important step to integrate a regional roadmap for diesel/black carbon in global discussions and a global action plan.</p>
3	Anil Agarwal Dialogue 2015: Poor in climate change: How the co-benefit agenda of short-lived climate pollutants can work for or against people and the Planet (March 11-12, 2015) (Parallel session: The roadmap for clean diesel and mobility for all)	<p>(Conducted in substitute of 'engagement with CCAC') The Anil Agarwal Dialogue 2015 was convened on the multi-faceted and layered issue of local-global action on environment, with particular focus on black carbon, a local air pollutant that has global impacts. Three key issues were discussed in three parallel sessions over two days in New Delhi: science of short lived climate pollutants, local and global impacts of diesel emissions; brick kilns and cook stoves to find approaches for affordable access to sustainable mobility and clean technology, cleaner techniques for building material and energy access for all.</p> <p>This was an important opportunity to discuss environment-development-energy and resource efficiency concerns. Black carbon is a local air pollutant that has global impacts as well. The dialogue addressed the emerging science on local-global pollutants, and also examined national road maps for intervention in key areas of mitigation and to see if these are sufficient or transformational approaches are needed. The dialogue was conducted to fine tune global policy approaches and solutions for affordable access to sustainable mobility and clean technology, cleaner techniques for building material and energy access for all.</p> <p>The plenary sessions helped to bring together common strategies and opportunities for interaction from different communities. The dialogue included 18 renowned international speakers from Asia, Africa, North and South America and Europe, as well as 24 national speakers. It was a well-attended event with about 282 registered participants, including regulators, scientists, academia, researchers, industry, media etc. The event also received extensive media coverage.</p> <p>URL: http://cseindia.org/content/anil-agarwal-dialogue-2015</p> <p>Key research-based outputs</p> <ol style="list-style-type: none"> 1. Diesel at Crossroads: Charting the roadmap for co-benefits of health and climate mitigation CSE symposium, 20 November 2014; BAQ 2014 Conference, Colombo <http://www.cseindia.org/userfiles/diese-crossroads-briefing-paper.pdf> 2. Anil Agarwal Dialogue 2015: The Poor in Climate Change, Briefing paper 1: Diesel at the crossroads, page 39 < http://www.cseindia.org/userfiles/AAD-booklet.pdf>

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Sr No	Activity	Result
4	Scoping paper in African countries	In the scoping paper, the team captured the issues in African countries with respect to air quality, public health, vehicles and fuel norms. Key findings: <ul style="list-style-type: none"> • Interdependence for fuel supply is an opportunity to improve fuel quality in many connected nations. • Since vehicle import is the primary means, changing import policies, taxation regime to include emission norm as a criteria, engine types can work to be an alternative to Auto Fuel Policy approach. • Air quality monitoring requires a different approach altogether, conventional approach seems to be costly affair for them. • Specific collaborations that find resonance include such issues as low-cost air quality monitoring system; pollution Under Control (PUC) reform; Advancement of Euro norms, as well as Vehicle import policy. These issues can be taken up in regional African forums to harmonize legislation. • On the Pan-African regional scale, the team has identified Africa Sustainable Transport Forum and UNEP to be useful policy catalysts.
5	In-depth coverage of clean fuel issues in DTE covering the target regions (at least 4 major stories) and dissemination via e-newsletters; web-based dissemination and social media outreach	Almost half of world's population exposed to indoor air pollution: http://www.downtoearth.org.in/content/almost-half-world-s-population-exposed-indoor-air-pollution WHO estimate on air pollution shows Indian cities are death traps: http://www.downtoearth.org.in/content/who-estimate-air-pollution-shows-indian-cities-are-death-traps
6	Seminar on 'Climate change, air quality, and urban health: combined benefits of SLCP mitigation policies and measures	The seminar, in partnership with the Ministry of the Environment and Energy, Sweden and the Royal Norwegian Ministry of Climate and Environment, discussed the science of short-lived climate forcers and mitigation of SLCPs for maximising health and climate benefits in Europe and India. In India, policies on diesel black carbon and HFC mitigation were of particular interest. The 60 participants included air quality and climate regulators, scientists, academicians and industry representatives, as well as senior climate, environment and energy ministry officials from Sweden, Norway and India.
7	India-Africa Experience Sharing Orientation Workshop on Clean Air and Sustainable Mobility (New Delhi, April 6 – 8, 2015)	This three-day orientation workshop & training event was designed to bring together 18 regulators and key implementing agencies from India and 12 countries in Africa working on air quality and transportation management to discuss challenges of increasing motorisation and its associated problems of pollution, congestion and road traffic fatalities. The workshop & training initiative was convened to help cities in these regions develop action plans as part of national air quality management and urban transport policies. Topics covered air quality monitoring, vehicle technology & fuel quality, in-use vehicle management, planning for non-motorised transport, as well as walking and cycling, road safety and accessibility, intermediate public transport modes, public transport and multi-modal integration, travel demand management strategies, and aspects of integrated land-use and transportation development with transit oriented development in focus. URL: http://cseindia.org/content/india-africa-experience-sharing-orientation-workshop-clean-air-and-sustainable-mobility-0
8	CSE's Media Fellowships Programme	CSE's Media Fellowships Programme was announced in March (for the period June – August 2015), targeting practicing journalists and media professionals from Africa and South East Asia to write on 'air pollution and urban mobility' (nine fellowships) and on 'water management' issues (five fellowships). Applications closed on May 20, 2015, and a total of 14 fellowships will be awarded. More than 20 applications were received. Media fellows will cover the spectre of urban air pollution, including assessment and monitoring, causes, policies and effects of air pollution. Other fellows will produce in-depth coverage on urban mobility, congestion, public transport, and urban design that promotes non-motorized transport for pedestrians and cyclists. On water management, the five Fellows will cover drought management, rainwater harvesting, access to clean water, water supply challenges, groundwater management, use of surface water, fecal sludge management, and waste management, among others. URL: http://cseindia.org/content/cse-media-fellowships-programme-global-south

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Sr No	Activity	Result
9	India-Africa Dialogue and Media Briefing on Air Quality and Mobility (Nairobi, February 27, 2015)	<p>The first India-Africa Dialogue and Media Briefing on Air Quality and Mobility (Nairobi, February 27, 2015) targeted cities in Africa and India identified on traffic congestion, urban air quality, and sustainable urban commuting practices as among the toughest challenges facing cities in these regions. Nairobi, Delhi and other cities in the global South face newer challenges, and require urgent second-generation action, including technology leapfrog, scaling up of public transport, integrated multi-modal transport options, car restraints and walking for clean air.</p> <p>The meeting was organised in collaboration with CSE's partner in Nairobi, Media for Environment, Science, Health and Agriculture (MESHA-Kenya). It generated renewed interest in reportage on air and mobility issues. This is part of an initiative by CSE to engage and share lessons from Southern cities to chart the future course of action. The briefing drew government, academia and civil society stakeholders from Kenya, Uganda, Tanzania and India, and about 50 science journalists from across Africa, as well as stakeholders such as regulators, civil society organisations, professors, activists, veteran editors and UNEP participated in the dialogue.</p> <p>URL: http://cseindia.org/content/first-india-africa-dialogue-and-media-briefing-air-quality-and-mobility-0</p>

1.2. 'Bus, walk and cycle' campaign: For safe and accessible cities

Sr No	Activity in workplan	Results
1	Conclave of Champion Cities of Asia and Africa on Clean Air and Sustainable Mobility (New Delhi, April 9, 2015)	<p>Following the India-Africa Experience Sharing Orientation Workshop on Clean Air and Sustainable Mobility in New Delhi, CSE hosted a day-long conclave of champion initiatives from Africa and Asia in Delhi on April 9, 2015. The objective of the conference was to find ways to address critical issues of common concerns and look at a range of indigenous strategies for addressing issues related to the challenges of public transport, road safety, congestion reduction strategies, public awareness and capacity building. This conference helped capture the lessons learned in Asian and African cities, and helped evolve strategies for policy action by understanding unique challenges in the region.</p> <p>As a result of the deliberations, clear areas of collaboration between India and Africa on mobility as well as air pollution issues emerged. A clear result was the demand from many countries for CSE collaboration – Uganda (research, capacity building and design reviews); Kenya (emission reduction and control in automobiles and ways to incorporate emission control in motorcycles and tuk-tuks / three-wheelers); Senegal (trainings on air quality and urban mobility management); Mozambique (public transport strategy and non-motorised transport policy); Zimbabwe (air quality and emission monitoring and in making GHG inventories and air quality risk assessments); Mauritius, South Sudan (CSE to help mentor agencies on research & strategic guidance); Tanzania (trainings on air quality monitoring and management for city officials); Ethiopia (trainings); Ghana (research, training, advocacy and policy formulation); Nigeria (request for CSE to collaborate on road safety audits, transport & safety management & NMT planning-design and integrated transport planning); and South Africa (joint workshops traffic congestion alleviation).</p> <p>URL: http://cseindia.org/content/conclave-champion-cities-asia-and-africa-clean-air-and-sustainable-mobility</p>
2	Participation in the Africa Sustainable Transport Forum, ASTF (Nairobi, Oct. 28 – 30, 2014)	<p>Participation by a team member in the 1st Ministerial and Experts Conference on Sustainable Transport in Africa offered a good opportunity to familiarize the team with the state of air quality and mobility in the Pan-African scale, and build network and initiate discussions with concerned agencies/departments about potential collaborations. Engagement in the ASTF process (under the UNEP process) allows intervention for at the Pan-African level and also at the level of 'bilateral' work with specific city/country governments. CSE can therefore engage, influence and guide the ASTF process, either through UNEP Partnership as also through respective city/country governments.</p>

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Sr No	Activity in workplan	Results
3	In-depth coverage in DTE on right of way policies for pedestrians and non-motorised transport covering the target regions (at least 4 major stories) and dissemination via e-newsletters; web-based dissemination and social media outreach	<ol style="list-style-type: none"> 1. Africa adopts continent-wide sustainable transport agenda, Priyanka Chandola, Down To Earth, Jan 6, 2015 <http://www.downtoearth.org.in/content/africa-adopts-continent-wide-sustainable-transport-agenda> 2. New paradigm for sustainable transport in Asia: words or reality?, Ida Wilhelmson, Down To Earth, Dec. 3, 2014 <http://www.downtoearth.org.in/content/new-paradigm-sustainable-transport-asia-words-or-reality> 3. Road Design: Why do Indian cities never get it right?, Ruchita Bansal, Down To Earth, Nov. 19, 2014 <http://www.downtoearth.org.in/content/road-design-why-do-indian-cities-never-get-it-right> Bridge gap between planning and engineering to shift to sustainable mobility, Adarsha Kapoor, Down To Earth, Jan. 2, 2015 <http://www.downtoearth.org.in/content/bridge-gap-between-planning-and-engineering-shift-sustainable-mobility>
4	India-Africa Experience Sharing Orientation Workshop on Clean Air and Sustainable Mobility (New Delhi, April 6 – 8, 2015)	This three-day orientation workshop & training event was designed to bring together 18 regulators and key implementing agencies from India and 12 countries in Africa working on air quality and transportation management to discuss challenges of increasing motorisation and its associated problems of pollution, congestion and road traffic fatalities.
		The workshop & training initiative was convened to help cities in these regions develop action plans as part of national air quality management and urban transport policies. Topics covered air quality monitoring, vehicle technology & fuel quality, in-use vehicle management, planning for non-motorised transport, as well as walking and cycling, road safety and accessibility, intermediate public transport modes, public transport and multi-modal integration, travel demand management strategies, and aspects of integrated land-use and transportation development with transit oriented development in focus.
5	Media engagement Journalist fellowships (awarded to at least 3 journalists from target regions/cities)	CSE's Media Fellowships Programme was announced in March 2015 targeting practicing journalists and media professionals from Africa and South East Asia to write on 'air pollution and urban mobility' (nine fellowships) and on 'water management' issues (five fellowships). Applications closed on May 20, 2015, and a total of 14 fellowships will be awarded. More than 20 applications were received.
6	Media briefing workshops (at least 1, in a target country)	Instead of conducting separate media briefings in each target country in Africa, it was more strategic -- and efficient -- to anchor the briefing in a country and invite stakeholders from neighbouring countries. Also, the India-Africa Dialogue and Media Briefing on Air Quality and Mobility (Nairobi, February 27, 2015) covered both black carbon issues as well as mobility / transport challenges facing cities in Africa and India. The meeting was organised in collaboration with CSE's partner in Nairobi, Media for Environment, Science, Health and Agriculture (MESHA-Kenya). URL: http://cseindia.org/content/first-india-africa-dialogue-and-media-briefing-air-quality-and-mobility-0
7	Scoping strategy on clean air and clean diesel campaign in targeted regions of Africa and South East Asia	Team members traveled extensively in Africa and counties in Asia. The scoping visits and resultant paper offers a roadmap of CSE's future work and role in the region. In Africa, the team travelled to South Africa (Cape Town, Johannesburg, Pretoria and Durban), Nigeria (Lagos and Abuja), Kenya (Nairobi), Ghana (Accra), Tanzania (Dar es Salaam) and Ethiopia (Addis Ababa) In Asia, team members traveled to China (Beijing, Guangzhou, Shenzhen) and Indonesia (Jakarta, Bogor, Yogyakarta and Surakarta). The scoping paper contains key country-specific background information on air pollution and mobility issues, and describes the scope of each visit, including meetings held with stakeholders, identified opportunities for further collaboration between CSE and the country stakeholders (both in-country and as part of a pan-Africa or Asia-Africa network for knowledge-sharing), risks and barriers, interface with international organisations and CSE's potential role.

1.3. Influence global decisions on emissions standards and mitigation strategies for long-range transportation systems (marine & aviation)

During the year, the team encountered a big opportunity to intervene in India to improve urban air quality due to the interest created around personal air pollution exposure and monitoring. A huge media and public debate followed the results of the pollution exposure studies carried out by prominent citizens of Delhi, including air quality readings obtained from inside the judges' chambers of the Delhi High Court. These studies, conducted with the aid of on-personal mobile air quality monitoring devices, led to a media uproar and the subsequent engagement of the ministry of environment, several agencies of the Delhi government and even the Supreme Court – air pollution has become a national issues in India. This was too important a moment, and the team invested its energies in pursuing this opportunity in India. We therefore took the strategic decision to concentrate on our work on mobility and air pollution in Asia and Africa as there are many fruitful opportunities and demand to work at in-country and at the regional levels in Africa and Asia, and therefore to not dedicate an initiative on long-range transportation. We will however continue to address these concerns by participating in global platforms – for instance green freight issue at the CCAC will be taken up this year.

2. Sustainable water management and sanitation programme

2.1. Equitable access to clean water and sanitation to all

The first year was devoted to understanding issues identifying institutions and key people and bringing them together to build partnerships. To plug into existing networks, the team also attended some key international meetings, including UN Habitat PREPCOM-2 (Nairobi) and the International Conference on Faecal Sludge Management – 3 (Hanoi). An important result was that the team was invited to become a co-lead in a global project on faecal sludge management, in which some key global institutions are also participating (GIZ, Department of Water and Sanitation in Developing Countries at the Swiss Federal Institute of Aquatic Science and Technology, University of Leeds (co-lead with CSE on the project), Water, Engineering and Development Centre – Loughborough University). Participation in pan-Asian and Africa workshops in south Asia (Dhaka, Colombo) also helped the team network with agencies and specialists outside the region.

There were some deviations from the initial plan. Based on the scoping experiences, the strategy that the team will pursue includes in-country efforts on water harvesting, wastewater and septage management through partnerships with country agencies – in Rwanda (rainwater harvesting); Ghana (wastewater & septage); Kenya (rainwater harvesting & wastewater/septage); work on a pan-Africa scale by leveraging partnerships with established regional-scale institutions on water & waste in three countries – Egypt, South Africa and Kenya, which will act as network hubs; and work at south-south and/or global scale by engaging with global processes and events as well as by leveraging the established and strong partnerships in Asia and

Sr No	Activity in workplan	Output(s) achieved
1	<p>Participated in UN Habitat 3 PrepCom 2 in Nairobi Launch meeting in Zurich of the project, 'Faecal Sludge Flow diagrams for 50 cities' in Africa, Asia and other parts of the world, in which CSE is co-lead with University of Leeds in a module covering 11 cities in India.</p> <p>India-Africa experience sharing workshops on mainstreaming sustainable water management and field exposure visit (New Delhi, February 25-27 / field visit till March 2, 2015)</p>	<ul style="list-style-type: none"> Team members traveled and attended international conferences to tap into global conversations and networks working on water management. CSE staff participated in UN Habitat 3 PrepCom 2 in Nairobi, and contributed as a speaker in a session 'Urban Multiplier Effects'. The team had successful meetings to explore potential collaborative work with institutions in Kenya, including the Kenya Water Institute, Environment Compliance Institute, Kenya Water for Health Organisation, Kenya Water Partnership - Ministry of Water Resources and Jomo Kamyattta University of Agriculture and Technology. The team was also invited to present a paper in the AfricaSan, a pan-Africa conference of state and non-state actors on sanitation in 2015. Team members also attended the launch of the project on faecal sludge management in Zurich. This meeting was of the global project partners - GIZ, EAWAG - SANDEC, University of Leeds, WEDC - Loughborough. CSE is co-lead with University of Leeds on the advocacy project involving developing Faecal Sludge Flow diagrams for 50 cities from Africa, Asia and other parts of the world. 11 Cities in India are being undertaken by CSE. The India-Africa experience sharing workshops on mainstreaming sustainable water management (with focus on urban rainwater harvesting and septage management) and field exposure visit (New Delhi, February 25-27 / field visit till March 2, 2015) brought together 25 participants representing 17 countries (12 countries in Africa and 5 south Asian countries). A clear result of the workshop was the mapping of demand from various country representatives and their willingness to sign MOUs with CSE for long-term partnerships to provide technical support and trainings. CSE is pursuing this partnership with water and waste related agencies in Rwanda, Ghana, Egypt, South Africa and Kenya, among others. Participation of CSE staff in a seminar at Jomo Kenyatta University of Agriculture and Technology (Nairobi April 15, 2015), in which over 100 participants. A long-term cooperation is being considered. Pan Africa and south Asia training events on sustainable urban water and wastewater management organized by CSE and its partners in Bangladesh and Sri Lanka, in which exploratory long-term partnerships were discussed with various stakeholders and country representatives.
2	<p>International training: Mainstreaming sustainable urban water management and decentralised wastewater treatment and reuse (Colombo, March 23-26, 2015)</p>	<p>The International training programme was organized in association with Lanka Rain Water Harvesting Forum (LRWHF), a local host and partner of CSE under South Asia water programme. The training covered the potential of urban rainwater harvesting (RWH) in augmentation of water availability by using public spaces to recharge groundwater or for storage & reuse. Hands-on sessions allowed participants to plan and design a rainwater harvesting system appropriate for the locality. Training participants represented government, NGOs and academic Institutes. Of the 26 participants, 16 participants from Africa, 8 from Sri Lanka, 1 from Maldives and 1 from Nepal. A one-day field exposure visit was organized to understand ground implementation of RWH & DWWT system at Millennium Info. Pvt. Ltd. at Malabe, about 40 Km from Colombo.</p> <p>Many potential partnerships for future collaborations that emerged from this interaction – Ghana (Ministry of Local Govt. and Rural Development for Training and Capacity Building and College of Engineering, Kwame Nkrumah University of Science and Technology in Kumasi on fecal sludge management); Egypt (National Water Research Centre, Cairo, on to conduct stakeholder consultation workshop in August 2015); South Africa (University of Kwa-Zulu Natal, Durban for research on FSM & possibility of using this as a regional hub to reach out to other countries in Africa); Zimbabwe Open University (on hosting training); Senegal (research collaboration); Rwanda; Kenya (Partnership proposal with local NGO, KWAHO, for training and capacity building); Nigeria (Environmental protection Board, on training and capacity building); and Ethiopia (with the ministry of Water, Irrigation & Energy on training)</p>
3	<p>Scoping paper on RWH & DWWT in Africa</p>	<p>The scoping paper identifies a future collaboration strategy with in-country partners (research institutes, government agencies, NGOs, etc.) in Africa on urban rainwater harvesting.</p>

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Sr No	Activity in workplan	Output(s) achieved
4	Implement 2 model projects on rainwater harvesting techniques and systems & urban lakes	Not done. This will be pursued in subsequent years of the project, and will be based on whether there is willingness to take on the long-term responsibility for maintenance and operation of the facility.
5	Build a network of practitioners and water utilities	The experience-sharing workshop and the training programme have built the nucleus of the network. We will strengthen it over the coming years through network meetings, pan-Africa trainings, social media, and through information posted on the comprehensive Environment Portal.
6	Provide technical advisory support for implementing agencies, institutions and civil society groups	This component will be pursued once the partnerships are established in the coming year.
7	CSE Media fellowships Programme for the Global South	<p>CSE's Media Fellowships Programme was announced in March (for the period June – August 2015), targeting practicing journalists and media professionals from Africa and South East Asia to write on 'air pollution and urban mobility' (nine fellowships) and on 'water management' issues (five fellowships). Applications closed on May 20, 2015, and a total of 14 fellowships will be awarded. More than 20 applications were received. Media fellows will cover the spectre of urban air pollution, including assessment and monitoring, causes, policies and effects of air pollution. Other fellows will produce in-depth coverage on urban mobility, congestion, public transport, and urban design that promotes non-motorized transport for pedestrians and cyclists. On water management, the five Fellows will cover drought management, rainwater harvesting, access to clean water, water supply challenges, groundwater management, use of surface water, fecal sludge management, and waste management, among others.</p> <p>URL: http://cseindia.org/content/cse-media-fellowships-programme-global-south</p>
8	India-Africa experience sharing workshops on mainstreaming sustainable water management and field exposure visit (New Delhi, February 25-27/ field visit till March 2, 2015)	<p>The experience-sharing workshops on 'Urban Rainwater Harvesting' (RWH) and 'Septage Management including Decentralised Wastewater Treatment (DWWT)' offered the opportunity for an in-depth discussion with each country participant on possible areas of collaboration. The workshop was aimed at experience sharing on mainstreaming urban RWH and DWWT and identification of challenges, issues and capacity building needs of both state and non-state actors in select countries of Africa in implementing best management practices and developing a south – south network of practitioners, regulators and other stakeholders.</p> <p>The experience-sharing workshop brought together 25 participants representing 17 countries (12 countries in Africa and 5 south Asian countries). Participants included key policy makers, regulators, managers from water ministry, department and utilities, NGOs, consultants, international agencies, as well as researchers from Africa and resource persons from India and south Asia. The workshops were followed by field visit to various rainwater harvesting and decentralized wastewater management projects successfully implemented in and around Delhi.</p> <p>CSE's partners from the south Asian region from Sri Lanka, Bangladesh and Nepal were also invited to share how CSE partnerships in training and participation in the network has helped push policy, plans, programmes and practices in their respective country. Participants from Vietnam and Thailand were also invited so that they could share the best management practices in case of septage management.</p> <p>An important result of the scoping and experience sharing workshop was that a clear needs-assessment on water and wastewater / septage management in specific countries participating in the workshop was identified. Many representative agencies from these countries have subsequently contacted CSE to sign MoUs for collaboration – with Egypt (National Water Research Center, NWRC, on water harvesting and is also interested in co-hosting a regional capacity building initiative in Africa); South Africa (Water Research Commission); Rwanda (Ministry of infrastructure), Ghana (Ministry of Local Government and Rural Development, for collaboration on trainings on sustainable wastewater management), and Kenya (Jomo Kenyatta University of Agriculture and Technology, JKUAT).</p>

south Asia. Also, the team was unable to complete model projects, which are essentially evidence-based advocacy tools to demonstrate 'proof of concept' on RWH & DWWT. This will be pursued in subsequent years of the project, and will be based on whether there is willingness to take on the long-term responsibility for maintenance and operation of the facility.

An important breakthrough this year followed the India Africa experience-sharing workshop in February, in which CSE convened 25 participants representing 17 countries from Africa and Asia. This helped the team map the situation on water, waste management and sanitation planning in Africa and Asia, and provided a template for future work in the region based on specific requests for research collaboration and capacity building. Formal agreements are now being negotiated between CSE and water and waste-related agencies in **Rwanda, Ghana, Egypt, South Africa and Kenya**. The team has compiled a strategy / scoping paper that lists the countries, sectors, specific agencies and kinds of demands for CSE interventions to pursue in the coming years of the project on equitable access to clean water and sanitation, and alternative wastewater management technologies in Africa and Asia.

2.2. Alternative waste water management technologies for pollution control

Sr No	Activity in workplan	Output(s) achieved
1	Training on wastewater management (Dhaka, November 10 -13, 2014)	As part of its long-standing partnership in Bangladesh with WaterAid, CSE's collaborative training focused on improving understanding of issues related to wastewater mismanagement, planning and designing of decentralised wastewater treatment systems, O&M procedures, etc. The training imparted skills for DWWT planning and designing at various scales for implementation. The 29 participants included water and sanitation engineers, academicians, architects, planners and other practitioners.
2	Scoping paper on DWWT & Septage management	The scoping paper identifies a future collaboration strategy with in-country partners (research institutes, government agencies, NGOs, etc.) in Africa on decentralized wastewater treatment and reuse options, including fecal sludge management.
3	Third Faecal Sludge Management (FSM3) conference, Hanoi, Jan. 19-21, 2015)	Participation in a conference in Hanoi on Faecal Sludge Management allowed the team to network with water and waste-related research groups and to explore potential partnerships for future work. Innovative and practical solutions were shared, which could be applied at scale in the world's rapidly growing cities. The meeting was followed by a two-day field visit to BaiChay Wastewater Treatment Plant and Trang Cat FSM plant in Haiphong City. The three-day intensive conference had three parallel sessions, covering such topics as FSM at city scale, treatment options for drying beds and wetlands, as well as sessions on nutrient and energy recovery. Overall, 160 speakers presented from 110 organizations drawn from across the world. Sessions covered how to develop tools to assess the generation of faecal sludge, the pathways it takes from containment to disposal, and the constraints to establishing an effective chain of services to manage it. Sessions also covered new, transformative technologies, such as new pit emptying and waste treatment technologies and sustainable business models to apply them. Conference updates: <ul style="list-style-type: none"> http://www.susana.org/en/resources/conference-materials-2/97-2015 http://www.downtoearth.org.in/content/faecal-sludge-management-gets-world-attention http://www.downtoearth.org.in/content/focus-sewerage-system-won-t-clean-cities-and-rivers-says-expert http://www.downtoearth.org.in/content/swachh-bharat-mission-misses-out-sludge-management

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Sr No	Activity in workplan	Output(s) achieved
4	Decentralized Wastewater Treatment and Reuse (Colombo, March 25-26, 2015)	<p>The International training programme was organized in association with Lanka Rain Water Harvesting Forum (LRWHF), a local host and partner of CSE under South Asia water programme. The training covered decentralised wastewater treatment options, including recycling and reuse, including hand-on components in planning, designing implementation of DWWTS and monitoring. Training participants represented government, NGOs and academic Institutes. Of the 26 participants, 16 participants from Africa, 8 from Sri Lanka, 1 from Maldives and 1 from Nepal. A one-day field exposure visit was organized to understand ground implementation of RWH & DWWT systems at Millennium Info. Pvt. Ltd. at Malabe, about 40 Km from Colombo.</p> <p>Potential partnerships for future collaborations that emerged from this interaction include: Ghana (Ministry of Local Govt. and Rural Development for Training and Capacity Building and College of Engineering, Kwame Nkrumah University of Science and Technology in Kumasi on fecal sludge management); Egypt (National Water Research Centre, Cairo, on to conduct stakeholder consultation workshop in August 2015); South Africa (University of Kwa-zulu Natal, Durban for research on FSM & possibility of using this as a regional hub to reach out to other countries in Africa); Zimbabwe Open University (on hosting training); Senegal (research collaboration); Rwanda; Kenya (Partnership proposal with local NGO, KWAHO, for training and capacity building); Nigeria (Environmental protection Board, on training and capacity building); and Ethiopia (with the ministry of Water, Irrigation & Energy on training)</p>
5	2 model projects on DEWATS / Septage management	Not done. This will be pursued in subsequent years of the project, and will be based on whether there is willingness to take on the long-term responsibility for maintenance and operation of the facility.
6	Technical advisory support	This component will be pursued once the partnerships are established in the coming year.

2.3: Climate change and water

This year, the team focused on impacts of climate change on agriculture, food security and livelihoods of the poor; significant work was done in mapping policies and practices, institutions and people in India, Nepal and Bangladesh. The team plans to take this work forward to the global platform as well as to select African countries from year 2 onwards. Our initial work on climate change and water directed us towards the need to focus more on building climate resilience of rural communities on agriculture water & livelihoods of the poor. Therefore (2014-15), we undertook a scoping study to identify agencies and actors at national and regional levels (India, Bangladesh & Nepal, other south Asian countries) who were working on climate change adaptation in the fields of agriculture, livelihoods and food security.

Based on this scoping, we have now decided to change the focus of the work and design a work plan for the next 4 years with the following expected outcome: *'Increased institutional capacity and knowledge to integrate climate adaptation and climate risks into development plans at national, regional and global levels with focus on agriculture, food security and livelihoods of the poor'*. This re-definition of our outcome would allow more focus on supporting research, advocacy and capacity building efforts on integrating adaptation into development policy and programmes.

Activity in workplan	Output(s) achieved
Decentralized Wastewater Treatment and Reuse Colombo, March 25-26, 2015)	As reported in Initiative 2, above. The training also covered modules on water sensitive design and planning.
Scoping activity	The scoping work for was conducted in the south Asian region – India, Nepal and Bangladesh to identify agencies & actors working on issues of climate change and food security, including agriculture and livelihoods issues. This was later compiled into a publication (see below)
Mapping the Climate Change and Food security nexus in south Asia	The programme's regional engagement in climate change adaptation and food security led to an initial mapping of policies and programmes in Bangladesh and Nepal. This mapping also included documentation of climate-resilient indigenous agriculture (including water management) practices in both countries. This was followed by a sensitization / orientation training on climate change adaptation in food systems for farmer groups and grassroots NGOs from Nepal and Bangladesh. The response underscores the tremendous need for capacity building related to climate change adaptation at the grassroots level.
Publication: <i>Rising to the Call: Good Practices of Climate Change Adaptation in India</i> (CSE, 2014)	The publication, <i>Rising to the Call: Good Practices of Climate Change Adaptation in India</i> (CSE, 2014), helps bring together reportage and case studies from India and the region about how communities are responding to the changing climate and the successful adaptation practices emerging out of these experiences. It studies the impacts and replicability of the different approaches to adaptation and brings out valuable insights for developing countries in the region and beyond. Case studies include crop diversification, payment for eco-system services, flood-proof housing, restoration of watersheds, protection of mangroves, groundwater management, weather forecasting and advisory services, flood-resistant rice, and more.

3. Sustainable industrialization programme

3.1. Research and advocacy on resource efficiency in the coal power sector: To help the industrialising South transition to green economies

In many ways the programme exceeded the goals it had set out for itself. The release of the Indian power sector ratings led to widespread coverage in national and international media (55 reports in national and regional dailies, social media chat, as well as coverage by CNN/IBN and Al Jazeera); questions were raised in the Parliament about the government's plan to tackle the power sector's poor environmental record and efficiency; announcements were made by the power minister that old power plants will be shuttered and new plants commissioned in the 13th Plan will be super critical; the environment ministry announced stricter emissions norms on air pollution, solid waste / fly ash use and water use for the sector. An important unintended consequence was that the country's environmental regulator has sought CSE inputs on pollution standards for the steel and paper sectors, which CSE had rated in the past. Three plants rated have either committed or already made improvements based on CSE's draft profiles. The team has now begun to identify and contact key stakeholders to share the research findings and progress in India and to identify joint areas of work in the sector, including sensitizing newer constituencies, such as project financiers. CSE's media workshop, press meetings and field visit in Bilaspur and Raipur in which 35 journalists from seven states participated clearly showed the interest from local sources.

Although the team had planned to undertake an assessment of the environmental policy and standards of the coal-based thermal power sector in

two other countries besides India, and convene a global meeting on the future of the sector, the advocacy in India became intensive, as this was a great opportunity to make changes in India, the world's 3rd largest coal consumer. Therefore the team took a strategic decision to temporarily put on hold its global efforts, and ensure that the India results were achieved. However, exploratory papers have begun to identify the tentative issues as well as key players/contacts in three countries — China, Indonesia and South Africa; a desktop-based scoping study for South Africa and Indonesia was also done.

Some changes in focus and strategy are now being proposed for this initiative, which will now be reworded to, *'Improving resource efficiency and reducing pollution from the coal power sector'*. Similarly, the expected outcome will also undergo a change, *'Share experience, increased knowledge, bring together and influence key actors for the need to set resource efficiency policies and pollution norms for coal-based thermal power plants in India, China, Indonesia and South Africa'*. Several reasons have necessitated this shift. Coal is a sensitive issue in major coal-consuming countries, as it is linked to energy security and sovereignty and countries react badly to anti-coal campaigns. This has been the experience in India, Indonesia and in South Africa. Our scoping paper brings this out clearly. We therefore decided to change our strategy of work at the global level. Initially we had proposed that we would work in major coal consuming countries, develop partnerships and do direct advocacy and campaigns. We now plan to achieve our objective through experience sharing, knowledge and bringing key stakeholders from various countries together to push the agenda of improving resource efficiency and reducing pollution from this sector.

Sr No	Activity in workplan	Output(s) achieved
1	CSE's Green Rating Project releases its analysis and rating of India's coal-based thermal power plants (February 21, 2015)	A total of 47 coal-based thermal power plants, covering about half of operating thermal power plants in the country and spread over 16 states, were rated on a variety of environmental and energy parameters were selected for rating. The study found that Indian coal-based thermal power plants are some of the most inefficient in the world, and that the sector scores poorly on all parameters.
		The study found inefficient resources use and technological backwardness leading to high levels of pollution; there is immense scope for improvements in efficiency and resource use. The average efficiency of the plants in the study was 32.8 per cent, one of the lowest among major coal-based power producing countries. Average CO ₂ emission was 1.08 kg/kWh, 14 per cent higher than China's.
		The study suggested tighter norms for PM (particulate matter) emissions to bring them in line with global standards; creating national norms for SO _x , NO _x and mercury to trigger investments in new abatement technologies; strengthening of monitoring by regulatory agencies; as well as stricter rules to support higher usage of ash and doubling coal washing capacities. To bring in overall improvements in the stock of power plants the study recommends approvals for new plants to be only given to supercritical/ultra supercritical plants, and old inefficient plants should be closed. Efficiency improvement schemes like Perform, Achieve and Trade (PAT) should be strengthened with ambitious targets, and that power should be purchased on a preferential basis from the more efficient plants.
		The study also found that plants were operating at only 60-70 per cent capacity only, and that if capacity utilisation was improved, the power sector can meet additional power requirement without building new plants. The West Bengal-based CESC-Budge Budge power plant was rated at the top, while the Delhi-based National Thermal Power Corporation's (NTPC) Badarpur plant was one of the most polluting in the country. The ratings and the study report – Heat on Power -- was released in New Delhi

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Sr No	Activity in workplan	Output(s) achieved
		by eminent agricultural scientist M S Swaminathan in the presence of the Secretary, Union ministry of environment, forests & climate change, and the chief economic advisor, Government of India. Research / dissemination outputs 1. Heat on Power: Green Rating of Coal-Based Thermal Power Plants (Abhishek Rudra, Angeline Sangeetha, Priyavrat Bhati, Sai Siddhartha, Soundaram Ramanathan, Chandra Bhushan, Sanjeev Kumar Kanchan, CSE, February 2015) 2. Water use in industry (briefing paper) 3. DTE cover story on the rating of coal-based power plants: http://www.downtoearth.org.in/content/coal-toll
2	Meetings, media workshops in project-affected areas like Bilaspur & Raipur, presentation at ministry of power & MoEF&CC, meeting with financial institution & industry in Mumbai, letters and reports sent to parliamentarians, industry,	policy makers, industry, etc A key result achieved was that the report and its findings received wide acceptance within government. Secretary, ministry of environment & chief economic advisor to the Government of India released the rating, which received worldwide coverage. CSE was invited by ministry of power & ministry of environment to make presentations on key findings of the study. Ministry of Power set up a committee to review CSE's recommendations, while the issue was raised in parliament by way of formal Parliament Questions. The ministry of power commits to scrap 25 -year & older thermal power plants and only allow 'super critical' new plants to be set up in India; based on the study findings, new protocols are developed for continuous emissions monitoring systems.
3	Analysis of PAT scheme in India for thermal power sector	Interim assessment of the targets against baselines, as available by the end of the 1st cycle of PAT (which ended in March 2015) was included as part of the report and included in articles in DTE – in short, the analysis revealed that the targets were not stringent enough to bring in real resource efficiency outcomes. As the data from PAT is compiled, the programme will strengthen the messaging for stricter norms in its advocacy this year.
4	Scoping paper	Only a desk-based study was conducted to understand the policy landscape in Indonesia and South Africa. See comment, below.
5	Travel & meetings to develop network & partners on work on resource efficiency	A desk-based scoping paper was done, which identifies leading issues on resource efficiency in the coal-based thermal power sector in Indonesia and South Africa; specific activities are being planned for Indonesia and South Africa. <ul style="list-style-type: none"> Mongolia holds rare text message vote on mining: http://www.downtoearth.org.in/content/mongolia-holds-rare-text-message-vote-mining

3.2. South-South cooperation in the field of environment and pollution governance and regulation: Southern network of environmental regulators

Activities have contributed significantly to the long-term outcome. The team organised three global meetings in India – on EIA/SIA, as well as a South-South meeting on mining, and undertook training in one African country (Ethiopia), and participated at global platform (CSE is a non-state member of the Climate and Clean Air Coalition, CCAC, and participated in a meeting focused on brick kilns) to lay the foundation for South-South cooperation in the field of environment and pollution governance and regulation. The team also signed its first MoU with an agency in Ethiopia to develop training and teaching curriculum on a wide array of environment and development issues for training government and non-government actors.

Clear opportunities and strategies for future work emerged from the scoping phase. In the focus countries – Tanzania, Nigeria, Mozambique and Namibia & South Africa, as well as Zambia and Ghana – there are opportunities for both

policy-level intervention (e.g. sharing CSE's successful efforts on securing benefit-sharing for mining-affected communities), as well as capacity building on specific themes, such as EIT/SIA of extractive industries, mine closure, mine reclamation, etc. Ministry of Mines, Tanzania has invited CSE to co-operate on a long-term basis via an MoU to secure broad-based cooperation on environmental governance. There is also large demand from Mozambique, given the massive investments made by Indian mining conglomerates in the country – here, CSE's domestic efforts on pushing sustainable mining and industrialization can be used to push for change.

On pollution management, many countries have shown interest in strengthening their compliance and enforcement programmes. In this regard, the strategy will include coming out with Standard Operating Procedures (SOPs) on compliance and enforcement in specific sectors and building capacity on these SOPs. The team will try and get the SOPs adopted by at least two countries in the remaining years of the project.

Based on the team's scoping workshops and meetings and capacity building / trainings in Ethiopia, it is clear that the future strategy for this programme will hinge on the following:

- Three key areas where CSE can make significant changes are: Mining sector in Africa; brick kilns in south Asia and South-East Asia; as well as in pollution regulation, compliance & enforcement for industrial sectors in Africa and south Asia.
- The team will work both at in-country as well as Pan-regional and global levels. Specifically, it will focus on five countries for national-level interventions — in Ethiopia, Tanzania, Nigeria, Mozambique and Namibia; and will simultaneously seek opportunities to work at pan-Africa or at the level of global processes on environmental regulation.
- To ensure the programmes are designed for sustainability, the training and capacity programmes will be oriented to also achieve certain policy objectives, which will also ensure a stronger buy-in from targeted agencies and institutions.

Sr No	Activity in workplan	Output(s) achieved
1	<p>Training on Environmental Impact Assessment (EIA) in collaboration with the Ministry of Environment and Forest, Ethiopia (Addis Ababa, March 16-19, 2015)</p> <p>Scoping workshop cum training on EIA/SIA (New Delhi, September 15-26, 2015)</p>	<p>The training on EIA was held in collaboration with the Ministry of Environment and Forest (MEF), Ethiopia which drew the participation of 26 government officials cutting across infrastructure, energy and water sectors – including representatives from MEF, ministry of Urban Development, the Environment Protection Authority, Ministry of Water, Irrigation & Energy; Ministry of Industry, Ethiopian Roads Authority, Environment Protection Authority. Ethiopian Electric Power, Agriculture Investment Land Administration Agency and Industrial Park Development Corporation, among others. A broad-based cooperation with the ministry officials is underway on capacitating government officials on environmental regulation.</p> <p>The training in New Delhi drew participants from across Africa and south Asia – of the 17 participants, 12 were from Africa, Ghana, Ethiopia, Kenya, Gambia, Nigeria, Botswana, Mozambique, Tanzania, Zambia and Egypt, while five participants were from south Asia-- Bhutan, Bangladesh, Sri Lanka and Mauritius. The training helped clarify the environmental challenges and regulatory frameworks for EIA/SIA and its procedures across the global South, as well as to clarify the role and functions of regulatory authorities and other stakeholders in environmental management. The issue of mining</p>

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Sr No	Activity in workplan	Output(s) achieved
		took center stage, being the most common activity in the region. Issues covered included mine management, reclamation and land restoration as well as hands-on-exercises on Environmental Management Plan (EMP). A senior advisor from the Norwegian Environment Agency (NEA) also spoke on EIA & SIA in Norway. Participants visited Goa for an exposure visit, where they interacted with officials of the Goa Pollution Control Board and witnessed demonstrations of instrumentation techniques. They were also shown good land restoration and mine reclamation practices followed by the Sigoa & Sancordem Mines and Sesa Goa mines. An important result of this training / experience sharing event was a detailed scoping paper of the environmental regulatory system, detailing potential areas of cooperation with various regulatory authorities in these countries. Many participants have in the subsequent weeks discussed with their agency heads potential areas of cooperation with CSE, including on capacity building, workshops & toolkits for regulators. About 95% of the participants reported that the sessions were relevant to their work, and rated the information provided as excellent to good.
	Seminar on EIA for sustainable development (Ambo University, Ethiopia, March 20, 2015)	Two members of CSE's sustainable industrialization team were invited to participate in a seminar anchored by the Biology Department of Ambo University, Ethiopia. The seminar, 'EIA for Sustainable Development' was called in response to the massive demand for advocacy and planning required in the areas of EIA, given that the country is embarking on several large infrastructure projects including the Grand Ethiopian Renaissance Dam. More than 100 people participated in the seminar deliberations, which included a closer look at Strategic Environmental Assessment, how the EIA process in India and the south Asian region (including in Bangladesh); and concerns surrounding the EIA process and policies in Ethiopia.
	Regulator training in India and Sweden	The programme was in collaboration with Swedish Environmental Protection Agency (SEPA) and Norwegian Environmental Agency (NEA) and was conducted from Oct. 3-17, 2014 in India, Sweden and Norway. A total of 19 delegates, including officials from 8 states as well as from central pollution control board (SPCB's & CPCB) -- Kerala, Andhra Pradesh, Tamil Nadu, Goa, Madhya Pradesh, Nagaland, Telangana and Maharashtra, were also taken on an exposure visit to Sweden and Norway to learn best practices in environmental governance – regulation, monitoring & compliance assurance. Post training, 10 participants have submitted their report on planned action plans, detailing how they will implement course learning.
2	Scoping paper	The scoping report identifies clear opportunities to build partnerships across many countries in Africa, and will in the subsequent years, provide a roadmap to help the team design country-specific EIA training and regulator capacity development initiatives.
3	Toolkit on brick kiln and EIA guidelines on mining sector	A toolkit module for the brick kiln was produced. The module highlights environmental, social and technological challenges, and includes policy guidance on how developing countries should regulate the unregulated sector. This module/toolkit could be adapted as a ready reckoner to aid regulators. A guideline on reviewing and assessing EIA of mining projects was developed. This reviewer's guideline will be used in building the capacity of mine planners and regulators to take better decisions on mining projects.
4	Meeting of global regulators in India on mining (New Delhi, April 13-18, 2015)	The one-week experience-sharing workshop on Mining was attended by 14 senior level officials from Ethiopia, Kenya, Zambia, Nigeria, Botswana, Mozambique and Tanzania. The workshop facilitated cross-country learning on the challenges faced in the mining sector & sharing of best practices. Officials made country presentations on environmental challenges, legislative framework and environmental clearance mechanism for mining projects. Many were interested in learning more about the environmental, legal & social challenges faced in India, and innovations, such as benefit sharing, mine reclamation and restoration & the issues surrounding land acquisition, resettlement & rehabilitation. Participants were taken to Nagpur, Maharashtra for a two-day site visit to see open cast and underground coal mines in the region. On the basis of the workshop alone, specific agencies in Tanzania, Mozambique, Botswana & Nigeria have expressed their interest to collaborate with CSE – on issues such as review of mining laws, EIA review and to develop an inspection, compliance & monitoring mechanism for mining, including on small scale & artisanal mining.

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Sr No	Activity in workplan	Output(s) achieved
5	Wangari Maathai Memorial Lecture Series (Ambo, Ethiopia, March 17, 2015)	CSE's deputy director-general, Chandra Bhushan, was invited to deliver the 5th Wangari Maathai Memorial Lecture organised by Micro Business College in Ambo. The lecture series was initiated on Nelson Mandela Day (December 5, 2014) and will conclude on World Environment Day, June 5, 2015. The talk, titled, 'Challenge of the Balance: A 21st Century Perspective on Environment and Development for Developing Countries,' covered the twin challenges faced by developing countries- Climate Change, which is exacerbated by environmental degradation, and the Challenge of Development, in which environmental health has to also consider the development deficits in the global South – from poverty, undernourishment, poor public healthcare and diminishing access to natural resources. The challenge therefore is to create a new economic and environmental model that balances the environment and development needs of the developing world. Drawing from Ethiopian examples, the talk pointed out how community forestry or social forestry programme, rather than exclusionary forest conservation programmes could help reverse the decimated forest cover (due to dependence on fuelwood by the poor) – down to 10% from an earlier 40% some decades back. The country's hydropower potential, as well as wind potential could be roped in to provide cheap energy to the poor. An important result of this interaction was that an MoU was signed between CSE and the Micro Business College, Ambo University, which supports research, training and capacity building activities in Ethiopia.
6	Workshop on brick kilns	<p>The issue affecting much of the global South is that of pollutants emitted from the conventional brick kilns and its effect on human health, agriculture, soil fertility and most importantly role in global warming. These issues were discussed in parallel sessions (others being diesel/black carbon & cook stoves), at the Anil Agarwal Dialogue, a major conference anchored by CSE in New Delhi. The conference saw representation from both the brick manufacturing industry and regulators (SPCB & CPCB). Deliberations included exploring cleaner production options and alternatives to clay fired bricks & the use of fly ash. Experts present proposed a policy and regulatory agenda, based on the inputs from the brick manufacturing industry and by taking the inputs of senior ex-regulatory officers present in the meeting. A new regulation is about to come which will make use of fly ash compulsory in 20 locations across India.</p> <p>See: Anil Agarwal Dialogue 2015: The Poor in Climate Change, Briefing paper 2: Brick Kilns < http://www.cseindia.org/userfiles/AAD-booklet.pdf></p>
7	Workshop on Brick Kilns Policy and Advocacy Network (Kathmandu, February 18-20, 2015)	CSE staff were invited to present their view on climate linked emissions from the brick kiln sector at a policy and advocacy network workshop organised by the International Centre for Integrated Mountain Development (ICIMOD), in collaboration with the CCAC's Brick Production Initiative. The sector is emerging as a major concern, and measures to improve efficiencies here will translate into major reductions in short-lived climate pollutants. To improve regional brick kiln policy by taking into account the economic, technological, environmental and social context of each country, a Brick Kiln Policy Advocacy Network has been launched both at the global level as well as the regional level through two networks in South Asia and Latin America. The objective of the Policy and Advocacy Network (PAN) is to provide decision makers, national governments and sub-national entities with the tools, information and programmatic support to develop comprehensive policy frameworks to improve brick kiln conditions and operation.

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3.3. Global campaign on climate mitigation: To reduce GHG emissions from HFC phase-out

CSE has become a credible voice on HFC phase-out at the Montreal Protocol.

- CSE organized two workshops in which key developing and developed countries came together to sort out differences and develop common grounds on various issues related to HFC phase-out. The Indian proposal for amending the Montreal Protocol was in fact first discussed at a developing country meeting organised by CSE in Goa.
- In partnership with the Ministry of the Environment and Energy, Sweden and the Royal Norwegian Ministry of Climate and Environment, CSE organized a seminar in Delhi to discuss the science of short-lived climate forcers and mitigation of SLCPs for maximizing health and climate benefits in Europe and India. Policies on diesel black carbon and HFC mitigation were of particular interest for India.
- CSE was also invited to give its views at the EU-India workshop on HFCs in Delhi.

The contribution of CSE was recognized when CSE's deputy director was invited to become a rapporteur of a technical conference organised by UNEP on technical issues related to HFC phase-out. CSE's proposal on HFC phase-out, which was presented at the Paris MoP and included concepts like leapfrog, energy efficiency and redefining the differentiation between developed and developing countries was very well received. *In fact, the Swedish lead negotiator to the Montreal Protocol is supportive of CSE's proposal ('leapfrog agenda'), which he has presented at various platforms.*

The biggest contribution of the programme however was to bring together the agenda of energy efficiency and HFC phase-out together at the Montreal Protocol. At the OEWG organized in April, 2015 energy efficiency was recognized as a conjoined agenda at the Montreal Protocol.

The programme also collaborated with CSE's media team to anchor a special theme on HFCs phase-out at the Global Media Briefing on Climate Change, in which 96 journalists representing 18 countries from the global South participated. The session on 'energy efficiency and mitigation potential from household appliances including the phase-out of HFCs' was an attempt to demystify the science and politics of behind the phase-out dialogue of this gas, which is so commonly used in household appliances. The event itself generated 15 news reports. Similarly, the issue was discussed at the 'Anil Agarwal Dialogue 2015: Poor in climate change' in New Delhi in March, which brought together 18 international and 24 speakers from India, and had 282 registered participants, including regulators, scientists, academia, researchers, industry, media etc.

The programme has decided to modify the Initiative statement, which is now reworded to, 'Reduce GHG emissions including short-lived climate pollutants such as HFCs', in order to bring more focus on HFC phase-out efforts as well pushing for an ambitious and equitable climate deal.

Sr No	Activity in workplan	Output(s) achieved
1	Base paper on use of HFC in SAARC countries and emerging economies	Paper was used at the workshop in Goa (item #3, below)
2	Articles, opinion pieces written on need for leapfrog and move to natural refrigerants	<p>TEAP of Montreal Protocol had already done a techno-economic feasibility report at the global level, and therefore we did not feel that we could add more value to this paper. We however, used the TEAP and other reports to write articles and opinion pieces to agenda to leapfrog HFCs and move to natural refrigerants.</p> <ul style="list-style-type: none"> • http://www.business-standard.com/article/opinion/sunita-narain-ozone-smart-climate-cool-114101200662_1.html (opinion piece by Sunita Narain) • http://www.downtoearth.org.in/content/leapfrog-chemical-treadmill (piece by Sunita Narain) • http://conf.montreal-protocol.org/meeting/workshops/presentations-opening/default.aspx (Presentation by Chandra Bhushan at OEWG in Paris) • http://www.hindustantimes.com/analysis/step-on-the-gas-what-india-must-do-for-the-planet/article1-1267248.aspx (opinion piece by Sunita Narain and Chandra Bhushan)
3	Workshop on HFCs management in Goa (Feb. 26-28, 2015)	<p>Keeping in mind the need to put in place an international mechanism to address HFCs, CSE's workshop on HFCs Management was geared to facilitate discussions amongst the developing countries (Article 5 countries or A5 countries of the Montreal Protocol), with the specific aim of establishing some common ground amongst A5 countries in understanding the technological and the financial issues and requirements for leapfrogging to low GWP and energy efficient alternatives to HFCs in the Refrigeration and Air Conditioning (RAC) sector.</p> <p>The workshop in Goa (Feb. 26-28) was organized under the Chatham House Rules. Participants from 11 A5 countries joined the meeting. Technical experts from industries and experts from multilateral and bilateral organizations were also invited. A total of 23 participants attended the meeting. Sessions were divided into technological, financial and institutional issues. The workshop explored the financial, technological and institutional mechanisms needed by developing countries for a phase-out on HFCs and transition to low-GWP, energy efficient alternatives under the Montreal Protocol.</p> <p>Workshop discussions ranged from institutional problems in the Montreal Protocol to deliberations on technology, which showed that the dialogue has moved beyond lack of proven alternatives to safety standards, technology transfer and Intellectual Property Right (IPR) issues, suitability matrix for different sectors and regions and cost of the alternatives. Discussions on financial issues hinged upon the availability of adequate finance, the need for review of current methodology under the Multilateral Fund (MLF) like cost-effectiveness, climate incentive, incremental costs, etc., and the need for a new matrix to finance low-GWP energy efficiency and not-in-kind technologies.</p> <p><i>An important result of this workshop was that the Government of India played an active part throughout the discussions with the Additional Secretary, Director of the Ozone Cell and senior consultant to the Ozone cell taking part. The officials shared points from a proposed amendment that is likely to be mooted by India.</i></p> <p>Participants identified key elements and principles to be put in place under the Montreal Protocol to catalyse phasing-down of HFCs and introduction of low GWP and energy efficient alternatives in A5 countries:</p> <ul style="list-style-type: none"> • Imperative to maintain and strengthen the principle of common but differentiated responsibilities and respective capabilities (CBDR) • On an institutional front, the need to build confidence between parties by clarifying / revisiting rules of negotiations and the relationship between the Meeting of Parties (MoP) and the Executive Committee (ExCom) • The need for an appropriate matrix to define 'long-term', low GWP technologies. Also, the need for new funding indicators to incentivize low GWP energy efficient technologies. • Information, financial and technical support to enable countries to build capacities and develop standards for addressing existing and emerging challenges arising in adoption of low GWP energy efficient technologies

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Sr No	Activity in workplan	Output(s) achieved
4	CSE-EIA Workshop on reforming MLF, Bangkok (April 2015)	The meeting in Goa was followed by a second Workshop in Bangkok in April 2015 (on the sidelines of the Montreal Protocol Meeting), with current and former Article 5 and non-Article 5 participants from the Montreal Protocol, along with financial, technical and legal experts. The second workshop addressed the question of how to maximize the climate benefits of the Multilateral Fund (MLF), both within its current efforts to phase-out HCFCs and in the future event of an HFC phase-out. Both the workshops were held under Chatham House rules, whereby views are not attributed to individuals. The two workshops revealed a high degree of common thinking among individuals from Article 5, non-Article 5, and implementing agencies.
5	Reporting on Montreal Protocol	<ul style="list-style-type: none"> • Special coverage on Montreal Protocol <www.downtoearth.org.in/content/amending-montreal-protocol/> • Ozone Conundrum (Aditi Sawant, Sept. 30, 2014) <http://www.downtoearth.org.in/content/ozone-conundrum/> • DTE centerspread on Ozone (Sept. 30, 2014) <http://www.downtoearth.org.in/dte/userfiles/images/38-39-ozone-day-poster.pdf> • Should HFCs be dealt under Montreal Protocol or Kyoto Protocol? (Aruna Kumarankandath, Oct. 31, 2014) <http://www.downtoearth.org.in/content/should-hfcs-be-dealt-under-montreal-protocol-or-kyoto-protocol>
6	Taking media to MOP, Paris	<p>CSE also hosted the participation of two journalists at the MoP – one from the country's largest wire service, PTI, and the other a reporter from mainstream business daily, Hindu Business Line. While daily news reports were filed from the meeting venue, the live coverage in Indian media also included – perhaps for the first time -- viewpoints other than the Indian governments. The reporting also served as a kind of capacity building exercise for the media who usually have difficulty in reporting on HFCs.</p> <ul style="list-style-type: none"> • http://www.thehindubusinessline.com/economy/policy/india-demands-technology-transfer-for-hfcs-phase-out/article6618474.ece • http://www.thehindubusinessline.com/economy/logjam-on-inclusion-of-hfcs-to-continue-as-india-remains-silent/article6615416.ece • http://www.niticentral.com/2014/11/21/india-demands-country-wise-report-on-hfcs-245970.html • http://www.niticentral.com/2014/11/20/montreal-protocol-countries-agree-to-discuss-on-management-of-hfcs-245820.html • http://www.niticentral.com/2014/11/22/montreal-protocol-india-calls-for-political-consensus-on-phasing-down-hfcs-246190.html • http://www.niticentral.com/2014/11/18/india-refrains-from-opposing-un-discussion-on-hfcs-245389.html
7	<p>Participation in CCAC meeting, MOP and OEWG</p> <p>Side event at Montreal Protocol (Paris, 2015)</p> <p>Global Media Briefing on Climate Change (New Delhi, Nov. 6-7, 2014)</p> <p>Seminar on 'Climate change, air quality, and urban health: combined benefits of SLCP mitigation policies and measures (New Delhi)</p>	<p>CSE participated in all meetings of the Montreal Protocol as well as CCAC meeting in Washington to present its views on HFC phase-down proposal.</p> <p>This was the first time CSE had conducted a side event at the MOP, and also one amongst very few NGOs from an A5 country to do so. IGOs, NGOs and International Negotiators attended the event. The event established CSE's credibility and led to recognition as a stakeholder in the HFC dialogue and the subsequent wide participation and positive response towards the HFC dialogue in Goa in February was a direct consequence of this successful side-event. CSE showcased a model on high, low and medium-GWP alternatives and their implications for energy efficiency, and several implementing agencies offered feedback to enhance the model.</p> <p>A special theme on HFCs phase-out at the Global Media Briefing on Climate Change, in which 96 journalists from the global South participated, representing 18 countries. The session on 'energy efficiency and mitigation potential from household appliances, including the phase-out of HFCs, allowed journalists to demystify the science and politics of behind the phase-out dialogue of this gas. The event itself generated 15 news reports.</p> <p>The seminar, in partnership with the Ministry of the Environment and Energy, Sweden and the Royal Norwegian Ministry of Climate and Environment, discussed the science of short-lived climate forcers and mitigation of SLCPs for maximising health and climate benefits in Europe and India. Policies on diesel black carbon and HFC mitigation were of particular interest for India. The 60 participants included air quality and climate regulators, scientists, academicians and industry representatives, as well as senior climate, environment and energy ministry officials from Sweden, Norway and India (also reported as part of CSE's work on air pollution, above).</p>

4. Clean energy access for the poor

4.1. Research and advocacy for promoting energy access through renewable energy-based decentralised, distributed generation

At the beginning of the year, the team had decided to work at the global platform (UNFCCC, UNSDG and African Ministerial Forum) to push its idea of a global RE support programme. The team had also decided to work in select African countries to travel and develop a base paper in select African countries on energy access through renewable energy (RE). However, it became clear to the team that energy access is not only about electricity, but it is also about clean cooking fuel, given the large unmet need of clean cooking fuel and that poor cooking fuel adds to the health burden of the poorest communities, especially for millions of women in the global South. It was also clear that to get significant results, the team would have to focus on either global or in-country – and not at both levels. This was because the team strength had depleted during the year. CSE, therefore, took a strategic decision to work on both electricity and clean cooking fuel as well as to work on the global platform to push the idea of energy access and RE.

The strategy proved successful – our work in the last year has made the concept of a global RE support programme for energy access acceptable to many influential institutions, actors and platforms. For instance, a group of African countries have now submitted a formal proposal to the UNFCCC to include global RE support programme as part of the ‘Paris deal’. The team also was able to highlight the challenge of clean cooking fuel and its linkages with climate change and health of women.

This year, the team has a great opportunity to push for a global renewable energy and energy access transformation programme at UNFCCC and also take this concept to select African and Asian countries. As a result, the focus of the expected outcome for this programme/initiative is also being changed to reflect these priorities, and now reads as follows: *‘Increase institutional competence and capacity at the national level and promote global action through a Global Renewable Energy and Energy Access Transformation programme to increase energy access through renewable energy with priority to the energy poor.’*

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Sr No	Activity in workplan	Output(s) achieved
1	Scoping paper based on secondary sources on 17 developing countries from Asia and Africa on the status of energy access and Renewable energy and development of a decision matrix to prioritise CSE's intervention.	The base paper was not done; however, the desk-based scoping paper was done to identify countries where CSE could intervene with its programme on 'energy access through renewable energy-based decentralised, distributed generation'
2	Report: Globally funded payment guarantees/feed-in tariffs for electricity access through renewable sources	The team, in partnership with the Swedish-based What Next Forum co-produced a guiding document on the issue: Globally funded payment guarantees/feed-in tariffs for electricity access through renewable sources (New Delhi, 2015, Centre for Science and Environment & What Next?) This primary position/discussion paper has become the position paper for pushing for an equitable, sustainable FiT regime, and has been used for advocacy purposes in many international venues / conferences.
3	<p>First stakeholder consultation on globally-funded feed-in tariff at ADP (Bonn, Germany, June 18, 2014)</p> <p>International Seminar on a Global Renewable Energy Support Programme, with Particular Focus on Globally Funded Feed-in Tariffs (New Delhi, March 30 – April 1, 2015)</p>	<p>Conducted in partnership What Next Forum, more than 50 NGOs/ negotiators attended the meet, which was held as a side event at ADP session of UNFCCC in Bonn. Delegates were drawn from USA, UK, India and several African countries, and included senior staff from NGOs, as well as senior bureaucrats from India's Ministry of Environment, Forests & Climate Change, as well as the lead climate negotiator from the Africa Group.</p> <p>Delegates discussed globally-funded fiscal incentives, such as globally funded feed-in tariffs (G-FiT), to push the use of renewable energy for energy access that has the potential to enable energy access to millions of people in the developing world, push developing countries to invest in renewable energy and avoid future emissions from dirty and costly fossil fuels. In particular focus was decentralised, community-oriented renewable energy solutions, a transformative idea that could also contribute to help break the current impasse in the climate negotiations by offering genuine scope for cooperation between countries of the North and South, especially with the financial leverage provided by the Green Climate Fund. CSE's draft report, Globally funded feed-in tariffs: A co-benefit development agenda of energy access through renewable energy (June 2014), was introduced at the event.</p> <p>The meeting drew in 25 internationally-renowned experts to push the world to provide energy access and transition into a 100 per cent renewable society. Presentations covered a wide swathe of issues -- Understanding the context of clean energy for energy access; exploring alternative ownership models in RE; the spectre of 'virtual power plants'; Climate & RE linkages, examples of community energy in Scotland; discussions on off-grid distributed generation-based distribution franchisee (ODGBDF) model; an in-depth look into Germany's transformative Energiewende; examples of RE support systems in Zambia, Tanzania and Sri Lanka; South Africa's Net Feed-In tariff for rooftop solar; as well as support schemes, funding & principles. The momentum built around the 'CSE proposal' will now be leveraged to global processes, such as with the Africa Group and the UNFCCC process.</p> <p>URLs: http://cseindia.org/content/international-seminar-a-global-renewable-energy-support-programme-with-particular-focus-glob</p> <p>DTE report: http://www.downtoearth.org.in/content/side-event-bonn-climate-talks-proposes-new-funding-mechanism-end-energy-poverty-asia-africa</p>
4	Release of discussion paper on Globally funded payment guarantees/feed-in tariffs for electricity access through renewable sources at the Conference of Parties (CoP) to the UNFCCC in Lima	The report on Globally funded payment guarantees/feed-in tariffs for electricity access through renewable sources was released during CoP 21 in Lima, Peru. The paper was well received and was distributed to stakeholders from around the world.

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Sr No	Activity in workplan	Output(s) achieved
5	Anil Agarwal Dialogue 2015: The Poor in Climate Change. (the team anchored the sessions: The imperatives for clean cooking energy and clean cook stoves)	<p>The Anil Agarwal Dialogue: The Poor in Climate Change (New Delhi, March 11-12, 2015), had an entire session devoted to clean cooking fuel and cook stoves that contribute to short-lived climate pollutants – black carbon – but which should be seen as survival emissions, not luxury emissions for the more than 2 billion people that continue to use these polluting and hazardous modes of cooking that not only add to the climate change burden of the world, but also disproportionately affect women and indicate the depths of energy poverty for the global South. The Dialogue helped more clearly define the agenda, and helped CSE forge new alliances —such as with University of California at Berkeley, World Health Organisation and Global Alliance for Clean Cook Stoves, and from with various agencies in India such as SEWA, Ahmedabad and Prakriti, Puducherry, in addition to ministry officials representing renewable energy and health portfolios. Discussions with such sector leaders will be used to leverage advocacy efforts in India as well as in the global South.</p> <p>URL: Briefing paper 3: Cook stoves< http://www.cseindia.org/userfiles/AAD-booklet.pdf></p>
6	Travel & attending meetings / workshops to develop linkages and partnerships	Not done. The focus was to push for changes at the global level. This year however, the team will take its work on energy access through renewable energy to select developing countries
7	Information dissemination from global negotiations (in-depth analytical stories in DTE)	<ul style="list-style-type: none"> • Bonn climate talks: New funding mechanism proposed at side event to tackle energy poverty: (http://www.downtoearth.org.in/content/side-event-bonn-climate-talks-proposes-new-funding-mechanism-end-energy-poverty-asia-africa) • EU sets new target to save energy by 2030 (http://www.downtoearth.org.in/content/eu-sets-new-target-save-energy-2030) • Big US firms form group to buy more renewable energy at competitive prices (http://www.downtoearth.org.in/content/big-us-firms-form-group-buy-more-renewable-energy-competitive-prices) • UNEP launches coalition to promote renewable energy (http://www.downtoearth.org.in/content/unep-launches-coalition-promote-renewable-energy) • Japan uses climate finance to lend \$1 billion to Indonesia for dirty coal (http://www.downtoearth.org.in/content/japan-uses-climate-finance-lend-1-billion-indonesia-dirty-coal) • Why climate negotiators should look at wind energy prospects (http://www.downtoearth.org.in/content/why-climate-negotiators-should-look-wind-energy-prospects) • Obama boosts Modi's green energy ambitions (http://www.downtoearth.org.in/content/obama-boosts-modi-s-green-energy-ambitions) • Obama and Modi discuss climate change; make no commitments (http://www.downtoearth.org.in/content/obama-and-modi-discuss-climate-change-make-no-commitments) • India's climate strategy needs revision

5. Cross-cutting programmes

(a) Media Resource Centre

The media unit helped build engagement with print and electronic media, particularly from Africa and Asian countries, as multipliers of ideas and influence. Efforts of the media programme in the region were successful in catalyzing coverage on CSE events (e.g. air pollution and mobility workshop event in Nairobi) as well as on climate change (coverage as part of the COP in Lima).

CSE's annual media briefing for journalists on climate change has become a key event of the institution, and in November 2014, the two-day media briefing on Climate Change saw participation from 18 countries, drawing in 96 journalists and editors from the global South – India, Philippines, Mauritius, Afghanistan, Bangladesh, Bhutan, Nepal, Pakistan, India, Sri Lanka, Uganda, Namibia, Brazil and Mexico. The briefing, typically convened before the COP cover state of negotiations from Peru to Paris (CoP 2015), extreme weather events as well as climate impacts, energy efficiency and mitigation (including phase-out of HFCs), as well as adaptation and interface with development concerns. The event itself was widely covered, generating 15 news reports, and helped expand network of journalists. As part of its media outreach, the climate team also invited two senior journalists to cover the COP negotiations in Lima, and the team gave daily briefings on the state of negotiations. A fellowships programme has now been announced that offers nine global journalists the support to report on water and air pollution issues.

Of particular interest were efforts made by the media team to collaborate with an influential journalist association to help cover a local and regional environmental issue – in this case of air pollution in Nairobi – with a wider message and lessons drawn from other cities in the global South facing an air pollution crisis. The briefing in Nairobi brought together 50 journalists from 18 countries, and air pollution and mobility issues were in the subsequent weeks and months, covered extensively in local and regional media. The meeting was organised in collaboration with CSE's partner in Nairobi, Media for Environment, Science, Health and Agriculture (MESHA-Kenya). The briefing drew government, academia and civil society stakeholders from Kenya, Uganda, Tanzania and India, and about 50 science journalists from across Africa, as well as stakeholders such as regulators, civil society organisations, professors, activists, veteran editors and UNEP participated in the dialogue.

The team's scoping shows that the work of this programme needs to be carefully designed to suit the governance and institutional structure in different countries. In a few African countries, we found that media is highly government controlled, and the government frowns on the idea of conducting media engagement programmes, while in others, the media is vibrant and there is scope to collaborate. Media engagement has to therefore be worked out on a case-by-case basis, and that in countries where media is controlled, it will be better to bring journalists to India for workshops – e.g. our media workshop on climate change was very well attended by journalists from across the world.

The programme will work initially in Africa and later perhaps in Asia and other parts of the global South, for which it will build a pan-African media programme in countries with 'free' media. As the experience in working with regional media in south Asia has shown, partnerships with credible and influential media networks will be crucial to get access and policy inroads. The media programme will continue to articulate regional and local interest, and for this, it will piggyback with efforts of other CSE programmes (country media briefings) in the region to highlight issues of local / regional interest (such as local air pollution, or water crisis, etc.). The programme will also articulate global concerns, especially on global environmental processes & negotiations. It will also continue to conduct media programmes for the journalists from developing countries in India, and help build capacities of journalists to report on complex science and environmental issues by way of briefings, information materials and through fellowship programme.

Activity in workplan	Output(s) achieved
Global South media briefing on climate change (New Delhi, Nov. 6-7, 2014)	<p>This year, the annual two-day media briefing on Climate Change saw participation from 18 countries, drawing in 96 journalists and editors from the global South – India, Philippines, Mauritius, Afghanistan, Bangladesh, Bhutan, Nepal, Pakistan, India, Sri Lanka Uganda, Namibia, Brazil and Mexico, in addition to a total of 20 external resource persons.</p> <p>Thematic sessions covered the state of negotiations from Peru to Paris (CoP 2015), extreme weather events and managing their impacts, adaptation, the co-benefit agenda for the global South, energy efficiency and mitigation potential from household appliances (including the phase-out of Hydrofluorocarbons (HFCs), as well as a discussion on the North-South divide in climate reportage. The event was widely covered, generating 15 news reports.</p>
India-Africa Dialogue and Media Briefing on Air Quality and Mobility (Nairobi, February 27, 2015)	<p>The first India-Africa Dialogue and Media Briefing on Air Quality and Mobility (Nairobi, February 27, 2015) targeted cities in Africa and India identified on traffic congestion, urban air quality, and sustainable urban commuting practices as among the toughest challenges facing cities in these regions. Nairobi, Delhi and other cities in the global South face newer challenges, and require urgent second-generation action, including technology leapfrog, scaling up of public transport, integrated multi-modal transport options, car restraints and walking for clean air.</p> <p>The meeting was organised in collaboration with CSE's partner in Nairobi, Media for Environment, Science, Health and Agriculture (MESH-Africa). It generated renewed interest in reportage on air and mobility issues. This is part of an initiative by CSE to engage and share lessons from Southern cities to chart the future course of action. The briefing drew government, academia and civil society stakeholders from Kenya, Uganda, Tanzania and India, and about 50 science journalists from across Africa, as well as stakeholders such as regulators, civil society organisations, professors, activists, veteran editors and UNEP participated in the dialogue.</p> <p>URL: http://cseindia.org/content/first-india-africa-dialogue-and-media-briefing-air-quality-and-mobility-0</p>
Reportage at COP 20 (Lima, Dec. 2014)	<p>CSE took two senior Indian journalists from leading national dailies to the Conference of Parties (COP-20) in Lima, Peru. Live updates, videos, blogs, news stories, regular media updates and social media to keep track of negotiations. Blogs and social media updates were widely circulated among climate change networks worldwide. As a member of the Climate Action Network (CAN), CSE participated in discussions within the large climate network and coordinated the equity working group and kept the network updated through live reporting of sessions during negotiations.</p> <p>Together with <i>Down To Earth</i> reporters, the team was active in producing timely articles, factsheet, press releases, and coverage of key events (NY Climate summit, Modi-Obama deal, SIDS meet, etc.) through special information packages, including 'Factsheet on US- China climate deal' (the supposed 'historic' deal was criticized and widely reported in the national as</p>

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Activity in workplan	Output(s) achieved
	<p>well as international media – Guardian, Bloomberg, New Vision (Uganda), Tol, Hindu, Outlook, ET, amongst others. Factsheets proved popular at the CSE booth in the COP conference venue in Lima. This was also circulated in widely discussed by networks and civil society group, including CAN, TWN, German Watch BFTW and IYCN. CSE's position on the negotiations in Peru stood out, as it was the only organization to have criticized the position of Government of India with regard to the stand on ex-ante review. This was widely reported on ET, Business standard, Telegraph, Tol, RTCC, among others. Importantly, regular meetings with the Indian delegations at Lima and in Delhi (on preparation of India's INDCs) are also an indicator of the seriousness with which the ministry treats CSE's position on the climate change negotiations.</p> <p>Key Outputs</p> <ul style="list-style-type: none"> • In-depth section on Lima COP <http://cseindia.org/content/lima-climate-talks-update> • Cop-out (Down To Earth cover story) <http://www.downtoearth.org.in/content/cop-out> • India committed to equitable climate deal: Javadekar (Vijeti Rattani, Dec. 12, 2014) <www.downtoearth.org.in/content/india-committed-equitable-climate-deal-javadekar> • New York Climate Summit (Sept. 23, 2014) <www.downtoearth.org.in/content/climate-fund-gets-boost-new-york-climate-summit> • Coverage of the ADP intersessions in the run up to the COP 20 <http://cseindia.org/node/5368> • UN climate negotiations: an overview <www.downtoearth.org.in/content/un-climate-negotiations-overview> • Rising to the Call: Good Practices of Climate Change Adaptation in India (CSE, 2014) • Anil Agarwal Dialogue 2015: The Poor in Climate Change, Position Paper: Short-Lived Climate Pollutants < http://www.cseindia.org/userfiles/AAD-booklet.pdf> • Briefing papers/ factsheets • What to Expect at Peru http://www.cseindia.org/userfiles/What%20is%20on%20table%20for%20Peru.pdf • Who is Emitting? http://www.cseindia.org/userfiles/Who%20is%20emitting%20what%20Factsheet.pdf • Global Emissions: http://www.cseindia.org/userfiles/Extreme%20Weather%20Factsheet.pdf • Extreme Weather Events: http://www.cseindia.org/userfiles/Extreme%20Weather%20Factsheet.pdf • Agriculture and Forestry: http://www.cseindia.org/userfiles/Agriculture%20and%20forestry%20Factsheet.pdf • Energy Efficiency of Appliance: http://www.cseindia.org/userfiles/Energy%20efficiency%20Factsheet.pdf • HFCs: Realising the Potential for Climate Benefit from the Montreal Protocol: http://www.cseindia.org/userfiles/HFCs%20Factsheet.pdf
CSE Media Fellowships Programme for the Global South	<p>CSE's Media Fellowships Programme was announced in March (for the period June – August 2015), targeting practicing journalists and media professionals from Africa and South East Asia to write on 'air pollution and urban mobility' (nine fellowships) and on 'water management' issues (five fellowships). Applications closed on May 20, 2015, and a total of 14 fellowships will be awarded. More than 20 applications were received. Media fellows will cover the spectre of urban air pollution, including assessment and monitoring, causes, policies and effects of air pollution. Other fellows will produce in-depth coverage on urban mobility, congestion, public transport, and urban design that promotes non-motorized transport for pedestrians and cyclists. On water management, the five Fellows will cover drought management, rainwater harvesting, access to clean water, water supply challenges, groundwater management, use of surface water, fecal sludge management, and waste management, among others.</p> <p>URL: http://cseindia.org/content/cse-media-fellowships-programme-global-south</p>

(b) *Down To Earth* magazine

Down To Earth has been active in bringing in environment and development stories from the global South in this period, which has necessitated certain critical changes in editorial structure and positioning. In all, more than 700 articles covering issues outside India were carried in the DTE online edition.

What proved popular were the ‘packaged’ stories on DTE online. Some prominent ones, from July 2014 to May 2015 include stories, live coverage, explanatory articles, interviews with experts, and on-ground reportage on the **Nepal earthquake**; the efforts of many developing countries to get a fair deal in the phase-out of HFCs by **amending the Montreal Protocol**, including ‘live’ coverage of how the proceedings of the negotiations; the talks, presentations country positions on the Anil Agarwal Dialogue, 2015, including on approaches for affordable access to sustainable mobility and clean technology, cleaner techniques for building material and energy access for all; coverage on the **Modi-Obama agenda**; ‘live’ **coverage on the COP 20** from Lima; coverage of the **26th MoP to the Montreal Protocol**; as well as the feature package on **hunger reduction target** of the MDG. Global health risks were also covered – on the **Ebola outbreak** that included analysis and quotes from experts across the globe. Inspiring community-led initiatives on eco-restoration featured prominently in both print and online editions. The DTE cover story (print), ‘**Forestry, the Mexican way**’ had ground-level reporting and analysis, while the package, **Drought and tree loss in California**’ and the package on ‘Forest fires proved popular.

From 2014 to 2015, DTE online has recorded a significant percentage increase – in terms of users (35%) as well as page views (72%). Interestingly, 25% of visitors are using mobile phones to browse the site, which necessitate changes to the site structure and navigation.

Global reach	2014	2015	% change
Sessions	2,89,373	3,86,150	33.44%
Users	2,39,778	3,25,059	35.57%
Page views	4,15,701	7,15,525	72.12%
Downloads		20,368	
Mobile			25%
New visitors	82%	Returning	18%

Many CSE researchers got to write articles, opinion pieces and research-based articles in the magazine, amplifying the reach of their advocacy efforts. The magazine also gave credibility to outreach efforts – for instance, making relatively easy connections with media and media associations in target countries.

It is clear that global outreach will necessitate more focus on DTE online, which will require some restructuring. For instance, having a dedicated ‘Africa’ desk editor will help in tracking trending and newsworthy stories on environment and development from the region. DTE online will carry at least

one big feature/month on global issues. Two mini editions of DTE online are being planned – one for Africa, and the other covering world affairs. New targets have been set — to achieve at least 40% of total site visits from outside India by 2019. For 2015-16 alone, the team is targeting 10,000 visitors a day for the entire site, up from 6500 today. Importantly, DTE online has set the ambitious target of engaging with at least 50 bloggers from outside India by end of year (of the 120 bloggers today, 20 are from outside India). This is strategic, as it allows different viewpoints, promotes interactivity as well as conversations on pressing issues. In order to reach a wider audience, DTE has also tied up with content-sharing and syndication networks, including *The Conversation* and *One Earth Network*. Many others will be targeted in the coming years.

(c) India Environment Portal

Activity in workplan	Output(s) achieved
Dissemination activities	<p>With over 4,50,000 records - news, features reports/documents, research papers, government policies, court cases, data along with infographics and interactive features tagged on a host of environment-development issues (over 9000 tags) from India, South Asia and across the world too, IEP has emerged as an institutional and national asset created by CSE which is now contributing to creating and strengthening a knowledge and research infrastructure for benefit of the global South.</p> <p>IEP was recognised and appreciated for environment knowledge management (specially climate) and was invited to participate in two panel events at COP 20 held at Lima, Peru. IEP's presence was noticed as an important CSE initiative and was reported by IISD, Scidev, Mary Robinson Foundation, AllAfrica, ICT for Africa, etc.</p> <p>IEP was also quoted in a report on "Impacts of Open Data in Developing Countries" (http://lajantriks.github.io/oddcl/report/report_04_themes_03.html)</p> <p>An interactive feature by IEP, "Sinking beauties", which details the devastating impact of rising seas levels on over 50 Small Island Developing States (SIDSs), was posted on the UN Climate Summit blog. The infographic was released just before the September 23 UN Climate Summit to draw attention to the communities most vulnerable today to unabated climate change (http://www.dailykos.com/story/2014/09/04/1327231/-Sinking-Beauties#).</p> <p>Many IEP features provided popular.</p> <ul style="list-style-type: none"> • "Who is doing more to save climate" based on Climate Change Performance Index 2015 released by German Watch http://www.indiaenvironmentportal.org.in/medialiepl/infographics/CCIP-2015/index.html has been appreciated by German Watch (ref. email of appreciation) • The interactive "climate wheel" http://www.indiaenvironmentportal.org.in/medialiepl/infographics/climate%20wheel/index.html " was appreciated by Dr. Verónica de la Rosa Jaimes, Faculty of Law / Canadian Institute of Resources Law, University of Calgary. Her reaction was "Beautiful interactive! Very informative. I will share it with my Climate Change Law students" Please see the email attached • With over 2230 shares on social media, the interactive "Cyclone Hydhud" is amongst the most popular Interactive http://www.indiaenvironmentportal.org.in/medialiepl/infographics/hudhud/index.html <p>IEP's participation in COP 20 as panelist in two key events in Lima received widespread coverage:</p> <ul style="list-style-type: none"> • Innovation and Collaboration for Transforming Knowledge into Climate Action: http://www.iisd.ca/climate/cop20/enbots/1dec.html#event5 • How to avoid drowning in a sea of climate data: http://www.scidev.net/global/climate-change/scidev-net-at-large/avoid-drowning-climate-data.html

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Activity in workplan	Output(s) achieved
	<ul style="list-style-type: none"> Zero Emissions. Zero Poverty. In One Generation - The Climate Justice Way: http://www.mrfcj.org/news/zero-zero-the-climate-justice-way.html
New Media Communication training	<ul style="list-style-type: none"> As part of its digital capacity building initiative, the team also conducted a global workshop on new media communication in development, in which saw the participation of 20 people from Africa and Asia. Participants also prepared an 'action plan' on how they will use digital tools for advocacy. There was much interest in collaborating with groups in Africa on this initiative, especially in using use mobile phones for visual communication. Global training: 'How to use low-cost smart phones for visual, strategic, interactive communication' (New Delhi, May 12-14, 2015) (more than 25 participants have signed up from India, south Asia and Africa)

List of conferences/meetings/workshops

1. Clean air and sustainable mobility

- CSE symposium at the Better Air Quality (BAQ) conference in Colombo held on November 20, 2014
- The Anil Agarwal Dialogue 2015 – 'Poor in climate change: How the co-benefit agenda of short-lived climate pollutants can work for or against people and the Planet' held on March 11-12, 2015
- Seminar on 'Climate change, air quality, and urban health: combined benefits of SLCP mitigation policies and measures
- Seminar on short lived climate pollutants "Climate Change, Air Quality, and Urban Health: combined benefits of SLCP mitigation policies and measures" on February 0, 2015.
- India-Africa Experience Sharing Orientation Workshop on Clean Air and Sustainable Mobility in New Delhi on April 6 – 8, 2015
- CSE Media Fellowships Programme for the Global South on 'air pollution and urban mobility' announced in March 2015.
- India-Africa Dialogue and Media Briefing on Air Quality and Mobility in Nairobi, February 27, 2015.
- Conclave of Champion Cities of Asia and Africa on Clean Air and Sustainable Mobility in New Delhi, April 9, 2015
- Participation in the Africa Sustainable Transport Forum, ASTF in Nairobi, October 28 – 30, 2014
- India-Africa Experience Sharing Orientation Workshop on Clean Air and Sustainable Mobility in New Delhi, April 6 – 8, 2015

2. Sustainable water management and sanitation programme

- Participated in the UN Habitat 3 PrepCom 2 in Nairobi from April 14-16, 2015
- Participated in the launch meeting in Zurich of the project, 'Faecal Sludge Flow diagrams for 50 cities' in Africa, Asia and other parts of the world
- India-Africa experience sharing workshops on mainstreaming sustainable water management and field exposure visit in New Delhi, February 25-27, 2015
- International training: 'Mainstreaming sustainable urban water management and decentralised wastewater treatment and reuse' in

Colombo, March 23-26, 2015

- CSE Media Fellowships Programme for the Global South on 'water management' issues announced in March 2015.
- Training on wastewater management held in Dhaka, November 10 -13, 2014
- Third Faecal Sludge Management (FSM3) conference, Hanoi, Vietnam on January 19-21, 2015
- Training on Decentralized Wastewater Treatment and Reuse held in Colombo, Sri Lanka on March 25-26, 2015
- Training on 'Decentralized Wastewater Treatment and Reuse' in Colombo, held in March 25-26, 2015

3. *Sustainable industrialization programme*

- Training on Environmental Impact Assessment (EIA) in collaboration with the Ministry of Environment and Forest, Ethiopia held in Addis Ababa, March 16-19, 2015
- Scoping workshop cum training on EIA/SIA held in New Delhi, September 15-26, 2015
- Seminar on EIA for sustainable development held in Ambo University, Ethiopia on March 20, 2015
- Regulator training in India and Sweden in collaboration with Swedish Environmental Protection Agency (SEPA) and Norwegian Environmental Agency (NEA) from Oct. 3-17, 2014 in India, Sweden and Norway.
- Meeting of global regulators in India on mining in New Delhi on April 13-18, 2015
- Participated at the Wangari Maathai Memorial Lecture organised by Micro Business College in Ambo, Ethiopia on March 17, 2015
- Workshop on Brick Kilns on 'Policy and Advocacy Network' in Kathmandu on February 18-20, 2015
- Workshop on HFCs management in Goa organised in February 26-28, 2015
- CSE-EIA Workshop on reforming MLF, Bangkok in April 2015
- Participation in CCAC meeting, MOP and OEWG in Washington
- Side event at Montreal Protocol in Paris, 2015
- Global Media Briefing on Climate Change in New Delhi, November 6-7, 2014
- Seminar on 'Climate change, air quality, and urban health: combined benefits of SLCP mitigation policies and measures in New Delhi

4. *Clean energy access for the poor*

- Organised the first stakeholder consultation on globally-funded feed-in tariff at ADP in collaboration with What Next Forum in Bonn, Germany on June 18, 2014
- International Seminar on 'Global Renewable Energy Support Programme', with particular focus on Globally Funded Feed-in Tariffs in New Delhi, March 30 – April 1, 2015
- Release of discussion paper on *Globally funded payment guarantees/feed-in tariffs for electricity access through renewable sources* at the Conference of Parties (CoP) to the UNFCCC in Lima, Peru

5. Cross cutting programmes

(a) Media Resource Centre

- Global South media briefing on climate change in New Delhi from November 6-7, 2014
- India-Africa Dialogue and Media Briefing on Air Quality and Mobility in Nairobi, February 27, 2015

(b) India Environment Portal

- Organised a global workshop on 'new media communication in development for 20 people from Africa and Asia in New Delhi.
- Training on 'How to use low-cost smart phones for visual, strategic, interactive communication' in New Delhi, May 12-14, 2015

List of research publications, briefing papers and articles

1. Air and sustainable mobility

- Briefing paper on 'Diesel at crossroads: Charting the roadmap for co-benefits of health and climate mitigation'
- 'Africa adopts continent-wide sustainable transport agenda', *Down To Earth*, January 6, 2015
- 'New paradigm for sustainable transport in Asia: words or reality?', *Down To Earth*, December. 3, 2014
- 'Road Design: Why do Indian cities never get it right?', *Down To Earth*, November 19, 2014
- 'Bridge gap between planning and engineering to shift to sustainable mobility', *Down To Earth*, January 02, 2015

2. Sustainable water management and sanitation programme

- Publication: *Rising to the Call: Good Practices of Climate Change Adaptation in India*
- 'Faecal sludge management gets world attention', *Down To Earth*, January 19, 2015
- 'Focus on sewerage system won't clean up cities and rivers, says experts', *Down To Earth*, January 20, 2015
- 'Swachh Bharat Mission misses out on sludge management', *Down To Earth*, January 21, 2015

3. Sustainable industrialization programme

- Publication: *Heat on Power: Green Rating of Coal-Based Thermal Power Plants*
- 'Coal toll', *Down To Earth*, February 28, 2015
- Briefing paper on 'Water use in industry'
- Briefing paper, 'The Poor in Climate Change'
- Scoping paper on EIA/SIA in global South for four countries
- Scoping study for 10 African countries on mining issues
- Scoping paper on brick kilns: Environmental, social and technological challenges
- Strengthening the Multilateral Fund to Maximize Climate Benefits under the HCFC Phase-Out and a Potential HFC Phase-Down Regime (CSE,

EIA, 2014)

- Report of the Workshop on HFC Management in Article 5 Countries: Technology and
- Financial Requirements for Leapfrogging to Energy Efficient and Low GWP Technologies (Goa, February 2015)
- 'India might agree to discuss HFCs under Montreal', *Down To Earth*
- 'Ozone Conundrum', *Down To Earth*, September 30, 2014
- 'Should HFCs be dealt under Montreal Protocol or Kyoto Protocol?', *Down To Earth*, October 31, 2014
- 'CSE to host side event at Montreal Protocol meet', *Down To Earth*, November 17, 2014
- 'Spotlight on HFCs on day-one of Montreal Protocol meet', *Down To Earth*, November 18, 2014
- 'CSE holds workshop on how to phase-out HFCs at Montreal Protocol meet' (*Down To Earth*, November 19, 2014)
- 'No consensus on HFCs at Montreal Protocol meet' (*Down To Earth*, November 19, 2014)
- 'Montreal Protocol: India and others block discussions on HFCs' (*Down To Earth*, November 24, 2014)
- 'Amending the Montreal Protocol: Phase-out of HFCs key agenda at Bangkok Meeting', *Down To Earth*, April 2015

4. *Clean energy access for the poor*

- Discussion paper: 'Globally funded payment guarantees/feed-in tariffs for electricity access through renewable sources'
- Paper on 'Globally funded feed-in tariffs: A co-benefit development agenda of energy access through renewable energy' presented at the What Next? Forum, Bonn, June 2014
- Global Renewable Energy and Energy Access Transformation (GREEAT): Vision and guiding document on a programme. Centre for Science and Environment, New Delhi, 2015
- Discussion Paper: Global renewable energy support programme: Globally funded payment guarantees/feed-in tariffs for electricity access through renewable sources.
- Briefing paper on 'Cook stoves'.

5. Cross cutting programmes

(a) *Media Resource Centre*

- In-depth section on Lima CoP, CSE website
- 'India committed to equitable climate deal', *Down To Earth*, December 12, 2014
- 'New York Climate Summit', *Down To Earth*, September 23, 2014
- Coverage of the ADP inter-sessions in the run up to the COP 20 (CSE & *Down To Earth*)
- UN climate negotiations: an overview
- Rising to the Call: Good Practices of Climate Change Adaptation in India
- Briefing papers/ factsheets
 - What to Expect at Peru
 - Who is Emitting?

- Global Emissions
- Extreme Weather Events:
- Agriculture and Forestry:
- Energy Efficiency of Appliance
- HFCs: Realising the Potential for Climate Benefit from the Montreal Protocol

(b) Down To Earth magazine

- Published 24 issues of the fortnightly *Down To Earth*
- Live coverage on a range of environmental issues
- Articles, analysis and interviews with experts
- On-ground reportage
- Increased DTE online footfalls - users (35%), page views (72%).

(c) India Environment Portal

- A total of 4,50,000 records generated including news, features reports/documents, research papers, government policies, court cases, data along with infographics and interactive features
- Global workshop on new media communication in development with participation from Africa and Asia
- An interactive feature, “Sinking beauties”, on rising seas levels was posted on the UN Climate Summit blog.

Details of training programmes

CSE conducted a total of 56 training programmes during the period April 2014 to March 2015. The total number of participants attended the trainings were 1237. Out of which, 128 participants were part of the global programmes.

Web analytics of www.downtoearth.org.in

Units	No. of trainings	No. of days	Indians	International	S. Asian & others	Female	Male	TOTAL
Sustainable Industrialisation	24	149	363	52	25	85	355	440
Pollution Monitoring Laboratory	2	10	18	1	0	2	17	19
Environment Education	2	2	150	0	0	72	78	150
Water management	18	45	316	17	72	93	310	405
Clean air and sustainable mobility	6	18	69	18	0	7	80	87
Climate Change	2	3	0	0	100	25	75	100
Anil Agarwal Environment Training Institute	2	60	27	6	3	20	16	36
TOTAL	56	287	943	94	200	304	939	1237

Total number of articles: 2900

DTE		2013-14	2014-15	(%)					
ALL	Sessions	1430751	2089943	46.09%	Traffic		Demographics		Top countries
	Users	1034209	1505443	45.56%	Search	57%			USA
	Page views	2683908	5036282	87.65%	Direct	18%	53%	Male	UK
	Downloads		134312		Social	16%	47%	Female	Spain
	Mobile			21%	Referral	9%			Canada
							Age		Australia
Global	Sessions	289373	386150	33.44%	Traffic		18-24	28%	Germany
	Users	239778	325059	35.57%	Search	54%	25-34	39%	Africa
	Page views	415701	715525	72.12%	Direct	20%	35-44	8%	
	Downloads		20368		Social	18%	45-54	10%	
	Mobile			25%	Referral	7%	55-64	6%	
							65+	9%	
	New visitors	82%	Returning	18%					

SOCIAL MEDIA METRICS (FB)

Total Page likes	183497
Total 'Shares'	223169
Average share	132/per article

Back link Metrics

From May 2014 - March 2015, Web analytics (we use Google Analytics) a total of 3075 articles mentioned *Down To Earth* in their coverage (referral sites, checked through an analysis of backlinks). Prominent sites that referred downtoearth.org articles include, washingtonpost.com, nationalgeographic.com, sciencemag.org, nytimes.com, aljazeera.com, time.com, yahoo.com, theguardian.com, huffingtonpost.in, globalresearch.ca, wikipedia.org and firstpost.com, among many others.

6. Institutional growth

a. Programme achievement

2014-15 has been a landmark year for CSE in terms of its footings in the global platform and its influence in bringing changes in the environmental policy and practices across the world.

Staff members participated in key global forums across a range of programme areas – including Better Air Quality conference at Colombo; Conference on globally-funded feed-in-tariff at the ADP in Bonn, Germany; meeting on the Montreal Protocol in Paris; Working group meetings of the Parties in the Montreal Protocol in Bangkok; the UN Habitat-3 PrepCom in Nairobi; in addition to the COP in Lima, Peru, just to name a few. Likewise, CSE programmes organised several conferences, seminars and trainings which had global participation – such as the India-Africa experience sharing workshops on sustainable water management; Conclave on champion cities on Asia-Africa mobility. CSE even organized a side event at Montreal Protocol, which became the first side event to be organised by an NGO of a developing country and which saw large participation.

Major national-level events and conferences, such as the Anil Agarwal Dialogue, Conclave of Architects, meeting on climate Adaptation, as well as the Report Release of the rating of the coal-based thermal power sector saw a large turnout. In all, *Down To Earth* magazine attracts more than five million page views. Of this, about 15%, or a little over 700,000 page views are from global sources; international viewership has jumped over 72% over the preceding year

b. Capacity building workshops

Capacity building interventions had around 1200 participants, which included regulators, government officials, students, school teachers, NGO representatives, media and industry professionals etc. from India, Africa and South Asia. CSE organized five international training programmes over the year on sustainable water management, air quality and mobility, and mining issues. The year also announced two Fellowships for African journalists on issues related to water and air quality and health.

The geographical spread of CSE has increased, with participants from 13 African countries (Rwanda, Ghana, Ethiopia, Senegal, South Africa, Tanzania, Uganda, Kenya, Mozambique, Zimbabwe, Mauritius, South Sudan and Nigeria) participating in CSE events and training programmes, in addition to the continued participation from neighbouring countries like Bangladesh, Nepal, Bhutan and Sri Lanka. CSE is now looking forward to establish a healthy relationship with the Governments and significant forums in African countries.

c. Planning and monitoring

CSE follows the system of **Annual Planning** to assist in the continuous and target oriented growth of the organisation and its employees. It is an elaborate process where in planning is done at the Institutional level, team level and at individual level. Institutional goals are divided as per research teams and then individual responsibilities and timelines are set accordingly.

2014-15 was a realistically and meticulously-planned year, with a well structured Annual Plan and Monitoring exercise to manage CSE's institutional growth and as well as the expansion of work nationally and globally.

As part of its **Programme Planning & Monitoring**, CSE launched a new online planning & monitoring software tool that facilitates activity planning, as well as allows the assessment of progress / achievements of both individuals and collectively as a team. Staff members file their monthly, quarterly and end-year reports online, which facilitates transparency and allows the easy tracking at both activity levels and at the level of longer-term outcomes against indicators.

d. CSE committees

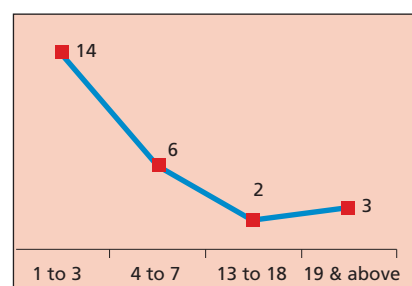
Several committees have been set up during the year to better manage and monitor work progress, given the increase in workflow:

- Global Committee (Chaired by Director General)
- Training Committee (Chaired by Deputy Director General)
- Advocacy and Campaign Committee (Chaired by Executive Director – Research & Advocacy)
- Infrastructure and Development Committee (Chaired by The Executive Director – Planning & Operations)

The committees meet regularly to track progress of the tasks and build an intra-unit synergy across the organisation. Full-staff quarterly review meetings also allow cross-learning throughout the organisation.

e. Human Resource Development

Given the expansion of CSE's work in the global arena, CSE hired almost double the number of staff as compared to the previous year (41 new staff as against 21 hired in the previous year). Of the 41 staff recruited, 34% have experience levels of between 1-3 years; 39% with 4-7 years; 15% with 8-12 years experience; 5% have an experience of between 13-18 years; while 7% have professional experience of 19 years and above:



Almost 80% of the staff members recruited are Post-graduates or PhD's in various subjects, mostly science and related fields. The rest 20% are mostly Engineering graduates and postgraduates.. About 54% of the staff recruited are at or below 30 years of age; 32% are between 31-40 years old; while 14% are above 40 years of age. CSE has staff strength of 140 members, of which 23% staff members are at or below 30 years of age; 20% are between 31-35 years old; 31% are between 36-45 years of age; while the remaining 26% fall in the age group of 46 years and above.

Staff turnover

This year, the Staff turnover was at 18%, which is 3% more than the previous year, but equal to that of 2012-13. The Chart below depicts the same. In exit interviews, it became apparent that there were 4 chief reasons for staff turnover:

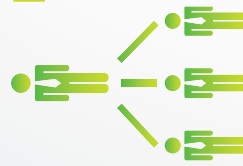
Category 1: left for better pay packages: 14 staff [48%]

Category 2: Left for reasons beyond control (mostly personal): 9 staff [31%]

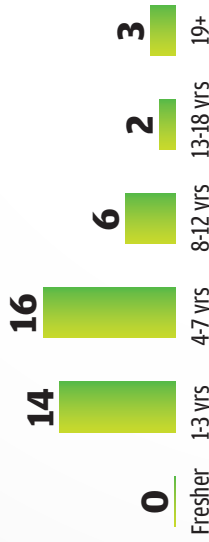
Category 3: Left because of dissatisfaction with job/organization: 1 staff [3%]

Category 4: Left because organization/ management dissatisfaction with staff: 5 staff [17%]

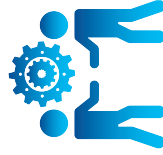
REPORT CARD



Experience profile of staff recruited

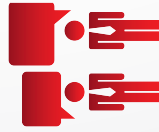
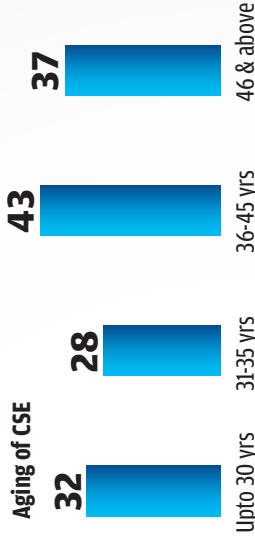


Out of 41 candidates hired



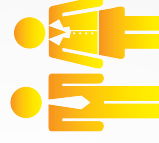
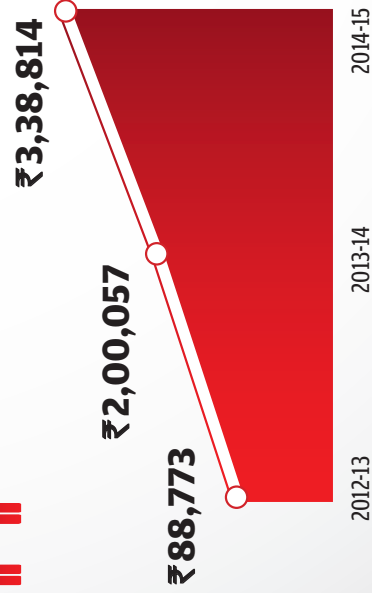
Age profile of staff recruited

An analysis of age of the new recruits shows that 54% of the staff recruited are up to 30 years of age, 32% are in the age bracket of 31-40 year and 14% are above 40 years of age bracket.



Recruitment Expenses

Recruitment expenses over three years



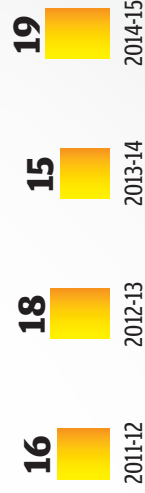
Staff turnover

Overall staff turnover has been 20% this year, an increase in 5% than the previous year.

Reasons for staff turnover

- Category 1: left for betterment: 14 staff (48%)
- Category 2: Left for reasons beyond control: 9 staff (31%)
- Category 3: Left because of dissatisfaction with job/organization: 1 staff (3%)
- Category 4: Left/asked to leave because organization/management dissatisfaction with staff: 5 staff (17%)

Staff turnover over years



Staff Appraisals and Increments

Increments in CSE are performance-linked, and are based on the 360-degree system of staff appraisal in which staff member evaluate the performance of their juniors, lateral and senior colleagues.

f. Administration

CSE tries every means to cater to the concept of Green Office by introducing and implementing ways to reduce electricity, water and paper. To cut down use of electricity, the main office of the Centre for Science and Environment (CSE), at Tughlakabad Institutional Area had installed Tata BP 10 KVA Solar power system on its roof-top in 2004. All critical loads like around 120 computers, two servers, EPABX system, emergency lights etc. are on an uninterrupted solar power supply.

- All of CSE's paper needs are met by recycled paper
- CSE has an in-house gymnasium for its staff, which is operated by charging a nominal monthly charge.
- CSE has in-house canteen serving fresh, subsidized food and is located on the terrace of the office building and has a seating capacity of at least 60 persons.
- The CSE campus treats all its grey and black wastewater, making it post treatment, fit for horticulture; CSE generates close to 100 kg of compost from food waste each month, which is used for gardening.
- The CSE campus acts as a live demonstration centre for visitors to learn more about both rainwater harvesting as well as decentralise wastewater treatment – close to 60% of the potential 611,000 litres of rainwater is harvested each year.

g. Volunteers and interns programme - Building an environmental cadre

In 2014-15, 92 interns and volunteers from different parts of India and abroad worked as interns and volunteers with different programmes, contributing an equivalent in human days to 14 regular staff members in a year. Of this, 12 students were drawn from universities outside India. Interns and volunteers have contributed actively to many programmes in CSE:

- Research related to sustainable water management in India
- Issues pertaining to road safety and accessibility
- Emissions and efficiency of the aviation sector
- Environmental impact guidelines in Asia and Africa
- Transportation strategies and policies
- Policies and practices of energy access in African countries
- Organising events and training programmes,
- Writing for fortnightly magazine *Down to Earth*. 11 interns and volunteers have contributed to the magazine. Most of them have got by-lines for their contribution.
- Volunteers from Mumbai helped us in organising a conference on green architecture.
- Volunteers have also helped us in gaining visibility at The World Book Fair organized in Delhi.

h. Anil Agarwal Environment Training Institute (AAETI)

CSE has started construction for a new training centre, the Anil Agarwal Environment Training Institute (AAETI), in Tijara, near Alwar in Rajasthan. The campus is being designed with the goal to demonstrate that it is possible to build among the country's 'greenest' campuses without extravagant spending, by using innovative but cost-effective technologies, minimising wastage and optimising the use of available resources. Stringent benchmarks have been set across five key areas to meet green campus goals, including site planning, material selection and construction, energy use, water management and waste management. CSE teams are working in close collaboration with sector specialists and consultants to establish campus performance parameters and targets, which will be actively monitored during construction, and once the facilities, are operational. Construction has begun and will be completed by mid-2016.



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