Building pathways to sustainability
“The STEPS Consortium creates a platform for collaborative, action-oriented research that engages and deploys the expertise of scientists, engineers, practitioners and the public. The transformative aims of the Consortium resonate with Arizona State University’s efforts to build a foundation for transdisciplinary science, responsive to concerns of equity and social justice and to the evolving needs of decision-makers at all levels in society.”

Ed Hackett and Hallie Eakin, Arizona State University

“The Institute of Development Studies is honoured and delighted to co-host the STEPS Centre. Since its foundation, STEPS has embodied many of the Institute’s core values and emphases, including top quality research that makes a real difference to people’s lives and livelihoods; interdisciplinary and transdisciplinary work that cross-cuts the usual sectors and silos, and a strong focus on social justice, bringing the perspectives and priorities of those living in poverty and marginalization to centre-stage.”

Melissa Leach, Director of the Institute of Development Studies, former Director of the STEPS Centre, Vice Chair of the Future Earth Science Committee

“The STEPS Centre continues a long track record of excellent collaboration between SPRU and IDS that goes right back to the earliest days of these sister institutes. It takes forward the best traditions of both organisations — interdisciplinary and engaged, policy-focused, empirically-grounded, theoretically challenging, developing critical-but-practical responses to real-world problems.”

Johan Schot, Director of SPRU - Science Policy Research Unit, University of Sussex

“Our main objective is to help identify, and support wide-ranging debate about, alternative pathways to sustainable development in Latin America. We want to help open up and renew ideas and debates about development in the region, and the global consortium is a fantastic opportunity to connect and widen those discussions with visions and ideas about sustainability from all over the world.”

Valeria Arza, Mariano Fressoli, Anabel Marin, Patrick van Zwanenberg, CENIT
The establishment of the STEPS Global Consortium is a really exciting development. It allows us to challenge each other intellectually, develop new ways of cross-disciplinary working, and root our investigations of the politics of sustainability in different places. Together we can link local concerns to global debates, as we explore new pathways to sustainability.”

Ian Scoones, STEPS Centre and Institute of Development Studies

“We are pleased to be part of the STEPS Africa Hub. The Hub allows us to continue and to expand our work harnessing applications of science, technology and innovation for sustainable development in Africa by leveraging global and African research partnerships and by tapping into expanded networks of policy, industry, civil society and others focusing on sustainability issues around the world”.

Cosmas Ochieng, African Centre for Technology Studies (ACTS)

“The Consortium, and its unique, transdisciplinary group of scholars from various parts of the world, can really push our understanding of global sustainability and especially how change agents can cluster ideas to produce innovations that have transformative impact and fundamentally change people and planet interactions at scales that matter in the Anthropocene. This is necessary in order to create good lives for people today and in the future, and at the same time strengthens Earth’s life support system.”

Per Olsson, Stockholm Resilience Centre

“We connect all sorts of different perspectives through the hub, including low carbon technology, sustainability policy and poverty reduction through the hub’s research. Traditionally academics in these areas tend to conduct separate research and focus on their own discipline, but we realize there are benefits from working together.”

Braven Zhang, Beijing Normal University

“Sustainability Studies is a wide inter-disciplinary area of increasing interest but is yet to define its boundaries, concepts and perspectives in South Asia. The Transdisciplinary Innovation Research Cluster on Sustainability Studies (TRCSS) of Jawaharlal Nehru University (JNU) visualizes the activity of this Consortium as a major opportunity for teaching, research and outreach, introducing the perspectives of ecological security and social equity into social sciences and nurturing the policy space for alternate pathways to self-reliant development within India and South Asia.”

Dinesh Abrol, TRCSS, JNU
The STEPS Consortium is now inviting partners to join us in this exciting new venture, to support our research work, the development of our hubs in different parts of the world, our communications and policy engagement work, and our capacity building efforts.
The new Pathways to Sustainability Global Consortium builds on ten years of work of the STEPS Centre (Social, Technological and Environmental Pathways to Sustainability), funded largely by the UK’s Economic and Social Research Council, and coordinated by researchers at the Institute of Development Studies and the Science Policy Research Unit at the University of Sussex.

Over the last decade, we have brought together diverse people, intellectual traditions and practical and policy experiences. A conversation between the concerns of ‘development studies’ and ‘science and technology studies’ has been at the heart of our endeavour. We have been engaged in some groundbreaking collaborative research focusing on transformative responses to worldwide sustainability challenges, ranging from water and waste, climate and energy, food and agriculture and health and disease.

The new Consortium builds on this work, by bringing together six hubs convened by longstanding partnerships, strongly developed in grounded research and founded on equal collaboration among researchers and stakeholders. In a crowded global research environment, we are creating a truly unique platform of international, transdisciplinary, action-oriented work — combining contrasting natural and social scientific understandings of the challenges. We resist the ever-present pressure for expedient simplification, whilst maintaining a strong focus on practical responses — including the development of new concepts, tools and methods.

As the Sustainable Development Goals establish a new era for development, north and south, solid research evidence and critical engagement in policy and action is essential. The Consortium brings diverse cross-disciplinary skills, a grounded conceptual and methodological approach and an international outlook and commitment to change that is essential if the ideals of sustainable development are to be realised.

This brochure explains who we are, where we have come from and where we intend to go. We are really excited about these new plans, and we hope you will join us in making them happen.
The Pathways to Sustainability Global Consortium

> WHO WE ARE

The Pathways to Sustainability Global Consortium unites five continents with one vision: to tackle the most pressing sustainability challenges facing the world now and in decades to come. Our transdisciplinary research on science and technology for development across top-flight academic institutes across Africa, South Asia, China, Europe, Latin and North America is enhanced with dynamic policy engagement, teaching, impact and communications programmes.

> THE STORY SO FAR

Ten years ago a diverse group of social and natural scientists - anthropologists, economists, medics, environmental scientists, engineers, geographers, philosophers, innovation studies specialists and others - came together to develop a completely new way of thinking about sustainability challenges.

Linking partners across the world, we have been working on practical solutions that show how marrying environmental integrity and social justice in today’s complex and dynamic world is possible. Attention to power, politics and people’s own knowledge is central to our work. Our vision is to unlock a sustainable future for people and the planet, making the Sustainable Development Goals real on the ground.

A series of research projects in Africa, India, China and Latin America have spanned agriculture, health, water, energy and climate change. Through this research we developed the Pathways Approach - and its associated methodologies - for understanding and acting on sustainability challenges. Through post-graduate training, Visiting Fellowships and our now famous Summer Schools, we are supporting the emergence of a next generation of sustainability professionals, linked through a fast-growing Alumni network.

> OUR CONSORTIUM

The Consortium is led by outstanding organisations and individuals with an open and democratic governance structure. The Secretariat and the Impact, Engagement and Communications Unit is currently hosted by the STEPS Centre.

North America: Arizona State University, Tempe, USA

Latin America: Fundacion Cenit, Buenos Aires, Argentina
**Africa:** A networked hub based at the African Centre for Technology Studies with ATPS and SEI, Africa, Nairobi, Kenya

**Europe:** Stockholm Resilience Centre, Stockholm, Sweden; The STEPS Centre (Institute of Development Studies and Science Policy Research Unit at the University of Sussex, UK)

**South Asia:** Jawaharlal Nehru University, New Delhi, India

**China:** Beijing Normal University, Beijing, China

**SUSTAINABLE DEVELOPMENT GOALS**
Our on-going research and engagement programme around the post-2015 agenda began before the Rio+20 Earth Summit and includes contributions to United Nations processes, such as the UN/DESA Open Working Group on Science and Sustainable Development Goals; High-level Dialogue on Global Sustainability; UN Women’s Survey of the Role of Women in Development; and UK Parliamentary inquiries and engagement with Future Earth. [www.steps-centre.org/engagement/beyond2015](http://www.steps-centre.org/engagement/beyond2015)
Multiple ‘green transformations’ are required if humanity is to live sustainably on planet Earth. The book examines what makes the current challenge different, and especially urgent. It challenges assumptions that green transformations can be either solely market or technology-driven and examines how they could be both green and just. 

http://steps-centre.org/2015/blog/gtbook

“An all-star team provides a clear, critical and fascinating discussion of the concept and practice of green transformations for a more sustainable and just world” 
Diana Liverman, Institute of the Environment, University of Arizona, US

A NEW INITIATIVE

Fast forward ten years and we have had some amazing results. We have firmly established a global reputation for transdisciplinary excellence on sustainability. “There is no question that STEPS has been one of the most productive environment-development programmes in the world,” said a funding reviewer. Our Pathways Approach framed the United Nations’ World Survey on the role of women in development. The UN Framework Convention on Climate Change (UNFCCC) Technology Executive Committee sought advice on low carbon technology transfer based on our research in Africa. Atmospheric scientists in India used our work about people living with climate uncertainty for modelling. We won a prestigious award for promoting the public understanding of social science. And there’s much more! You will find more details of our work in this brochure and on our website (www.steps-centre.org).

Our exciting new initiative - the Pathways to Sustainability Global Consortium - links six regional Sustainability Hubs, each bringing new perspectives to the challenges of global sustainability.

WHAT WE DO

The Consortium aims to build the evidence base, tools and methods and research capacity for re-conceiving and tackling today’s urgent sustainability challenges. Our partnerships are based on strong, shared normative commitments to change, and our research is always linked with action – moving way beyond the ivory tower, and engaging actively with local communities, civil society activists, businesses, government policymakers, and international agencies. Seeking pathways to sustainability means addressing multi-scale political, technical, social and economic processes; deliberation amongst global and local values and goals; networked understandings and governance; and learning across diverse sites and experiences.

There is a crucial need for operational methods. A key emphasis is developing practical tools that enable stakeholders to tackle - rather than deny - the hard realities of complexity, diversity, uncertainty and political contestation.
The Consortium will facilitate staff and student exchanges, joint teaching and learning and Consortium-wide publications and events programmes. We aim to become the ‘go to’ place for global sustainability research and thinking, complementing other international natural science-oriented efforts, and global policy thinktanks. We will work closely with other groups under the umbrella of the new Future Earth initiative.

Given deeply entrenched power and interests, building pathways to sustainability involves formidable challenges. It means confronting incumbent power, establishing alternative narratives for change, and inevitably becoming positioned in political struggles. Yet solid research evidence, based on comparative insights and linked to policy and action is vital, if urgent global problems are to be genuinely addressed.

HOW WE WORK

Through engaged research in particular locations, we draw out significant lessons for other settings and offer potential alternative pathways to sustainability.

For example, we are working on water and waste in rapidly urbanising cities, including Delhi and Beijing, defining alternative pathways for urban development that address risks to health and the environment. We are working on overcoming barriers to low carbon energy access for the poor in rural Kenya and urban China through looking at different pathways to ‘green transformation’, involving combinations of technological, market, state and citizen led transformations. And we are also investigating pathways to sustainable agricultural and food systems for healthy livelihoods in Argentina, Kenya, as well as the UK.

The new Consortium is being developed based on long-term, collegial working relationships with members across the world based in six regional Sustainability Hubs. Our work is co-constructed with users, so that research and action for sustainability transformations are jointly generated. Comparative work across the Consortium, linking north and south, will generate new insights for transformative change.
WHY WE ARE UNIQUE

Our focus: Our research on the social and political dimensions of science, technology and innovation for sustainability places our work at the centre of contemporary sustainable development challenges. We emphasise the politics of transformations to sustainability, and the diverse pathways of change that can be mobilised.

Our expertise: Each Consortium hub partner has an excellent academic reputation, a track record of transdisciplinary working, a strong natural/social science interdisciplinary mix and a focus on the local to global dimensions of sustainability. Our work is published in leading academic journals, and our Pathways to Sustainability book series, published by Routledge, represents a major collective contribution to research in this area.

Our approach: The way that powerful institutions frame problems and solutions often create particular pathways of change—the ‘motorways’ channeling policy, governance and interventions. Our Pathways Approach pays attention to alternatives—the ‘bush paths’ and ‘byways’ that respond to poorer people’s own goals, knowledge and values. We aim to open up the social and political processes of building pathways that are currently hidden, obscured or suppressed. The approach has become a valuable conceptual and methodological tool applied in diverse settings and by many other organisations worldwide.

Our methods: We have developed a repertoire of methods for appreciating alternative pathways. These methods help ‘broaden out’ and ‘open up’ pathways to sustainability that favour the rights, interests and values of marginalised and excluded peoples. The Multicriteria Mapping (MCM) approach, developed in STEPS Centre research, draws on the most rigorous principles of decision analysis and the most sensitive and demanding principles of grounded research. Available now as a web-based tool, MCM combines the clarity and transparency of quantitative appraisal, with the subtlety and flexibility of qualitative interaction. It is an analytic-deliberative approach that unusually puts “participants in the driving seat” — enabling open definition of alternative pathways, free expression of the values and interests under which these should be appraised and strong attention to uncertainties and dependencies. Our transdisciplinary methods aim for a clear, robust, comparative picture for informing wider policy debates and enabling greater accountability.

Our impact, engagement and communications approach: We believe that impact flows from embedded engagement, working with diverse stakeholders to shape research from the outset. This approach is combined with the use of diverse and effective communications tools. Our website, social media profile, publications programme, informal policy engagement and participatory approach to research helps deliver highly usable, value-for-money results.

Our people: Consortium researchers and professionals come from diverse disciplinary and career backgrounds — almost all with a mix of disciplinary influences and having worked across academia, policy, activism and business. Many Consortium members have been working together for years, building mutual understanding of each other’s work and organisations and drawing strength from shared values and commitments. The Consortium allows these connections to grow across regions, building on these long-standing relationships and research-policy networks.

COMMUNICATIONS
Making our research understood, useful and present in the right places at the right time is essential. With dedicated communications professionals and a suite of cutting-edge approaches, tools and platforms, we work with Consortium partners around the world to build understanding and capacity from the very beginning of a project. From a lively blog and media engagement to video, audio and digital storytelling, we communicate with rigour and passion.

CONVENING POWER
We organise many events every year, from high profile international conferences to local workshops, engaging diverse audiences with our research. Our Consortium events around the world engage with regional policymakers, media, civil society, business and academia to build strong alliances to help make change happen.
In the small hours of 25 May 2009, tropical cyclone Aila swept across southern parts of West Bengal and Bangladesh, leaving a trail of destruction in its wake. How have residents of the Sundarbans, a tidal delta hit by the storm, lived with its effects in the immediate aftermath and beyond? Our work describes how locals react to the various uncertainties around climate change and sea levels, and the long-term impacts of the storm on health and livelihoods. We have also investigated the way people in different regions of India understand uncertainties linked to climate, water, energy and housing, which includes contrasting cases from Kutch (a dryland area in western India) and urban Delhi.
Our New Manifesto project, setting out recommendations for science and technology for development, engaged with parallel initiatives in Africa and India. These influenced policy debates including within UNESCO and the UK House of Commons. The project won the 2012 Ziman Award for ‘innovation in promoting the public understanding of the social dimensions of science’ from the European Association for the Study of Science and Technology.

STEPS water convenor Lyla Mehta led the United Nations High Level Panel of Experts on Food Security and Nutrition (HLPE) Project Team for the 2015 report on Water and Food Security, building on her work with colleagues in Asia and Africa on water access, rights and justice.

RESEARCH EVIDENCE TO POLICY CHANGE
By involving policymakers and other stakeholders in the design and process of our work, we aim to create highly usable evidence that helps ‘open up’ flexible pathways to sustainability. We engage with policy processes on and across three levels: field-based projects, sectors (such as health or agriculture) and big picture issues. Attention to politics and power in policy processes is central to our work.

THE NEW MANIFESTO
Innovation, Sustainability, Development: A New Manifesto, recommended new ways of linking science and innovation to development for a more sustainable, equitable and resilient future. With southern perspectives drawn from over 20 global roundtable events, a series of Working Papers, an interactive wiki-timeline, multimedia materials and much more. www.steps-centre.org/aneumanifesto

Our Pathways Approach framed the United Nations’ World Survey on the role of women in development, with the conceptualisation of the report outlining a ‘gendered pathways approach’ based on the STEPS pathways approach.

Our work on ‘land grabbing’ and ‘green grabbing’ and ‘water grabbing’ has been widely used to help reframe these debates.

The Technology Executive Committee of the UN Framework Convention on Climate Change (UNFCCC) sought advice on low carbon technology transfer based on our research in Africa and this work has also been used by the World Bank to inform their Climate Innovation Centres.

Putting grassroots innovation on the development agenda: An OECD discussion paper on ‘Innovation for Inclusive Development’ cites the STEPS grassroots innovation team based at Sussex, at JNU, Delhi and Cenit, Buenos Aires.
Our work on health systems and emerging infectious diseases has contributed to international policy debates surrounding the Ebola response, as well as a report on antimicrobial resistance commissioned to brief the UK government. This builds on our research on health markets, zoonoses—including avian influenza—and epidemic responses.

Our long-term work on sustainable cities has contributed to new thinking in India. For example, new government policies on municipal solid waste incorporated findings from our work in their guiding principles.

Our work on agriculture has influenced new research and investments in integrated seed systems in Africa, while our Food and Agriculture Convener John Thompson serves as an advisor to the UK Global Food Security Programme and several international agencies on policy development for sustainable food and agriculture systems.

We have close interactions with international networks working on sustainability. We are a core member of the ESRC-supported Nexus Network, and Melissa Leach is vice-chair of Future Earth’s scientific committee.


Our website was named one of the eight top resources on poverty alongside the Bill and Melinda Gates Foundation and the One Campaign, by Mashable.

Towards Sustainable Development Goals Stockholm Resilience Centre (SRC) is involved in the post-2015 development agenda and the UN Sustainable Development Goals. SRC Director Johan Rockström is on the Executive Committee of the Sustainable Development Solutions Network (SDSN), launched by UN Secretary-General Ban Ki-moon.

LEAD – resilience thinking, exponential technologies and sustainable leadership programme. SRC co-led a four month training programme for future leaders and change makers on the Anthropocene, resilience thinking, social-ecological systems, exponential technologies, and how they relate to human wellbeing and transformations for sustainability.

HEALTH SYSTEM CHANGE
From Ebola to avian flu and complex adaptive systems to drug regulation, our work on health and disease aims to identify pathways of health sector change that enable poor people to manage their health problems and access health-related expert knowledge and advice. Our books in this area include Transforming Health Markets in Asia and Africa, Avian Flu: Science, Policy and Politics and Epidemics: Science, Governance and Social Justice. www.steps-centre.org/research/health-and-disease

“No longer is the question why we should act; instead the question is what should we do, at the scale that can make a real transformation? We must relearn the message of sustainability for a world that is increasingly warmer, riskier and unjust” Sunita Narain, Director General, Centre for Science and Environment, India
Grassroots innovation - Stories from STEPS

From a floating laboratory in the Amazon rainforest to a 250-mile, 8 day walking tour of India’s rural hinterland to ‘hackerspaces’ and ‘fabrication labs’ in urban Europe and Latin America, we have explored different forms of grassroots and inclusive innovation, and the connections between them.

As digital technology gets cheaper and interest in the ‘maker’ movement rises, spaces are being created to give public access to combinations of new and old tools. Our research has traced the links between these modern networks and examples from other times and places.

Examples include the remarkable flowering of the ‘socially useful production’ movement in Western Europe in the 1970s and 80s; the more recent growth of the Honey Bee Network working to spread ideas between far-flung populations in India; and the proposed ‘floating Fab Lab’ that aims to take digital fabrication and bio-hacking technology to remote reaches of the Amazon. Comparing these examples and others can tell us something about the strengths of grassroots innovation and the potential to change people’s relationship to the technology we often take for granted.
SUMMER SCHOOL
The STEPS Centre Summer School has run since 2012 and brings together an exceptional group of people from around the world who are exploring and developing ideas on pathways to sustainability. Through a mix of lectures, walks, discussions and public events, participants – 42 from 31 countries in 2015 – challenge the STEPS team and each other on questions of science, society and development.

www.steps-centre.org/about/steps-summer-school

“I liked the fact that it really was an open space in which everyone’s (teachers’ AND students’) ideas and experiences could be shared and critically engaged with. There was so much critical engagement and that was incredibly enriching. I really valued how much everyone respected each other’s thoughts and ideas.”

2012 participant

“Academically it enhanced my methodological thinking. Professionally, it enhanced my perspectives of career aspirations. Personally, it was very humbling to learn from the multiple talents of the participants.”

2013 participant

“Wonderful opportunity. A fantastic group of participants, and the very knowledgeable faculty treated us as colleagues on this journey towards sustainable pathways together. All in all, a truly memorable and rewarding experience.”

2014 participant

“It was challenging, stimulating and also fun, exciting and very engaging. I never expected to have so much time to speak with STEPS staff.”

2013 participant

“An engaging and exciting couple of weeks. It’s been fantastic.”

2012 participant

IMPACT
We have a dedicated Impact, Communications and Engagement (ICE) unit supporting projects to consider what they are contributing to local contexts, as well as to national and international debates and processes. We use a planning and evaluation tool called Participatory Impact Pathways Analysis (PIPA) to map a project’s potential pathways to influence.

www.steps-centre.org/engagement/impact
GOVERNANCE

Advisory Committee: The STEPS Centre has a high level advisory committee that provides strategic advice and support, chaired by Professor Judi Wakhungu from 2006 until 2013, when she took up the position as minister of environment in Kenya. Professor Mike Hulme of King’s College, London currently chairs our committee from the worlds of research (Carl Folke, SRC; Brian Wynne, Lancaster; Sue Hartley, York), business (Thomas Lingard, Unilever), policy (Dipak Gyawali, former Nepalese minister), civil society (Suman Sahai, Gene Campaign), and the media (Fred Pearce, New Scientist). We expect a new and similarly high profile global advisory committee to help govern the new Consortium.

Executive Group: The Consortium is run as a collective by six hub leads in conjunction with other partners – Dinesh Abrol (South Asia), Braven Zhang (China), Cosmas Ochieng (Africa), Mariano Fressoli (Latin America), Ed Hackett (North America), Per Olsson (Europe). The group is chaired by the current STEPS Director Ian Scoones, supported by the STEPS Research Manager.

FUNDING

From 2006-2016 the STEPS Centre received a core grant from the UK’s Economic and Social Research Council, complemented by funding from DFID, ESRC, EU, UKIERI and others. We are now seeking funding for the new Global Consortium. We have a small core secretariat cost, plus we are seeking support for our work on sustainable cities, low carbon energy, sustainable food and agriculture systems, and environment, health and disease, as well as our training and capacity work, and the establishment of our southern hubs in Africa, China, Latin America and South Asia.

Ethics: We are highly committed to working in an ethically and environmentally responsible way. Our approach to co-constructing knowledge means we work in co-equal ways with partners, and are committed to joint action. We aim to reduce the environmental impact of our work, for instance reducing potential carbon emissions caused by international travel - through regular online communications.

DYNAMIC SUSTAINABILITIES

The first in our Pathways to Sustainability book series sets out how the pathways approach can help create successful alternative routes to sustainability through appreciating dynamics, complexity, uncertainty, differing narratives and values-based aims. New thinking and practical ways forward are illustrated using four case studies: water in dryland India, agricultural seeds in Africa, responses to epidemic disease and energy systems/ climate change. www.routledge.com/books/series/ECPSS

ALUMNI ASSOCIATION

Our network of alumni brings together researchers from around the world, with a direct connection to our work. The Association aims to help our growing and vibrant alumni group keep in touch with each other, as well as with the Consortium, and for us all to continue learning from one another about building pathways to sustainability. www.steps-centre.org/about/alumni-association
Among the waste pickers of India’s megacities - Stories from STEPS

Amid the flourishing middle-class and consumer culture of large cities in India is a flourishing industry of waste pickers and recyclers. The recyclers of Delhi, Ahmedabad and Pune have constructed informal systems for dealing with waste, sometimes connecting with more official infrastructures.

Through a set of striking images and testimonies, this project explores how these informal workers operate, where they live, how they organise and how they are confronting and negotiating more formal public systems. It also looks at how people living in informal settlements are carving out access to water by different means, including illegal tapping, carrying water, but also engaging with authorities to gain recognition and support.
If you would like to find out more about how to work with us, we'd love to hear from you.
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Credits
All photos are from STEPS Centre projects except the cover photo of Kamla Devi, Rajasthan's first female solar engineer, by Suzanne Lee, Panos.
Design by Barney Haward at thealpineroom.com

Hub leads:
“A counterpoint to those trapped in old patterns of development and an inspiration to those keen to embrace a paradigm shift” Achim Steiner, United Nations Under-Secretary-General, Executive Director, United Nations Environment Programme (UNEP)