

# Eternal Bhoomi

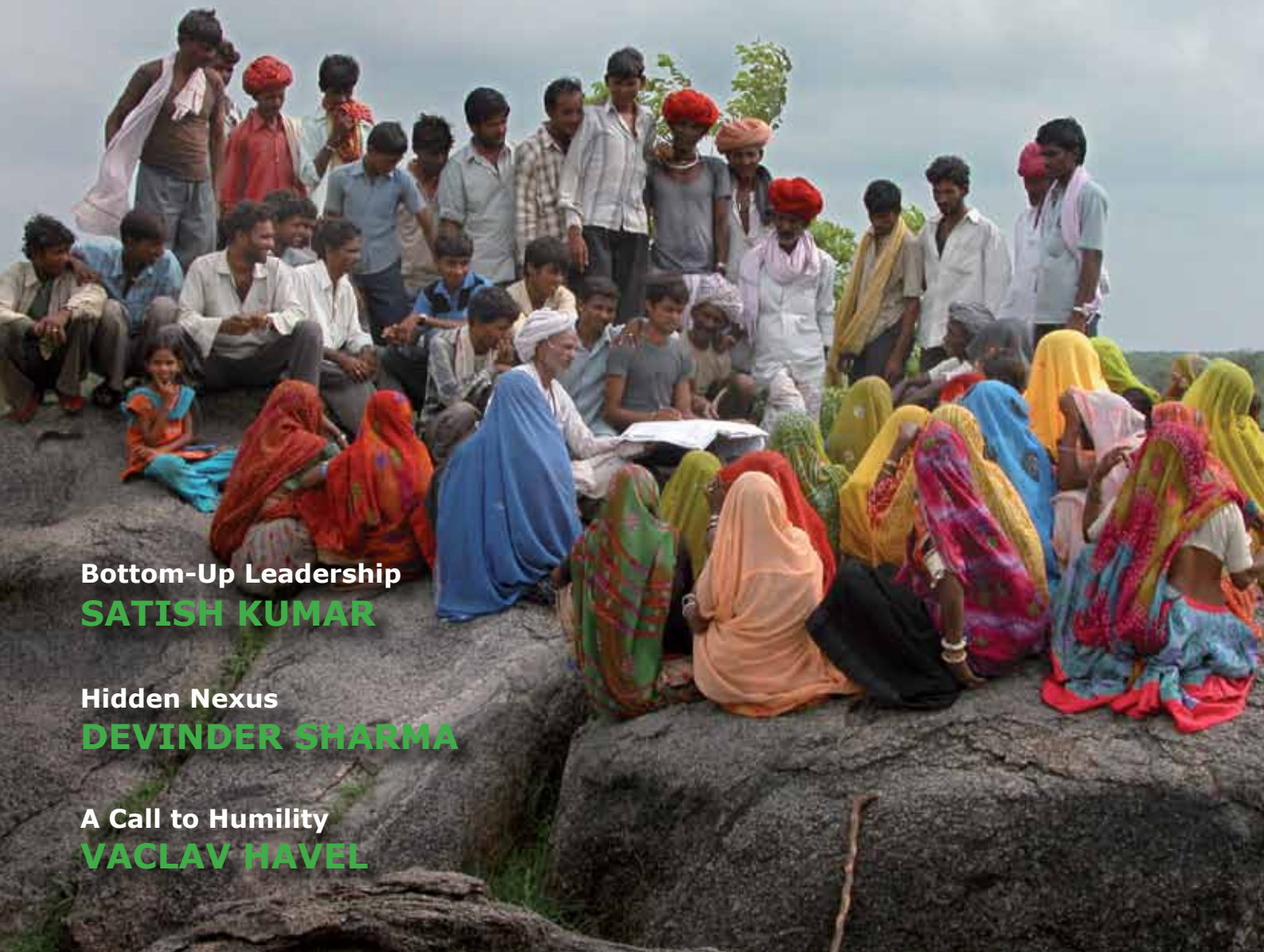
For Earth Consciousness and Sustainable Living

BANGALORE

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Rs. 80/-

Action  
from the  
Grassroots



Bottom-Up Leadership  
**SATISH KUMAR**

Hidden Nexus  
**DEVINDER SHARMA**

A Call to Humility  
**VACLAV HAVEL**



“ When the people lead, the leaders will follow.”

- Mahatma Gandhi

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# Grassroots and the Man-made Web



Grassroots action is often thought of as something a few idealistic people do, or something that happens far away in villages and forests. The word 'grassroots' for the average city-dwelling student for instance, has rarely figured in school and college, since life revolves around books, class rooms and exams. Cities get a whiff of grassroots action when we find people joining Anna Hazare's movement or start a cycling group or protest against the cutting of trees.

Many, including many NGOs may look at grassroots action as a response to the inefficiencies and injustices of the prevailing system of governance.

Let us take a long distance broad over-view of all our activities on Earth. As in a kaleidoscope, different views may crystallize upfront. One pattern is of cities and 'other than cities'. Another pattern can be of human activities that are part of a centrally controlled system (such as education and the job market) as against activities of human beings that emerge spontaneously to respond to their own needs: people taking to gardening, people of a village desilting their tank or working for some cause and even many melas and festivals. In other words there is centrally controlled way of life and a locally determined way of life. Today the former is called the 'mainstream' and the latter the 'alternate'. Work at the grassroots has become part of the alternate world-view.

## Grassroots Action is Natural Action

A fresh and enlivening way of looking at grassroots action is that it is actually natural action! Any group of people, as communities, groups or individuals getting together to have fun, to look after their interests or their commons, or to create something together is an expression of a natural human need. Students, corporate employees, children, 'grown-ups', housewives or the elderly – all human beings in fact, welcome and enjoy activities in the here and now, which concern their immediate surroundings and bring people together.

We are living today, more and more in a man-made web, and generally take for granted the web of life woven by

Nature. Our thoughts, actions, possessions are elements of this man-made web – be it the TV and the newspaper, the house and things in it, files and books, roads and vehicles and innumerable other creations of the fantastic human brain and body. As Vaclav Havel says, we are living in the world's first globalised atheistic civilization – and what is dangerous about it is its unquestioning pride in what it has created.

## Grassroots Work is in our Own Interest

There is so much questioning our arrogant modern civilization needs to do, and each one of us need to question ourselves too. How much are we caught up in this man-made web of modern civilization? How many hours of the day are we surrounded only by man made objects? How much are we engaging in Nature's web of life directly – and not indirectly through man-made food, clothes and things which all have their sources in Nature? How much are we engaging in grassroots activity, in the sense of being in touch directly with nature or other human beings and even the 'self'?

It is said that depression and a sense of alienation are expected to be the biggest human illnesses after heart disease in the future. We can heal ourselves by being more in touch with Nature, with natural activities with people around us; by engaging in grassroots activities and moving from globalization to localization as Helena Norberg Hodge talks passionately about in her article "Roots of Change".

Satish Kumar in his article "Bottom Up Leadership" says that we need to move away from a dependence on ego-driven, celebrity leaders or power manic managers, to all of us leading the way to show that happiness does not flow from material goods or the amount of money in our bank accounts.

Grassroots action actually needs to become 'mainstream', as a principle of sustainability, with action through centralized power becoming 'alternate', being limited to areas where it may be essential or wholesome.

*Seetha Ananthasivan*



Eternal Bhoomi is committed to bringing you holistic perspectives from renowned writers and thinkers as well as practical ideas and examples of earth conscious living from people around the world

## Action from the Grassroots:

The theme of this issue: Grassroots Action will become increasingly important as people get disillusioned with the ability of the Governments, multinationals and centralised agencies to find solutions for problems of ecological destruction and social inequities; this issue also highlights the work done by a few organisations and individuals committed to working with the grassroots and taking responsibility into their own hands..

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## Participate in



In celebration of Mahatma Gandhi's  
143rd birth anniversary

Dates: 1st & 2nd October 2012

Venue: Bhoomi Campus, Bangalore

### Highlights:

- Organic Food Mela
- Stalls for Organic Products, crafts and green activities
- Discussion on "How can Gandhiji's thoughts on sustainability be made relevant through Educational Institutions ? "
- Discussion on "Why city-dwellers need to understand Organic Farming ? ", anchored by Shri Narayana Reddy.
- Discussion on "Holistic Nutrition" - Bhoomi Team

**" When the people lead, the leaders will follow."**

**- Mahatma Gandhi**

**We welcome...**

**your feedback, suggestions, articles, poems or  
pictures.**

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Off Doddakannahalli, Carmelaram Post  
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*Cover Photo by Foundation for Ecological Security*

*Cover Design by Chinmay Dholakia*

# Bottom up Leadership

The end of apartheid in South Africa, the establishment of civil rights in the USA, the dismantling of the Berlin Wall, the dismemberment of the Soviet Union, and many other such transformations occurred in the history of humanity because millions of people took action at the grassroots level - says Satish Kumar

Every acorn is a potential oak. And if the right conditions of soil, water and sunshine are met, something as small and insignificant as an acorn will become a mighty oak tree. In a similar manner every human being is a potential leader – provided that the right conditions are met so that leadership qualities of courage, commitment and selfless service can grow.

Just as every oak can offer shade for the weary traveller, a branch for a bird's nest or a beam for the farm barn, every human being has the potential to care for the Earth, serve the poor, liberate the oppressed and scale the heights of imagination and self-realisation.

The kind of leader we are concerned with is not a rare hero, not an ego-driven dictator, not a self-conscious superstar, not a self-centred celebrity or a power-maniac manager, but a humble host to humanity – a servant of the Earth and an ever-vigilant conscience of the people. Such a 'servant' leader is as mindful of the process and purpose of life as she or he is aware of the goals; there is no conflict between the means and the ends here. In the work of such a leader there is complete harmony between what is to be done and how it is to be done.

True and effective leadership is more about inspiration, facilitation and right action than about outcome, achievements and unrealistic targets.

A real leader leads by example. Anyone who demands, "Do as I say and not as I do!" is not a good leader. Integrity between words and deeds is an essential quality of inspirational leadership. Mahatma Gandhi was once asked:

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"When you call upon people to do something, they follow you in their millions; what is the key to your successful leadership?"

Gandhi reputedly replied: "I have never asked anybody to do anything I have not tried and tested in my own life. We have to practise what we preach. In other words, we have to be the change we wish to see in the world."

One living example is more effective than a million words; congruence between preaching and practice is a prerequisite for purposeful leadership.

We are all potential leaders, because we can all lead our own lives in the right direction.

We can show the world that a good life can be lived without exploitation, subjugation or domination of others, or of natural resources. We can show that a simple, wholesome and equitable life can be joyful and good. We can show that happiness doesn't flow from material goods or the amount of money in our bank accounts: rather, happiness flows from the quality of the life we live, and the kind of relationships we have with our families, with our communities and with the natural world.

This is bottom-up leadership. We don't have to wait for a messiah. Genuine leadership is not going to emerge from parliament or presidential palace. Leadership is not about legislation. The end of apartheid in South Africa, the establishment of civil rights in the USA, the dismantling of the Berlin Wall, the dismemberment of the Soviet empire, and many other such transformations occurred in the history of

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humanity because millions of people took action at grassroots level and refused to accept the unjust order of the day. The feminist movement and the environmental movement are examples of people taking personal responsibility to participate in the process of the great transformation necessary for a just, sustainable and resilient future for the Earth and her people.

True leadership is not about heroic headline-grabbing actions: true leadership is to live and act with integrity and without fear. Leadership has nothing to do with power, position or office; nor anything to do with birth, class or status. Leaders can emerge from anywhere: from the Royal Family, like Prince Charles, or from a Maasai community, like Emmanuel Manjura.

Leadership is an inner calling to lead ourselves and the world from subjugation to liberation, from falsehood to truth,

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This is bottom-up leadership.

from control to participation and from greed to gratitude.

We can all be leaders. All we have to do is to wake up, stand up, live and act.

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*Satish Kumar is the Editor-in-Chief, of Resurgence magazine and was instrumental in setting up of the Schumacher College, U.K. In 1962 he walked 8000 km from India to Russia, Europe and U.S to campaign against nuclear weapons.*

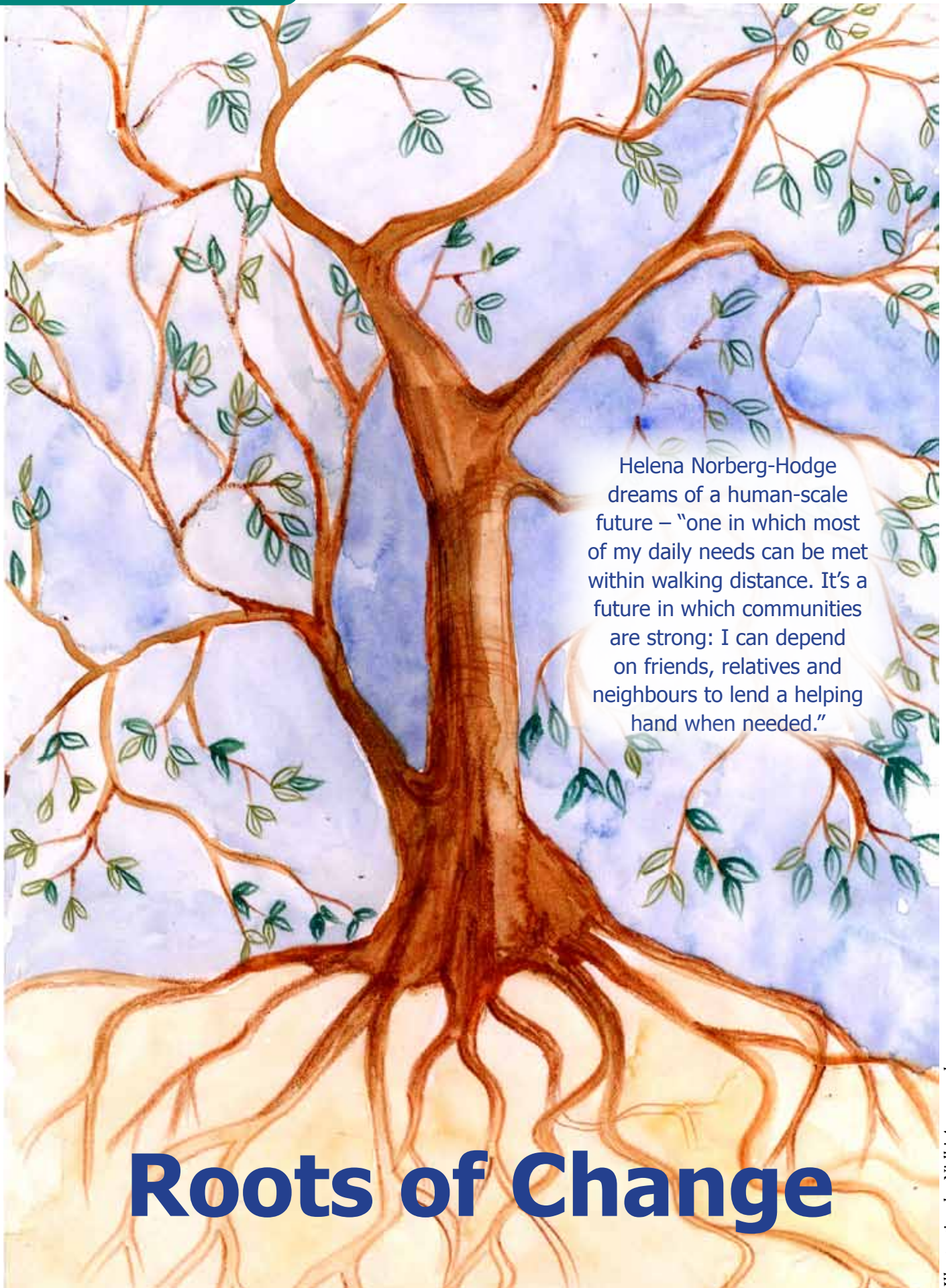
*He teaches and runs workshops internationally on deep ecology, holistic education and voluntary simplicity.*

*This article is printed with permission from Resurgence magazine, UK*



Illustration by unknown Gondh Tribal





Helena Norberg-Hodge dreams of a human-scale future – “one in which most of my daily needs can be met within walking distance. It’s a future in which communities are strong: I can depend on friends, relatives and neighbours to lend a helping hand when needed.”

# Roots of Change

Illustration by Nidhi Aggarwal

The fundamental problem we have as modern societies is the scale and pace of the global economic system. Globalisation is transforming unique individuals into mass consumers and homogenising diverse cultural traditions around the world in service to the system.



I'm dreaming of a human-scale future – one in which most of my daily needs can be met within walking distance. It's a future in which communities are strong: I can depend on friends, relatives and neighbours to lend a helping hand when needed. Men are more involved in the care of children and women have greater influence in politics and the economy. Our Earth is thriving.

Such aspirations have their foundations in my experiences living in more human-scale communities in Mexico, rural Spain, Bhutan and Ladakh, or 'Little Tibet'. In these societies, the economic, social and cultural interactions essential to life were all accessible by foot, whether I was going to the post office or buying food. Returning to highly industrialised countries – to the super-speed and hyper-scale, to air-conditioned indoor spaces, to cars stuck in traffic jams or to the anonymity of the subways – I became aware of negative impacts on my well-being. Over the years it became more and more clear to me that disconnection – from others, from our landscape or from our food – makes us emotionally, as well as physically, ill. I also became convinced that reconnection can heal and that the Ladakh of my earliest remembrances can guide us in our search for deeper human connection and continuity.

The fundamental problem we have as modern societies is the scale and pace of the global economic system. Globalisation is transforming unique individuals into mass consumers and homogenising diverse cultural traditions around the world in service to the system. This has a profound effect on every aspect of our lives – even our sense of self. Many of us feel overwhelmed by a seemingly endless series of crisis. The climate is changing at an unnatural rate; conflicts rage around the world; the global economy may be on the verge of collapse. A sense of helplessness means that few of us are completely untouched by a pervading sense of isolation, insecurity and low self-esteem, all of which have negative consequences for our mental health.

In virtually every industrialised country, there is now what is described as an epidemic of depression, and developing nations are fast catching up. The World Health Organization predicts that soon depression will be second only to heart conditions in terms of the global disease burden. Carl Walker, in his book

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Depression and Globalization (2007), links the erosion of social capital and job security associated with the global economic system to rising levels of depressive disorders – a kind of 'trickle-down' mental health effect of global politics.

The systemic promotion of corporate growth, so intrinsic to the globalisation model, also necessarily destroys wilderness and biodiversity and creates an expanding stream of waste that the biosphere simply cannot absorb. Tinkering with the system – through shifting individual consumer preferences or other 'market-based' mechanisms – doesn't alter its fundamental dynamic.

At the deepest level, the lessons from Ladakh are about 'localisation' or re-establishing human connections, our sense of interdependence with others and with the natural world. Because this connection is a fundamental human need, we actually increase our own well-being as we decrease the scale of economic activity.

Systems of organisation that are more human-scale require us to use our full human intelligence – which means our eyes, senses and feelings rather than just the narrow intellect – to inform our decisions. As we bring the impact of our actions closer to home, we are forced to appreciate the diversity and complexity of the living world, of the individual and constantly changing realities of living ecosystems as well as society. This prevents the simplistic reductionism

characteristic of the modern world where one size fits all, whether it's seed varieties, plant species or chemicals.

One of the most important factors contributing to a greater sense of wellbeing is living at a slower pace, with the inner peace and spaciousness it provides. In traditional Ladakh, time pressures were non-existent. Even at the peak of harvest season, work was done at a leisurely and gracious pace. There was time for laughter and celebration and constant song. In the West, on the other hand, the common lament of almost everyone I talk to is that they are too busy and too tired. We were not built to run at the speed of computers; the speed is contributing to a way of life that leaves us stressed, stupid and exhausted.

A human-scale and human-paced future recognises connection as the primary condition of well-being. Connecting to the people we depend on, the food that sustains us and the Earth that is our home is a fundamental challenge to the status quo of the globalised market. Localisation is a realistic — perhaps the only — solution to the many crises we face. Fortunately, it is a relatively simple shift to make – once we begin to work together. The economics of happiness is closer to us than we realise.

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*Helena Norberg-Hodge is a pioneer of the localisation movement, and the Founder and Director of the International Society for Ecology and Culture (ISEC). ([www.isec.org.uk](http://www.isec.org.uk)) ISEC is a non-profit organisation concerned with the protection of both biological and cultural diversity.*

# How do I view the Grassroots?

## A matter of Perception?

The word 'grassroots' seems like a much abused word, according to me. Politicians and the media use it so often that it sounds clichéd. I really had to do a rethink about what it meant to me. Some questions that came to mind were – Are people at the grassroots farmers who produce our food? Are they the urban middle class with their aspirations for a better life? Are they the tribals living in or near our forests? In urban areas are they slum dwellers? Are they just you and me? Or looking at it more symbolically, is grassroots looking at the source of issues? I am still thinking about it.

*Radhika Panikkar*  
Teacher - Prakriya School, Bangalore

Levels seem to have become the norm in modern societies – levels of income, wealth, education or even beauty! Tribal societies do not have levels – but today they are themselves considered to be at the lowest levels by non-tribal people.

Grassroots work then, is only a matter of perception – it is considered work with people who have been relegated to the lowest level. It is a word like poverty... who is more poor is often a matter of opinion and the benchmarks others set up.

*Narendra Kumar*  
IT Professional

*Grassroots action* I understand as action focusing on improvement and innovation in a community, advocacy and implementation for a social cause or even to bring change in our own vicinity or stand up for your rights or beliefs. But the word *grass-roots* seem to be something else – all of us, it seems, can be grass-roots people... it is difficult to give that description only to politicians, the super elite or corporate bigwigs. Does that say something?

*Ajay Aggarwal*  
Service Leader, GE Energy

## Dreams of Possibilities

The first image that the term 'grassroots' brings to my mind is that of a group of women laborers working in a field. But they are not working together, they are scattered all around- each one individually busy with her own little patch of plants.

One can eventually visualize that in time they would have covered the whole field with their collective work but at this point in time they are still toiling away independently; not looking to each other for support, guidance, or comparison but yet secure in the knowing that what each one of them is doing is eventually going to add up to a great work that is getting done.

This is what grassroots means to me. It means small and localized actions or initiatives either by individuals or by small groups who engage directly with the concerns and tasks in their local areas. They are not blind to the effects of their work on the larger society or world but they are acutely focused on bringing change or conducting experiments in their own little 'here and now'.

They want to create a prototype in their immediate surroundings of what their ideal world would be like. With this aim, they dream of possibilities in their own communities and roll up their sleeves and start working with the aim of making these dreams a reality.

*Ramya Ranganathan*  
Asstt. Professor, IIM Bangalore

## Getting down to brass tacks

Social change and political transformation cannot be brought about from the top ....it will have to come from people. For me it means "*being the change you want to see*". It's taking the focus from 'them' to myself, moving from comfort zone to courage zone, hoping

that the ripples take the form of waves in the still waters of apathy.

These I think are some of the 'grassroots work' that can be done as a city-dweller:

- Joining the neighbourhood lady who sometimes stands by the roadside with a poster in her hand pointing the right parking slots in community shopping area.
- Doing as much household work as I can with my own hands.
- Growing my own vegetables.
- Claiming the family space by saying no to TV.
- Take the used paper for re-cycling. Picking up the wrapper every time someone drops it.
- Asking for kids' clothes from friends to re-use – (often kids grow out of the sizes)
- Saying no to polythene bags.
- Use RO water waste for watering, cleaning etc
- Participate in governance of your community.
- Taking part in projects in your community – societies/apartments – for rain water harvesting, composting etc.
- Car pooling as much as you can.

Every time I take these kind of actions, I believe somebody is watching me and getting inspired - every human being has the inherent goodness and common sense and we need to have faith in that and hope for a better world.

*Sandeep Bhogra*  
Gurgaon



## Grassroots work - City-birds get a whiff of it!

The idea of building a huge structure using only mud in a urban setting might sound ludicrous to many, but on top of that we also set out to build it ourselves with the help of only volunteers.

Before we knew it, 60 people had registered to spend part of their weekend to work with their hands - for free - and build a 1000 sqft dining hall entirely with mud. We had to start refusing any more volunteers as we couldn't have managed, coordinated and fed more of them. The diverse group had engineers, architects, homemakers and students in the age group of 4 to 60.

They all seemed to be there to simply connect with the dirt and somehow through that get in touch with a deeper yearning to re-integrate, even if momentarily, with the web of nature. After two days of labouring through heat and drenching rain, it didn't seem to matter a great deal as to how much we had achieved with the structure, we were all just thrilled with how in such a short time we felt connected with the emerging structure, place and each other. Somewhere through that shared experience we had all briefly moved away from our fragmented existence to become part of something more connected, whole and thus meaningful.

*Rajesh Thakkar*  
*Rajesh@SustainAllLife.com*



Photographs from Ananth Somaiah



# The Grand Philosopher *of the grassroots*



Photograph from Wikipedia

*We mourn the passing away of Nobel Laureate Dr. Elinor Ostrom on June 12th 2012. She will be missed by all those who hold deep concerns for the commons and grassroots action.*

Elinor Ostrom, can definitely be called the grand philosopher, the champion of the people at the grassroots. She passed away on the 12th of June, 2012. The world needs to be thankful to her for the huge legacy she has left behind.

Some of us at Bhoomi were fortunate to meet her at the Kaikondrahalli Lake in Bangalore, where she had been supportive of our friends who had worked, hard to rejuvenate it rather than ‘develop’ it. Priya Ramasubban, who heads the Trust for Mahadevapura Parisara Samrakshane Mattu Abhivridhi Samithi, says that it was incredible that a person of her stature took

interest in this small grassroots effort and so graciously supported them. Harini Nagendra of ATREE, Bangalore, who worked closely with her for 12 years says that she had a deep emotional connect with South Asia and was involved in research programmes on forestry in India and Asia.

Dr. Ostrom won the Nobel Prize for economics in 2009. She was a brilliant, creative polymath, a researcher of great intellectual power and an energetic collaborator and networker. Ostrom posed a formidable intellectual challenge to the idea of the “tragedy of the commons” – an

idea supported by advocates of the free market, privatization and central control by governments that in the absence of government intervention, people will overuse and destroy shared resources.

Ostrom’s work on the commons shows that human activity is far richer and more diverse than the market theorists would allow, and is above all democratic – it’s a basis for how equal human beings can resolve key issues about the management of resources without the coercion of ownership, or, crucially, the appropriation of resources.

Corporate interests and the capitalist system encourage the exploitation of land belonging to indigenous people (or colonialism, as we used to call it) and the turning of subsistence economies into cash-based suppliers for the wealthier parts of the world; it also includes commercialization of natural resources like air and water or even life itself (example: sale of GM seeds): exchanges that have traditionally been free acquire a cash value that can be factored into GDP numbers that feed capital’s voracious need for compound growth. In the process, real needs and aspirations of the vast majority of people are trampled upon.

Ostrom’s theory of the commons can be seen as providing a powerful alternative to the conceits and fallacies at the heart of the world’s current economic and ecological crises. It challenges the belief that the only measure of wealth is the generation of asset numbers on paper; it reminds us that real wealth often has little or nothing to do with economic activity, and it places democratic decision-making at the heart of the generation of real value. In other words, we need to decide democratically what has value, rather than leaving that decision to politicians, the owners of capital and their tame accountants; it means that those who do not share the prevailing ideology in a representative democracy have a voice too.

It emphatically does not offer easy solutions – in that sense it is much more honest than the neoliberal view that suggests we just have to make markets work more efficiently to ensure prosperity for all. It recognises the messiness of life, the fact that the world is full of conflicting interests that have to be resolved, far more effectively than a system based on the single imperative of maximising paper asset value in the long-term. In summary: the commons, and Ostrom’s work, offer a starting-point for an economic and



political discourse that is more humane, nuanced, grounded and sustainable than the dominant neoliberal ideology.

Ostrom's work on understanding knowledge as commons helped an increasing number of scholars to conceptualize new dilemmas they were observing with the rise of distributed, digital information. Her legacy to the fields of education, economics, natural resource management, law and social sciences may well be that the walled gardens of commercial publishers will be torn down and replaced with open access, digital libraries.

Ostrom took a lively interest in applying her theories to the international debates over the environment, sustainable development, and climate change. Ostrom advocated a multi-layered, evolutionary approach to policy-making and maintained that "setting goals can overcome inertia, but everyone must have a stake in establishing them: countries, states, cities, organizations, companies, and people everywhere. The advantage of a polycentric approach is that it encourages experimental efforts at multiple levels".

In response to those not convinced by such an approach, given the technical complexity, political fissures, and global nature of the topic, on the 12 June 2012, Elinor Ostrom wrote a final op-ed on the Rio+20 Summit entitled, "Green from the Grassroots". Ostrom recognised that "inaction in Rio would be disastrous, but a single international agreement would be a grave mistake... we cannot rely on singular global policies to solve the problem of managing our common resources: the oceans, atmosphere, forests, waterways, and rich diversity of life that combine to create the right conditions for life, including seven billion humans, to thrive."

Ostrom argued: 'What we need are universal sustainable development goals on issues such as energy, food security, sanitation, urban planning, and poverty eradication, while reducing inequality within the planet's limits.' She warns: 'Without action, we risk catastrophic and perhaps irreversible changes to our life-support system.' Ostrom's last words in her op-ed are: 'Our primary goal must be to take planetary responsibility for this risk, rather than placing in jeopardy the welfare of future generations.'

Sources: wikipedia

[www.theconversation.edu.au](http://www.theconversation.edu.au)



Photograph from Ravi Somaiah

*Dr. Ostrom with Harini Nagendra and members of the Bhoomi team after the tree planting at the Kaikondrahalli lake.*

### Tribute by a friend and co-worker

I had the privilege of knowing and closely working with Prof. Elinor Ostrom for 12 years. Lin - as she was known by all - had a deep emotional connection to South Asia, having worked on forestry and irrigation commons in Nepal for many years. She loved the country, and deeply appreciated its diversity, culture and spirit of conservation. She had also visited India a few times, and we started to develop a larger program of research on forests in Nepal and India together since the year 2000. Over the past decade, we have studied how collective action impacts conservation in community and government protected areas in India and Nepal, and recently started some work examining the role of collective action in the restoration of urban lakes of Bangalore.

Lin was as wonderful a human being as she was an inspiring scientist - warm, incredibly affectionate, a great mentor, and extremely generous with her time and intellectual inputs. Although 78 when she passed away, her intellectual drive and energy could put people much younger and fitter to shame - for instance, even the day she went into hospital (3 weeks ago) we still had our scheduled Tuesday morning conversation. Even from the hospital, she continued to send emails to colleagues from her hospital bed, reading papers and abstracts, writing letters of recommendation, and discussing intellectual ideas.

One of my favorite memories of her is when she visited us in Bangalore towards the end of January/early February, giving a couple of lectures in Bangalore. She stayed with me for 4 days - and was keen to visit the Kaikondanahalli lake nearby, where we have a very active group of local residents protecting the lake, which is also one of our research sites. Despite being very tired, after a long day's travel, she went around the lake, thoroughly enjoyed her visit, and planted a jackfruit tree at the lakeside. She insisted on shovelling in several spadefuls of mud herself, and told me she was especially pleased that it was a jackfruit tree because she used to have one in her childhood home in California. I am very happy the tree is growing well, and she has left a flourishing patch of green in her memory in Bangalore.

- by Harini Nagendra

Ashoka Trust for Research in Ecology and the Environment (ATREE)

# A Call To Humility

*“The contemporary world needs to free itself from pride and start ‘listening’. Only then will we design cities fit for people and Nature”, says Václav Havel.*

Years ago when I used to drive by car from Prague to our country cottage in Eastern Bohemia, the journey from the city centre to the sign that marked the city limits took about 15 minutes, after which came meadows, forests, fields and villages. These days the exact same journey takes a good 40 minutes or more, and actually, it is impossible to know whether I have left the city or not.

What was until recently clearly recognisable as the city is now losing its boundaries and with them its identity. It has become a huge overgrown ring of something I can't find a word for. It is not a city (as I understand the term), nor suburbs, let alone a village. Apart from anything else, it lacks streets or squares. There is just a random scattering of enormous single-storey warehouses, supermarkets, hypermarkets, cars and furniture marts, petrol stations, eateries, gigantic car parks, isolated high-rise blocks to be let as offices, depots of every kind, and collections of family homes that are admittedly close together but are otherwise desperately remote.

And in between all that – and this is something that bothers me most of all – are large tracts of land that aren't anything, by which I mean that they're not meadows, fields, woods, jungles or meaningful human settlements. Here and there, in a space that is hard to define, one can find an architecturally beautiful or original building, but it is as solitary as the proverbial tomb – it is unconnected with anything else; it is not adjacent to anything or even remote from anything; it simply stands there.

The fact is that our cities are being permitted without control to destroy the surrounding natural landscape, replacing it with some sort of gigantic agglomeration that renders life nondescript.

So where has all this woeful development come from, and why does it go on getting worse? How is it possible that humans treat in such a senseless fashion both the landscape that surrounds them and the very planet they have been given to inhabit? We know that we are behaving in a suicidal manner, yet we go on doing it. How can that be?

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civilisation. This means that whatever comes into existence can very quickly span the whole world. We are also living in the first atheistic civilisation – in other words, a civilisation that has lost its connection with the infinite and eternity. For that reason it prefers short-term profit to long-term gain.

However, the most dangerous aspect of this global atheistic civilisation is its pride. The pride of someone who is driven by the very logic of his wealth to stop respecting the contributions of Nature and our forebears, to stop respecting it on principle and respect it only as a further potential source of profit. And indeed, why should a developer go to the trouble of building a warehouse with several storeys when he can have as much land as he wants and can therefore build as many single-storey warehouses as he likes?

Why should he worry about whether his building suits the locality in which it is built, so long as it can be reached by the shortest route and can boast a gigantic car park beside it? What is it to him that between his site and his neighbour's there is a wasteland? And what is it to him, after all, that from an aeroplane the city more and more resembles a tumour metastasising in all directions? Why should he get worked up over a few dozen hectares that he carves out of the soil that many still regard as the natural framework of their homeland?

I sense behind all of this not only a globally spreading short-sightedness, but also the swollen self-consciousness of this civilisation, whose basic attributes include the supercilious idea that we





It is a warning against the disproportionate self-assurance and pride of modern civilisation. Human behaviour is not totally explicable... one cannot take everything automatically for granted.

know everything and that what we don't yet know we'll soon find out because we know how to go about it. We are convinced that this supposed omniscience of ours, which proclaims the staggering progress of science and technology and rational knowledge in general, permits us to serve anything that is demonstrably useful, or that is simply a source of measurable profit; anything that induces growth and more growth and still more growth, including the growth of agglomerations.

But with the cult of measurable profit, proven progress and visible usefulness disappears respect for mystery and along with it humble reverence for everything we shall never measure and know, not to mention the vexed question of the infinite and eternal, which were until recently the most important horizons of our actions.

We have totally forgotten what all previous civilisations knew: that nothing is self-evident.

I believe that the recent financial and economic crisis was of great importance and that in its ultimate essence it was actually a very edifying signal to the contemporary world.

Most economists relied directly or indirectly on the idea that the world, including human conduct, is more or less understandable, scientifically describable and hence predictable. Market economics and its entire legal framework counted on our knowing what it means to be human and what aims we pursue, on understanding the logic behind the actions of banks or firms, what the shareholding public does and what one may expect from

some particular individual or community.

And all of a sudden none of that applied. Irrationality leered at us from all the stock-exchange screens. And even the most fundamentalist economists, who – having intimate access to the truth – had been convinced the invisible hand of the market knew what it was doing, had suddenly to admit that they had been taken by surprise.

I hope and trust that the elites of today's world will realise what this signal is telling us.

In fact it is nothing extraordinary, nothing that a perceptive person did not know long ago. It is a warning against the disproportionate self-assurance and pride of modern civilisation. Human behaviour is not totally explicable as many inventors of economic theories and concepts believe; and the behaviour of firms or institutions or entire communities is even less so.

Naturally, after this crisis a thousand and one theorists will emerge to describe precisely how and why it happened and how to prevent it happening in future. But this will not be a sign that they have understood the message that the crisis sent us. The opposite, more likely: it will simply be a further emanation of that disproportionate self-assurance that I have been speaking of.

I regard the recent crisis as a very small and very inconspicuous call to humility. A small and inconspicuous challenge for us not to take everything automatically for granted. Strange things are happening and will happen. Not to bring oneself to

admit it is the path to hell. Strangeness, unnaturalness, mystery, inconceivability have been shifted out of the world of serious thought into the dubious closets of suspicious people. Until they are released and allowed to return to our minds, things will not go well.

The modern pride that I refer to did not manifest itself in architecture only recently. In the interwar period many otherwise brilliant avant-garde architects already shared the opinion that confident and rational reflection was the key to a new approach to human settlement. And so they started planning various happy cities with separate zones for housing, sport, entertainment, commerce and hospitality, all linked by a logical infrastructure. Those architects had succumbed to the aberrant notion that an enlightened brain is capable of devising the ideal city.

Nothing of the sort was created, however. Bold urban projects proved to be one thing, while life turned out to be something else.

*Václav Havel is a playwright and politician. He was President of the Czech Republic and is a co-founder of Forum 2000.*

*This article is based on the speech he gave in 2009 at the Forum's fourteenth annual conference, where the main topic was Architecture and Urbanism.*

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# Foundation for Ecological Security

The Foundation for Ecological Security (FES) is presently working towards the ecological restoration and conservation of land and water resources with 14 lakh people and 2998 village institutions in 27 districts across six states in India.

Today, human society is bearing the brunt of an ecological crisis of its own making, reflected in the rapid loss of biodiversity, disappearing forests, rising sea levels, increased temperatures, severe storms and flooding on the one hand and depleting water supplies on the other. A disproportionate burden of this crisis is borne by those who have been marginalized by development that has been undertaken through conventional approaches. Since ecological security is a necessary pre-requisite to sustainable and equitable development, the Foundation for Ecological Security (FES) works towards the ecological restoration and conservation of land and water resources in ecologically fragile and degraded regions of the country through the concerted and collective efforts of rural communities.

FES is presently working with the 14 lakh people and 2998 village institutions in 27 districts across six states, namely, Gujarat, Andhra Pradesh,

Odisha, Rajasthan, Madhya Pradesh and Karnataka. A total of 1,62,320 hectares of revenue wastelands, degraded forestlands and Panchayat grazing lands are being managed and governed as Commons by these institutions. Further, landscapes as diverse as scrub lands, tidal mudflats, open and dense forests, ravines, grasslands, farm fields and water bodies are worked upon. FES has also initiated operations in Nagaland recently.

## Strengthening Rural Infrastructure

FES considers soil, water, biomass, nutrients and biodiversity as the basic constituents of rural infrastructure, critical for the viability of farming systems and thereby, the rural economy. Since natural resources are not confined by man-made boundaries, the organisation takes a landscape approach to ecological restoration, identifying contiguous stretches of land, maybe the catchment of

a small river, or several adjacent macro-watersheds, or a range of hills.

At the same time, recognizing that most of these resources are in the nature of common pool resources, also known as Commons, engagement with local communities is an integral part of its work. FES encourages and assists communities in evolving institutional mechanisms for judicious use and management of these resources, such as Grazing Land Development Committees, Van Panchayats and Tree Growers' Cooperatives. These institutions enable a code of locally agreed behaviour and give the rural poor access to a share in common good. They are sought to be nested within Panchayats, the constitutionally mandated institutions for local self governance, in order to mainstream natural resource governance.

To ensure sustained commitment towards their conservation and management, the organisation also works for secure tenure for communities over the Commons. FES enters into Memorandums of Understanding (MoU) with some state governments to lease revenue wastelands to communities over a long-term basis. It



*By locating forests and natural resources within the larger ecological, social and economic landscape, we facilitate village institutions in a manner that they are effectively able to manage land and water, commons in particular, so as to meet the basic needs of biomass and water for the poor.*





Conservation of forests would benefit from a 'landscape' perspective. Assigning preservation, conservation and exploitation objectives to different parts of the landscape would preserve natural heritage and meet subsistence and market needs better.

also engages governments on Joint Forest Management (JFM) and is pushing for the appropriate implementation of the provisions for community forest rights under the Forest Rights Act (FRA).

Community-led institutional arrangements and secure tenure over common land, forest and water sources have been found to result in an overall improvement in the vegetative cover and ground water levels (if supported by favourable geological features) leading to benefits such as increases in the level of biomass as well as in fodder for cattle and small ruminants, and area under double cropping.

The watershed development projects undertaken by the organisation are geared towards restoration at the landscape level by connecting land units through flows of water, nutrients and sediment and by integrating farming, livestock rearing, fishing and other livelihood options within these flows. Communities are involved in planning for improving the soil and moisture regime and creating a micro-climate conducive to vegetative growth. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) has provided a unique opportunity to integrate issues of eco restoration, democratic decentralisation and distribution.

*Efforts to restore common lands in the village of Chak, Madhya Pradesh through revegetation and soil and moisture conservation measures for over a decade have had encouraging results. In view of the predominantly pastoral economy and the need for fodder, local institutions have taken a collective decision to plant native species on common lands instead of species like *Jatropha*.*

Before 2002



After 2011







**Community Participation:** FES also strives for an enabling environment where local self-government institutions can deliberate and determine the development agenda. FES believes that the local and larger stewardship of natural resources needs to be encouraged so that communities are not merely passive recipients of the programmes designed to benefit them.

## Community Participation

To realise the maximum potential from the Act, FES tries to converge several activities under MGNREGA into a programmatic mode, such as watershed development programmes, which are purposeful and long term in nature.

As a part of its multi-pronged strategy to achieve this, it undertakes capacity-building programmes for rural youth, Panchayat functionaries as well as lower level government officials on biophysical and institutional issues. At the same time, it also works to create dialogue within communities, between communities at the landscape level as well as between communities and academicians, government officials and civil society members. Village-level federations and multi actor platforms are facilitated for the same.



*While manual activities like digging pits & levelling fields, are typically reduced to wage opportunities, they provide an ideal setting where institutional design principles such as equality, responsibility and transparency can be effectively discussed and practised.*



## Studies and Analyses

Studies are conducted regularly to capture the biophysical changes due to institutional interventions and restoration activities as well as to develop a better understanding of the inter-linkages which constitute the dynamics of rural life, for instance, between forests, water bodies and farm holdings, or Commons, livestock and farmlands. These studies are conducted both internally, and in collaboration with other NGOs and institutions.

A wide range of thematic areas are studied such as ecological health, biodiversity, robustness of institutions, economic significance of natural resources and energy efficiency. The well developed Geographic Information System (GIS) and Remote Sensing Facility in FES supports these studies with spatial representation and analysis.

In 2010, it launched a web portal on biodiversity called Indian Biodiversity Information System (IBIS) in an effort to make available authentic and adequate information in a user-friendly format and to encourage amateur enthusiasts to pursue biodiversity and conservation-related issues. Currently developed only for birds, similar portals on mammals, reptiles, amphibians and flora have been planned in the near future.

The organisation also engages at the policy-level on land use and local governance issues. The impact of its efforts are reflected in Rajasthan where it was involved in the drafting of the Common Land Policy, which has been issued in the state for public consultation for finalization.

On a world stage that is dominated by economic thinking, FES works to swing the spotlight onto an ecological agenda and development from a conservation and social justice perspective. It recognizes that empowering communities and enabling them to articulate their concerns and visions is crucial to bringing about this shift.

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*It is the lay of the land that determines the social arrangements for governing local forests. In Sarad village, Gujarat, each household manages the land that falls adjacent to their house and also appropriates the forest produce that grows in that area. However, when it comes to protecting that land from trespassers, the entire village comes together to negotiate with the neighbouring villages.*







## Busting the Forest Myths: People as Part of the Solution

By Fred Pearce

The long-held contention that rural forest communities are the prime culprits in tropical forest destruction is increasingly being discredited, as evidence mounts that the best way to protect rainforests is to work from the grassroots, to involve local residents in sustainable management.

Some forest campaigners have been saying it for years, but now they have the research to prove it: Local communities are the most effective managers of their forests, best able to combine sustainable harvests with conservation.

A series of studies unveiled in the past year have skewered the long-held view — still espoused by many governments and even some in the environmental community — that poor forest dwellers are the prime culprits in deforestation and that the best conservation option is to combine strict ecosystem protection in some areas with intensive cultivation elsewhere.

Here are seven myths punctured by recent research.

### Myth 1:

Forests prevent short-term rural wealth generation. Forest communities therefore have an economic incentive to get rid of them and replace them with permanent farms. Forest protection requires curbing them.

### Reality:

A six-year global study of forest use, deforestation and poverty conducted by the Indonesia-based Centre for International Forestry Research (CIFOR) has found that harvested natural resources make up the largest component of incomes from people living in and around tropical forests. Nature contributes 31 percent

of household income, more than crop farming (29 percent), wages (14 percent), or raising livestock (12 percent).

Forests emerge from the study — the result of detailed interviews conducted by Ph. D. students at 8,000 households in 24 countries — as important sources of food, firewood, and construction materials that communities want to protect. But this forest fecundity is largely ignored by policymakers, says Frances Seymour, CIFOR's director-general, who presented many of the findings at the Royal Society in London last June, ahead of publication in peer-reviewed journals. "This income is largely invisible in national statistics," she said, "because the produce is either consumed in the home or sold in local markets unmonitored by national data-collectors".

## Myth 2:

Deforestation is carried out mainly by the poorest farmers, often as a coping strategy to get through bad times. What they need is economic development to wean them away from the forests.

## Reality:

The same CIFOR study found that within forest communities, it is the rich who take more from the forests. They have the means, wielding chainsaws rather than machetes. But they are also the top dogs, able to assert control of community-run forests. “We see that at the level of households within villages, but also at a national and international level, where deforestation has been faster in Latin America, which is richer,” says Seymour. The study found that just over a quarter of all households clear some forest each year, with an average take of 1.3 hectares, mostly to grow crops. But the bottom line is that deforestation is usually a source of wealth for the rich in good times, rather than a coping strategy for the poor. In bad times, the poor are more likely to leave the forest in search of wages than to stay and trash the place, says CIFOR principal scientist Sven Wunder.

## Myth 3:

Forest protection, many governments say, cannot be entrusted to local communities. It is best done by state authorities, perhaps with help from environmental NGOs.

## Reality:

A recent meta-analysis of case studies found that deforestation rates are substantially higher on lands “protected” by the state than in community managed forests. There are well-known maps showing that the best protected parts of the Amazon rainforest, for instance, are those designated as native reserves, run by the Kayapo Indians and others. This seems to be the rule rather than the exception, Luciana Porter-Bolland of the Institute of Ecology in Veracruz, Mexico, and others concluded.

When the state is in charge, rules are barely enforced, corruption is frequent, and forest dwellers have little stake in protecting forest resources, because they

do not own them. Where the people who live there control the forests, they are much more likely to protect them.

The analysis confirms a global study two years ago by Ashwini Chhatre of the University of Illinois at Urbana-Champaign who, with Arun Agrawal, compared data on forest ownership with the carbon stored in forests and found that community forests held more. “Our findings show that we can increase carbon sequestration simply by transferring ownership of forests from governments to communities,” says Chhatre.

## Myth 4:

Agriculture is bad for biodiversity.

## Reality:

It sounds like a no-brainer. Of course, intensive farming will wreck forest ecosystems and replace them with monocultures. But traditional farming systems are often biodiverse, and may take place within forest ecosystems, rather than replacing them. New research in Oaxaca state in Mexico suggests that such farms enhance forest biodiversity.

James Robson and Fikret Berkes of the University of Manitoba investigated the impact of the recent widespread desertion of forests by Oaxaca farmers heading for the cities. The natural forest reclaimed their fields and orchards, but the result was an overall loss of biodiversity. The authors concluded that traditional low-intensity farming systems within forests had created a “high biodiversity forest-agriculture mosaic” which exceeded that in primary forest, but disappeared with the farmers. In other words, there was greater biodiversity in the low-intensity farming area than in primary forests.

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This may be no isolated finding. CIFOR’s Christine Padoch said that their studies showed that “rapid urbanization, simplified agricultural systems and abandonment of local resource-use traditions are sweeping across the forested tropics.”

## Myth 5:

Illegal local wood-cutters are a major threat to forests. Much better to maximize both production and conservation by curbing local wood-cutters and allowing commercial loggers to take over those forests set aside for “productive” use. Commercial loggers are, it is argued, easier to police and can operate according to strict rules on sustainability, such as those of the Forest Stewardship Council.

## Reality:

There is a serious downside to this approach. In central and West African countries such as Cameroon, Ghana, Cote d’Ivoire and Liberia, small-scale logging by locals is often a much bigger contributor to local economies and employment than large-scale enterprises. Moreover, most lumber harvested by this informal sector is processed locally for furniture and other local needs, whereas large-scale enterprises mostly export the timber as logs.

It is far from clear that the local wood-cutters do more damage than outside loggers. But a study by the Washington-based Rights and Resources Initiative found that they produce more benefits for





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- Andy White

(The Rights and Resources Initiative)

their local communities, in jobs, income, and products. And, like other local forest users, they may be more amenable to community controls on their activities. Andy White, the coordinator of the initiative, concluded that small-scale forest enterprises “have contributed substantially to equity, forest conservation, and poverty reduction. Supporting their development and suspending public support for large-scale industrial concessions should be key priorities.”

## Myth 6:

Degraded forest land is a wasteland that should be targeted for high-intensity agriculture such as oil-palm cultivation and timber plantations. Many environmentalists encourage this.

For instance, the World Resources Institute is mapping Indonesian degraded lands to help the government there “divert new oil-palm plantation development onto degraded lands instead of expanding production into natural forests.”

## Reality:

This is risky. A study in Borneo, a major biodiversity hotspot found that, even after repeated logging, degraded forests retain 75 percent of bird and dung-beetle species, which were chosen to represent wider biodiversity. The indiscriminate conversion of these forests to oil-palm and other intensive agriculture is a big mistake, says David Edwards, co-author of the study and now at James Cook University in Australia. “Degraded forests retain much of the biodiversity found in primary forests. Conservationists ignore them at their peril.”

## Myth 7:

To prevent further forest destruction, we urgently need to intensify agriculture. This is often called the Borlaug hypothesis after its originator, the green revolution pioneer Norman Borlaug. He argued that the more we can grow on existing farmland, the less pressure there will be to clear forests for growing more crops.

## Reality:

The counter-argument is that commercial farmers don’t clear forests to feed the world; they do it to make money. So helping farmers become more efficient and more productive won’t reduce the threat. It will increase it.

Thomas Rudel of Rutgers University in New Jersey compared trends in national agricultural yields with the amount of land planted with crops since 1990. He argued that if Borlaug was right, then the spread of cropland should be least in countries where yields rose fastest. Sadly not. Mostly, yields and cultivated area rose together, as farming became more profitable.

All this raises vital issues for forest protection. Twenty years ago, at the Earth Summit in Rio de Janeiro, sustainable development was declared the key to a green and equitable global future. But nobody quite knew what it meant. At the UN’s Rio+20 event in June 2012, the question of what is meant by “sustainable development” is expected to come under intense examination.

Many industrialists there will argue that sustainability requires high-intensity, high-efficiency economic activity that can produce the products we need without taking over wild areas such as rainforests. But the recent findings from CIFOR and others strongly suggest that may be the wrong way to go. Perhaps forests and other ecosystems can be protected best by protecting the land rights of their inhabitants, and by trusting their knowledge, priorities and management skills.

As the Rights and Resources Initiative’s Andy White puts it: “Global natural resource protection and production for the benefit of all will only be achieved in coming decades if the rights of rural and forest-dwelling people in the developing world are respected.”

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*Fred Pearce is a freelance author and journalist based in the UK. He is environment consultant for New Scientist magazine and author of numerous books, including Earth Then and Now: Potent Visual Evidence of Our Changing World, and The Climate Files: The Battle for the Truth About Global Warming.*

*At the end of the First Intercontinental Encounter in the Selva Lacandona, the Zapatistas said at one point, "We are not here to change the world, something that is very difficult, next to impossible. We are here to create a whole new world." This looked very idealistic, romantic, not real, not pragmatic. Thinking time and again with them about this, we have discovered that they are absolutely right and that this position is very realistic. To change the reality, it is very difficult, next to impossible. To create something radically new is feasible. You can do that tomorrow.*

*Please just think for a minute, let's change the educational system in Mexico or in the United States. You can change the educational system? You can dedicate your whole life and the lives of your friends and your families and you will be a footnote in a textbook and nothing more. You cannot change that monster. But if you want to create a radically new thing, to learn whatever you want to learn beyond the system, you can create that tomorrow morning. You can immediately create something else, a different kind of situation.*

*This is the kind of thing about which we are thinking, "Yes, what we are trying to do is to create a whole new world and for this we need imagination. We need to invent that new world."*

*– Gustavo Esteva,  
Mexican "de-professionalized intellectual"  
and author of "Grassroots Postmodernism"*



# ENERGY DEMOCRACY

**Juliet Davenport writes of a grassroots model for our energy future. *Good Energy* was set up by her and it now supports a community of almost 2000 independent green energy generators supplying over 26,000 users.**

This year marks the centenary of the birth of E.F. Schumacher, the economist and philosopher whose teachings inspired much of today's green movement. Schumacher is best known for his groundbreaking classic book *Small Is Beautiful*. Never has a book title encapsulated so well a whole approach to life. And Schumacher's views on sustainability and decentralisation have as much relevance today as they did when he first developed them almost 40 years ago – if not more so. Particularly where energy is concerned.

Recognising that sorting out energy was the key to cutting carbon, I set up *Good Energy* to be a catalyst for change in the energy industry. I wanted to empower individuals to choose a 100% renewable electricity supply, and to help them to connect with the innovative, independent pioneers who were generating energy from wind, water and sunlight. We now support a community of almost 2,000 independent green energy generators, supplying over 26,000 domestic and business customers throughout Britain with 100% renewable electricity. Since we started in 1999, we've saved 365,243 tonnes of carbon.

*Good Energy* has a vision for a decentralised and democratic energy network for the whole of Britain. Energy does not need to be complex and mysterious, delivered by large, remote corporations, and Schumacher knew this.

In fact, our experience shows that ordinary people, businesses and communities throughout the UK, giving us greater independence and greater energy security, can make it.

The UK has a binding target to meet by 2050: we must reduce our carbon emissions by 80% from the 1990 baseline figure. And 'business as usual' is not

going to get us there. We need to disrupt the existing system and find a different way of producing energy. If we can do so, we can not only meet these targets, but exceed them. The UK can become 100% renewable by 2050. We know this, because we've developed a pathway for reaching this ambitious goal – a pathway that involves changes to UK energy at every stage of the process, from grid management to investment, and from R&D to transport.

In Britain today, 97% of our energy comes from fossil fuels, and almost the same proportion is centralised and produced by a few very large operators. Some two-thirds is imported from abroad, and, if nothing else, recent events in both the Middle East and Japan have underlined the importance of moving away from reliance on finite fossil fuels and nuclear-generated energy to an unlimited supply of 100% renewable energy. This also means moving away from a few centralised suppliers to a distributed generation model, giving us greater energy stability, security and independence. Instead of energy being produced far away from where it's needed, we need to start producing and using energy locally. That's why, throughout this year, we are campaigning hard with our partner organisations to make sure that the government truly commits to the future of decentralised energy in the UK.

We also need to change how energy

When it comes to energy production, small really is beautiful, which is why we believe that government policy needs to do more to ensure that decentralised generation plays a key role in meeting our future energy needs. Producing and using energy locally where it is needed is far more efficient than moving it around the country. It also makes energy a visible part of the local community, reconnecting people with the source of their energy so they value it more highly.

is used in the UK. For too long we have taken for granted that at the flick of a switch the lights come on and we don't think about where it comes from. We need to re-educate people about where their energy comes from, because when people understand this they will value it more and use it less.

As the windiest country in Europe, and with over 11,000 miles of coastline, the UK has renewable resources in abundance, but we also have a lot of catching up to do compared with the rest of Europe. We currently generate only 2.2% of our power from renewables, a figure that compares to 44.4% in Sweden, 9% in Germany and 11% in France.

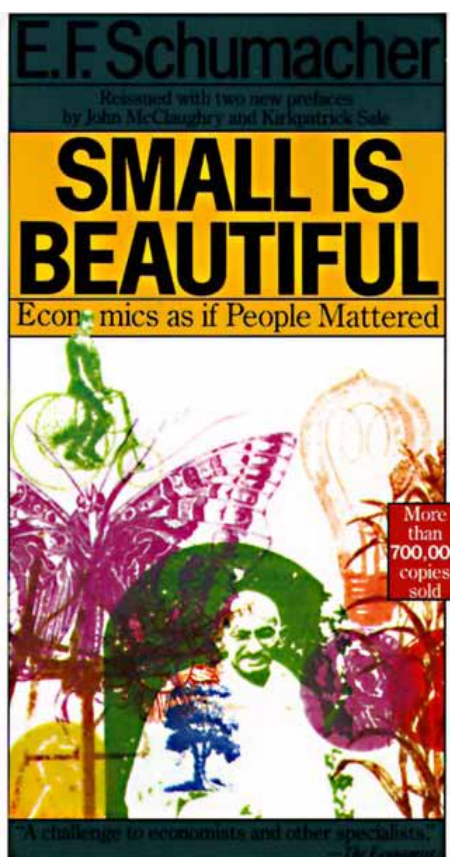
Switching to renewables starts with creating the right conditions for encouraging investment. We're going to need about £200 billion, but currently the risks are too high and the rewards are too low. The government needs to take the lead and legislate to give investors the support they need. The Green Investment Bank is a start, but more work needs to be done.

Next, we need to look at how we manage demand with the variable supply that is inherent with renewables, so that we can match the times when the wind is blowing, the sun is shining and the rain is falling with the times our energy usage is the greatest. This will require investment in energy-storage solutions and a two-way European smart grid. One not-so-futuristic scenario is the use of electric cars not only to store energy for their own propulsion, but as batteries that can discharge energy for use when people are at home in the evenings, when their energy usage goes up. Another is automatic links between the grid and domestic appliances, so that fridges switch on and off automatically in tune with energy output. This is not the stuff of science fiction; the technology to do this already exists.

The last piece of the puzzle will be reforming the way energy is traded in the wholesale markets, and work is already under way on this with the government's new electricity markets reform proposals. Not only do we need a sensible carbon price that will confer a genuine advantage to buying renewable energy, but we should also give precedence to renewable energy in the grid, so that fossil-fuel-generated power comes last, not first.

This may all sound like an idealistic

**"The founding father of the 'Small is Beautiful' ethos, E. F. Schumacher has already given us a model for our energy future. All we have to do is implement it."**



In the UK of 2050, even with a significant transformation in consumer behaviour and smarter technology in our homes and businesses, we are expecting electricity demand to double as transport and heating are electrified. But can we meet that new demand with renewables?

vision, but there is an inspiring example of all this in action on the Isle of Eigg. The extreme weather on this small Hebridean island makes it an ideal place to harness the elements and generate renewable power, so members of the community decided on an ambitious project to develop their own grid, powered by renewables.

Previously, most buildings used oil and coal for heating, and diesel for generators – all brought across by ferry from the mainland. The new grid is supplied by three hydro generators, four wind turbines and solar PV panels. When these are generating a surplus, power is conserved in batteries or used to heat communal buildings, and there are backup diesel generators for times when the grid needs a boost.

Renewable generation meets up to 95% of the island's energy requirement because people are careful with what they use. Each domestic property can use 5kW at any one time (enough for an electric kettle and a washing machine to run simultaneously), and everybody has an energy monitor so they can track their usage. A 'traffic light' system lets everyone know by email when renewable sources are low so that they can be extra prudent and only use energy if it's absolutely vital. The islanders of Eigg have demonstrated how small really is beautiful. And there are encouraging signs that big businesses are waking up to this too.

Everybody has a role to play in our renewable energy future, from taking responsibility for the energy we buy and use to installing small-scale renewable technologies such as solar panels and small wind turbines. The energy landscape of the future will be transformed from one dominated by a few large, faceless corporations to an energy democracy that supports thousands of independent generators, making clean, green energy in their homes and communities across the country.

Something Schumacher would surely have been proud of.

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# VOICES from the Grassroots:

## *The Power of Self Help*

By Dr. Balasubramanian

Women's Self - Help groups are much more effective in offering economic and emotional security for women than the commercially oriented micro - finance organisations, says the author



Bhagyamma and 15 other women were sitting around and talking about how Kamma was suffering during the last two years. They were discussing whether her drunken husband needed to be chided collectively or boycotted socially or to file a complaint of domestic violence in the nearby police station. Some of them felt that resolution had to be by reconciliation and keeping in mind the need for peace in Kamma's family. They also decided to give her Rs.250 for her immediate needs and in passing discussed the savings that they all had collectively made. This was a typical Wednesday evening for them and they spent nearly two hours every week talking about their welfare, problems, health issues, the weather, savings and credit. This was truly a self-help group where they supported each other and were completely independent of any outside assistance. This group gave them so much

— a sense of identity for themselves, a few hours away from home and all their domestic chores, a reason to celebrate their own womanhood and a relative degree of privacy and independence. These two hours each week were very valuable to them and the social, economic, and political empowerment that was happening was so subtle and invigorating.

As I was watching them discuss and

**Unfortunately, in our haste to capitalize on the enormous power and potential of self-help, Government and NGOs around the world have reduced it to a mere micro-finance movement.**

debate Kamma's problem, my mind was drawn to what was happening in Andhra Pradesh during the last few years. A large number of profit seeking micro-finance institutions had extended more than 6,000 crore rupees as loans to millions of women. Many of them were forced to take loans and make repayments and this led them deeper into poverty. Hundreds of women unable to bear the pressure of making repayments have committed suicide. It has become such a large problem that the Government had to step in and begin regulating this industry. All that had happened was, suave executives using technology and huge capital to leverage profit out of these unsuspecting poor, had replaced the local money-lender.

### Underlying Principles

Unfortunately, in our haste to capitalize on the enormous power and potential of self-help, Government and NGOs around the world have reduced it to a mere micro-finance movement. People have forgotten the underlying principle of self-help that is so empowering and filled with dignity and have reduced it to a vehicle providing loans and affecting recoveries.

We need to understand that poverty is an experience that only the poor can relate to. It is the poor who understand the needs of the poor best. Bhagyamma's group understood their own difficulties, got together to save their money, and with their savings they would extend credit to the poorest of the poor. It was a wonderful mechanism where the poor not only understood their needs, but also understood their paying capacities. They also went beyond mere savings

What the micro-credit movement needs is to go beyond being unidimensionally focused on just money. It needs to look at the power of communities - of community engagement, community ownership and community centricity.



Photographs from SVYM

and credit. The finance part was only an excuse and many groups evolved into true self-help groups and provided the members with the psychological, social and political strength that only groups can give individual members.

When Self Help Groups (SHGs) started more than 3 decades ago, they were quite community driven and community centric. The loan amounts given out were determined by the absorption capability of the group members. They were not determined by the amount of money the group had. When the Government came into this business a few years ago, they offered a seed capital without considering the group dynamics or the strengths and weaknesses of the participating members. There was no evolutionary process or any training; there was no understanding of what credit was; there was no understanding of what savings could do or not do. All that they thought was the seed capital would kick-start an economic process and bring the women and their families out of poverty.

### Micro Finance Institutions (MFIs)

Organized and large-scale micro-finance institutions (MFIs) further damaged this concept of self-help. They might have started for social concerns, but they quickly began to be driven mostly by economic concerns of their own profitability. Recovery became more organized. Interest rates were determined by how much the bank needed to get back. While many NGOs were passionately committed to the social benefits, the present breed of MFIs is trained to run

these institutions on business principles.

Self Help Groups kept the interest rate such that it did not become a burden. They did not lend money to make profits from the interests. They lent money to get someone out of poverty. Whereas the MFIs give out loans on interest rates of 40-50%, which to the poor looks smaller than the 100-120% they would otherwise pay to the local money-lender.

Today we have International MFIs who are actually going to the public to raise funds exactly like a private company raising funds. Raising public funds means paying out dividends and this forces the MFIs to charge large interest to make large profits. The poor in this entire operation are mere statistics rather than inclusive participants seeking to get out of the poverty trap.

One understands the need for a large influx of capital into the rural areas to kick-start the local economy. But then they need to be socially conscious MFIs with the ability to look at the larger picture and go beyond mere finance. We need to have a hybrid solution wherein the small and local self-help group operates with the benefit of easy access and availability of credit that tie ups with larger MFIs can provide. They need to build on the strength of sitting together in small groups, discussing their problems and find contextually relevant solutions. Not just for their financial problems, but also for their everyday local issues. The way micro-finance is designed, it is limited to only look at economic empowerment and its spinoffs. The empowerment process

that happens in SHGs is much more complex, much more multi-dimensional, and follows an ecosystem approach.

The micro-credit movement needs to look at the power of communities – of community engagement, community ownership and community centricity. What we need is the members determining the rates of interest, determining whether the loans are for consumption or production, and the amount of funds they can absorb / need.

We also need to empower people with training and tools. We need to ensure that the technology that is brought in does not exclude the poor and is something that the women can handle. True self-help is when the women are made the drivers of change, the owners of the groups that they run, and take responsibility for the development that determines how they live and cope with the challenges of poverty. This can happen only when it is a community-driven process and not external agency driven.

The micro-finance industry is just the body, they need to get a soul and transform into a true self-help movement.

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<http://rbalu.wordpress.com/about/>



# *Of Friendship, Change and the Future*

We have to support our small heroes. (Of these we have many. Many.) We have to fight specific wars in specific ways. Who knows, perhaps that's what the 21st century has in store for us. The dismantling of the Big. Big bombs, big dams, big ideologies, big contradictions, big countries, big wars, big heroes, big mistakes. Perhaps it will be the Century of the Small.

- Arundathi Roy

To be hopeful in bad times is not foolishly romantic. It is based on the fact that human history is a history not only of cruelty, but also of compassion, sacrifice, courage, kindness... And if we do act, in however small a way, we don't have to wait for some grand utopian future. The future is an infinite succession of presents, and to live now as we think human beings should live, in defiance of all that is bad around us, is itself a marvellous victory.

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Revolutionary change is something immediate. It is something that we need to do today, right now, wherever we are, where we live, where we work or study. It implies to begin right now to get rid of all the authoritarian and cruel relations, between men and women, parents and children, between different kinds of workers.

This is not an armed uprising. It happens in the little corners which cannot be reached by the powerful but clumsy hands of the state. It is not centralized or isolated: it cannot be destroyed by the powerful, the rich, the police.

It happens in a million places at the same time, in the families, in the streets, in the neighborhoods, in the work places.

Suppressed in one place, it reappears in another until it is everywhere. Such revolution is an art. That is: it requires the courage not only of resistance but of imagination.

- Howard Zinn

I do not believe that friendship today can flower out of political life. I do believe that if there is something like a political life to remain for us, in this world of technology — then it begins with friendship.

Therefore my task is to cultivate disciplined, self-denying, careful, tasteful friendships... Because perhaps here we can find what the good is... This goes beyond anything which people usually talk about, saying each one of you is responsible for the friendships he/she can develop, because society will only be as good as the political result of these friendships.

I do think that if I had to choose one word to which hope can be tied it is hospitality. A practice of hospitality— recovering threshold, table, patience, listening, and from there generating seedbeds for virtue and friendship on the one hand — on the other hand radiating out for possible community, for rebirth of community.

- *Ivan Illich*





# Calories per square foot: The power of Urban Farming

By Anil Ravindran

Achala is in her late 20s, and works in a large multinational in Bengaluru. Before she leaves for work each day, she waters her terrace garden – home to a motley bunch of vegetables and ornamental plants. When she's back home early in the evening, she spends half an hour in the garden, removing weeds, adding compost, spraying organic pesticides, and harvesting vegetables. Harvests are typically small, but are always fulfilling. She weighs the harvest on a kitchen weighing scale, clicks pictures of it and around sunset, uploads the pictures to a group on facebook where other terrace gardeners from India (noticeably from Bengaluru) hang out. Just as the picture begins to collect 'likes', at the other end of the world, in Havana, Cuba, the scene could hardly be more different, with over 44,000 urbanites working on farms of various sizes, all bursting with vegetables. Supporting these 45,000 are around 3,00,000 that help with seeds, manure, marketing, etc.

To Bengaleureans, terrace farming is an urban hobby. To the Cubans, it is a cornerstone of their sustenance.

## The Havana Story

Urban agriculture as practiced in Havana is a well documented story. In the second half of the 20th century, Cuba's agriculture industry was focused on producing a few select export crops – most notably sugarcane. Perhaps as a consequence, Cuba had to import over 55% of the food it needed. There was a clear pattern to Cuba's trade – export sugarcane to the Soviet bloc at a premium, and import cheap oil and chemical-based plant fertilizers from it. This pattern worked well for Cuba. However, with the fall of the Soviet Union in the late 80's, Cuba's trade suffered – all of a sudden, Cuba neither had a partner willing to pay

a premium for its sugar, nor a supplier of cheap oil and fertilizer.

One of the most telling blows that all this had was on food availability. Cuba was hungry, and had to find answers fast. They did. Through a combination of political will, Government support and an inspiring people's movement, the Cubans converted Havana, their largest city, to a thriving urban farm. Balconies, backyards, vacant plots, lawns on Government building land, greenbelts around the city – practically every available vacant space

By 2005, Havana  
produced  
2,72,000 tonnes of  
vegetables for its residents.  
That equated to 340 grams  
of vegetables for  
each resident, every day  
- comfortably above the  
UN's Food and Agriculture  
Organization's guideline of 300  
grams per capita  
per day.

– was converted to a patch of land (and sometimes even to pots of land!) where vegetables could be grown organically. The results were stunning.

## Closer Home

In India, urban farming is practiced on a small scale. The sections below explore the potential that urban farming has for an Indian city. While Bengaluru is featured in this article, the storyline would hold for almost any Indian city.

It would be hard to replicate in

entirety what Havana did, for a number of reasons. This article explores just a couple of simple urban farms – the private home garden, and the apartment garden.

## The Power of your Balcony: The Square Foot Story

Real estate developers have an entire gamut of metrics they use to confuse prospective buyers – per square foot rates for built-up area, carpet area, super built-up area, and a whole host of others. However, the next time you see a balcony or any sunny part of your house, think of calories per square foot. The power of a home garden is amazing, regardless of whether the home is an 'independent house' with a patch of land, a flat with a couple of balconies, or a flat with a terrace attached. Think about this – a sunny 30 square foot part of your house, when planted with potatoes (among the highest per square foot per year yields), can yield anywhere between 1,15,000 and 1,92,000 calories a year. That would sustain the average adult for a period between seven and 11 weeks (complete sustenance in the sense that the person would get all the calories he/she needs). Agreed that this is a somewhat theoretical exercise – you couldn't expect a person to survive on potatoes alone (regardless of what MacDonald's would like us to believe). However, the point here is that the power of a small patch of apartment space is amazing.

## The Power of Common Spaces: Let's start with your apartment

Most apartments in Bengaluru have fairly large open spaces that are either planted with ornamental plants, grass, or nothing at all. Consider a typical

apartment in Bangalore – 3 floors high, with 24 flats in all. This kind of apartment has around 2,000 square feet of soil, currently planted with ornamental plants. If these were to be replaced by our now-familiar potato plants (and in this example, we aren't considering gardens in individual homes), we'd have on average a mind boggling 58,000 potatoes, or 78,40,000 calories every year! That's over three potatoes every two days, for each member of the 100 people in the community. A lot of food. Between 7% and 10% of the average family's calorific requirements.

Not a number to be scoffed at. Replace potatoes with spinach, tomatoes or virtually any other vegetable, and while the calories on offer would probably be lower, it'd still be a big contribution to the dinner plate.

If this is replicated across enough apartments, the simple fact is that there would be more food to go around. Note that these calculations are based on a regular apartment, with not too much space. The new ones that are popular in the outskirts of the city are massive, and have much higher potential. Likewise for large corporate campuses, factories and schools.

## The advantages of Urban Farming

The most obvious advantage is the food on offer (potatoes have been used as an example here, but it could be anything – palak, tomatoes, brinjal, etc).

Other advantages are:

- The food source is very close to the consumer, making urban farming the greenest (in every sense of the term!), most efficient food channel in terms of distribution (no fossil fuels used to transport food from producer to consumer)
- Little additional investment required, as most apartment complexes have patches of soil, and employ a gardener/general helper
- Waste management: When urban farming is combined with a waste management initiative (where degradable waste is converted to compost that could be used for the plants), the result is a very powerful process that feeds the residents, and



The power of a home garden is amazing: a 30 square foot potato patch can provide each member of a family four a potatoes a day for anywhere between 5 and 10 months of the year!



reduces the load on land fills

- The intangible benefits – the pleasure of eating self-grown, chemical free food
- The opportunity to retain native varieties of vegetables as opposed to commercial hybrids available in the market. This was noticed in Havana, where the variety of fruit and vegetables available increased when they took to urban farming
- Community building in the apartment

## Harnessing the power of Urban Farming

So what will it take to make this happen? Let's look at the opportunity at two different levels – that of the individual home garden, and the apartment garden.

The individual garden: This one's simple – all it takes for a medium sized

home garden is:

- 1) Soil and compost (easily available at a number of stores across the city)
- 2) Containers to hold soil (pots, garbage bags, sacks, raised soil beds, etc)
- 3) Seeds or cuttings (a lot of this is available from kitchen waste)
- 4) A sunny spot
- 5) Water, basic organic supplements (neem oil, shikhaikai, onion and garlic mixes, etc)
- 6) 20 – 30 minutes a day, and an additional hour a week

Nurturing a home garden is a lot simpler that most people think – there's help and encouragement available on the internet, the very active facebook group 'Organic Terrace Gardening', and from the many Bangaloreans who're passionate about plants.



# How Apartment Complexes can start Community Vegetable Gardens

Community garden require a more co-ordinated effort. While the basic processes remain the same, additional requirements are:

- 1) Manpower required:** most apartments already have a gardener and general help hired.
- 2) Sufficient water:** For most apartments, this shouldn't be a problem, as they already maintain lawns and ornamental plants. In specific areas, though, water could well be an issue, as some apartments buy their water from private agencies even for basic needs.
- 3) Budget allocation from the association:** For a medium scale garden, this could be in the region of a couple of thousand rupees per month for a fully organic garden, other than the cost of water and manpower.
- 4) A willingness of the residents** to participate: Strange though it may sound, this might be the toughest one to crack. Even when the effort required from residents is minimal, there could be opposition from some residents on issues like sharing of harvest and loss of privacy. One or more inclusive and wise leaders can make a difference.
- 5) Technical inputs:** Agriculture departments and NGOs would need to step up and provide technical inputs on what crops to grow, pest management, harvesting, etc.
- 6) Common spaces to be utilised** for vegetable growing need to be earmarked in a collaborative fashion.



"There are 1 lakh households in Bengaluru. If home gardening and apartment gardening was to be practiced at a large enough scale, there's little doubt that we'd have much fewer people going to bed hungry."

"I sometimes wonder if it would be feasible to make the growing of vegetables in apartment complexes, government buildings and corporate campuses a compulsory activity (subject to availability of open space, water, etc.)"



# Immense Possibilities...

If done on a scale like in Havana, urban agriculture could be a large additional employment opportunity as well (not so much if we restrict it to apartment complexes).

I sometimes wonder if it would be feasible to make the growing of vegetables in apartment complexes, government buildings and corporate campuses a compulsory activity (subject to certain criteria like availability of open space, water, etc). Skeptics might argue that it is too difficult to implement, or that we in India are not in such dire straits as to impose this, or that farmers might protest as their existing business would suffer. My responses to these issues are:

1) Difficulty of implementation: Rain Water Harvesting has been made mandatory, and has been implemented quite successfully in cities like Chennai and Bangalore. Prior to implementing this, serious questions were asked about its feasibility, so there's no reason why we can't attempt mandatory vegetable farming. Could we even think of a system where surplus produce from urban farms can be sold to farmer's co-operatives (like HOPCOMS in Karnataka). This might prove to be a supplement to the income of economically poor people.

2) Do we need it? Are we in a Havana-like condition? India is home to the highest number of hungry people in the world (over 200 million). Urban populations have been growing rapidly – Bangalore's population, for instance, has grown by 46.68% between 2001 and 2011 (<http://www.deccanherald.com/content/151550/bangalore-population-soon-1-crore.html>). With such stresses being imposed on resources, it's time we find newer sources of food.

3) Farmer's income levels being affected: With the population growth that we're witnessing, we need newer food sources – there's always going to be a need for food from traditional farms. Urban farming would at best be a supplement to traditional farming, and if you factor in the number of hungry people in our cities, and the population growth, I doubt very much if urban farming would affect a farmer's income.

## Conclusion

There's little doubt that urban farming has enormous potential in India. There are also encouraging signs at both the citizen and government level. However, it does need to be taken to the next level for it to contribute to our daily meals. For this, a combination of policy, government support and a co-ordinated people's movement is required. Most importantly, we need a 'can do' attitude. And some seeds.



*Havana implementing urban farming*

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*Anil Ravindran is an urban farming enthusiast from Bengaluru. He runs a 300 square feet terrace garden, with over 55 species of plants. The garden supplements the home's kitchen everyday.*

*All photographs in this article are by Anil Ravindran.*



# All About my Walkabouts

By Ruskin Bond

*"By the time I was four, I was exploring much of this territory on my own, with the result that I encountered my first snake. Instead of striking me dead as snakes are suppose to do, it allowed me to pass."*

All my life I have been a walking person. Up to this day, I have neither owned nor driven a car, bus, tractor, airplane, motorcycle, truck, or steamroller. Forced to make a choice, I would as soon drive a steamroller, because of its slow but solid progress and unhurried finality. And also because other vehicles don't try hustling a steamroller off the road.

For a brief period in my early teens I had a bicycle, until I rode into a bullock cart and ruined my new cycle. The bullocks panicked and ran away with the cart while the furious cart driver was giving me a lecture on road sense. I have never bumped into a bullock cart while walking.

My earliest memories are of a place called Jamnagar, a small port on the west coast of India, then part of a princely state. My father was an English tutor to several young Indian princes and princesses. This was where my walking really began, because Jamnagar was full of spacious palaces, lawns and gardens. By the time I was four, I was exploring much of this



"I like to think that I invented the zigzag walk. Tiring of walking in straight lines, or on roads that led directly to a destination, I took to going off at tangent – taking sudden unfamiliar turnings, wandering down narrow alleyways, following cart tracks or paths through fields instead of the main roads, and in general making the walk as complicated as possible."

territory on my own, with the result that I encountered my first snake. Instead of striking me dead as snakes are supposed to do, it allowed me to pass.

Living as it did so close to the ground, and sensitive to every footfall, it must have known instinctively that I presented no threat, that I was just another small creature discovering the use of his leg. Envious of the snake's swift gliding movements, I went indoors and tried crawling about on my belly. But I wasn't much good at it. Legs were better.

My father's school room and our residence were located on the grounds of one of the older palaces, which was full of turrets, stairways and mysterious dark passages. Right on top of the building I discovered a glass-covered room, each pane of glass stained with a different colour. This room fascinated me, as I could, by turn, look through the panes of glass at a green or rose-pink or orange or deep indigo world. It was nice to be able to decide for oneself what color the world should be!

My father took his duties seriously and taught me to read and write long before I started attending a regular school.

However, it would be true to say that I first learned to read upside down. This happened because I would sit on a stool in front of the three princesses, watching them read and write and so the view I had of their books, was an upside-down view, I still read that way occasionally, especially when a book becomes boring.

There was no boredom in the palace grounds. We were situated in the middle of a veritable jungle of a garden, where marigolds and cosmos grew, rampant in the long grass. An old disused well was the home of countless pigeons, their gentle cooing by day contrasting with the shrill cries of the brain-fever bird (the hawk-cuckoo) at night. 'How very hot it's getting!' the bird seems to say. And then, in a raising crescendo, 'we feel it!' We feel it! WE FEEL IT!

Walking along a nearby beach, collecting sea shells, I got into the habit of staring hard at the ground, a habit which has remained with me all my life. Apart from helping my thought processes, it also results in my picking up odd objects – coins, keys, broken bangles, marble, pens, bits of crockery, pretty stones, feathers, ladybirds, seashells, snail shells! Not to speak of old nails and horse shoes. Looking at my collection of miscellaneous objects picked up on these walks, my friends insist that I must be using a metal detector. But it's only because I keep my nose to the ground, like a blood hound.

Occasionally, of course, this habit results in my walking some way past my destination (if I happen to have one). And why not? It simply means discovering a new and different destination, sights and sounds that I might not have experienced

"The adventure is not in arriving, it's the on-the-way experience. It is not the expected; it's the surprise. You are not choosing what you shall see in the world, but are giving the world an even chance to see you."

had I ended my walk exactly where it was supposed to end. And I am not looking at the ground all the time. Sensitive like the snake to approaching foot falls, I look up from time to time to take note of faces of passer-by, just in case they have something interesting to say.

A bird singing in a bush or tree has my immediate attention, so does any familiar flower or plant, particularly if it grows in an unusual place such as a crack in a wall or roof top, or in a yard full of junk- where once I found a rose bush blooming on the roof of an old, abandoned Ford car.

I like to think that I invented the zigzag walk. Tiring of walking in straight lines, or on roads that led directly to a destination, I took to going off at tangent – taking sudden unfamiliar turnings, wandering down narrow alleyways, following cart tracks or paths through fields instead of the main roads, and in general making the walk as complicated as possible.

In this way I saw much more than I would normally have seen. Here a temple, there a mosque; now an old church; a railway siding; follow the railway line; here's a pond full of buffaloes, there a peacock preening itself under a tamarind tree; and now I'm in a field of mustard, and soon I'm walking along a canal bank, and the canal leads me back into the town, and I follow the line of the mango trees until I am home.

The adventure is not in arriving, it's the on-the-way experience. It is not the expected; it's the surprise. You are not choosing what you shall see in the world, but are giving the world an even chance to see you.

It's like drawing lines from star to star in the night sky, not forgetting many dim, shy, out-of-the way stars, which are full of possibilities. The first turning to the left, the next to the right! I am still on my zigzag way, pursuing the diagonal between reason and the heart.

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*Reprinted with permission from Ruskin Bond, "Rain in the Mountains – Notes from the Himalayas", Penguin Books, 1993.*

*Ruskin Bond is a children's author and well-known novelist. He has written many short stories, essays and novels, all of which are reflective of the beauty and mystery of the Himalayas.*



# SENTIENCE for conservation

An approach built on science alone cannot help conservation of Nature, says T.R.Shankar Raman

What would our life be like if we could see, but not discern? If we could hear, but not listen, and if we could touch, but not feel? How would we experience life if we could taste and smell, but not savour? What would we be like, as a species and as individuals, if we could sense everything, yet make sense of nothing? Would our life be the same? Would we be the same? Would we even be human?

Biologists and philosophers have many lofty answers to the deeply fundamental questions of human existence. Ask Richard Dawkins, author of the famous book *The Selfish Gene: why are people?*, and he will, delving into the firmaments of the science of evolutionary biology, essay answers to the question he posed. The answers provide one view of our existence. Ask the philosophers and they will thread you through the arguments as to what sets us apart from them, and how we know we are who we are. The religions and the prophets have their own answers, too, some deep, many dubious. For me, as yet, the glimmerings of an understanding hover at the periphery of my vision, but is clouded by an intellectual cataract that needs to be lifted.

We are a species named *Homo sapiens*, meaning the man that knows or the man who is wise. Sometimes it seems strange that sapiens, a Latin word meaning wise, is applied to our species. Behind and beyond our intellectual and cultural achievements is a litany of apparently senseless acts—war and plunder, environmental destruction and pillage, racism and genocide, crimes and violence—which questions the assumption that we are the wise ones. Are we truly sapient? I, for one, am not so sure.

We are also called human beings. I am not a trained philosopher, yet it seems to me this is a term of firmer substance. It suggests a species that has something above a mere functional existence, it hints at the possession of a mind of non-trivial cognitive capacity, and of certain existential qualities of perception and self-awareness. To me, it suggests and in

some ways is inseparable from, a refined quality of sentience.

The dictionaries define sentience as the state of having or feeling sensation, or our faculty or readiness to perceive sensations. We may perceive our own sentience and those of others in many ways. A neurologist may see it in the firing of neurons in the brain as clearly as a behaviourist may see it in the turn of a head. It may be in the dilation of the pupils in the eye, in a lump in the throat, or, during the aftermath of an emotive moment, in an averted glance or in the words said or left unsaid. We feel it; it affects us.

Are we a sentient species? Sure, we are.

If we take sentience to refer to the form of perception or awareness of sensations emanating from our sense organs, we are clearly not alone, as a species on this planet, in being sentient.

In today's world, where credible science is called for to inform debate and decide, human emotion and feeling is treated as an errant child to be kept in rein—side-lined, side-stepped—or as an unwanted churl who would confuse rather than clarify.

Yet, sentience has also been defined as “an example of harmonious action between the intelligence and the sentience of the mind”. Applied to us, this view of sentience suggests the need to strike a harmony between our intelligent understanding of the world and our mind influenced by sentient perception. It suggests a marriage between reason and affect. A marriage that, if performed, may justify our claim, as a species and as individuals, to uniqueness.

I think of human sentience often, in the context of conservation. I think of it when a burst oil well, a mile under the sea, spews millions of litres of oil into the open ocean. When equatorial rainforest of exhilarating diversity is cut and burned to make way for a vast plantation of one species. When the furrows of old roads and mines are still raw on the hills and the metal claws of heavy vehicles gouge for more. And when the rail track sings to the passing of an express train—sings a ringing requiem for the four elephants left behind, their life ebbing away in stunned and bloody repose. I think of it, even, when the man, by the side of the road, raises his crowbar to bring it down on the head of a small, harmless, and nearly-blind burrowing snake, just because it is a snake.

Aren't these, and many other human-nature interactions, matters that not only concern us, but affect us? Should we then approach solutions for a reconciliation purely through reason and science, as is a common refrain (including of this blog), or include in our ambit human emotion and feeling? Can we build a popular movement, patriotic to a cause as to a nation, if we were to use only

logic and dry fact, ignoring sentiment and disposition, music and arts, poetry and passion? Should we always seek answers in our intellect rather than in our humanity? In today's world, where credible science is called for to inform debate and decide, human emotion and feeling is treated as an errant child to be kept in rein—side-lined, side-stepped—or as an unwanted churl who would confuse rather than clarify. In the process, a great and material part of human existence is brusquely overlooked.

I think an approach built on science, alone, cannot help conservation. We must include human sentience. Both reason and affect must be brought to bear on conservation problems.

The idea is not new, yet it seems worth articulating, reiterating. Fortunately, threads of support for this approach are emerging from diverse sources.

First, an over-reliance on science alone may turn out to be counter-productive (or at least insufficient) as seen in climate change campaigns. George Monbiot, writing about "The Unpersuadables" says, "The battle over climate change suggests that the more clearly you spell the problem out, the more you turn people away."

He sounds lost, "that there is no simple solution to public disbelief in science." I cannot help wondering if an approach that did not rely only on science would help more.

Understanding human emotions and incorporating them into how we deal with human-wildlife interactions, conflicts, and conservation issues is now being suggested as an important direction to take. The discipline of conservation psychology is also taking shape, hoping to link the understanding of human behaviour with conservation. Writing in the book *Who cares about wildlife?*, Michael Manfredo presents developing ideas and results of research on the effects of emotions on memory, decision processes, norms, values, attitudinal changes, and health. His tentative conclusion, "Emotions act with cognition to direct human behaviour. They play an important role in memory, decision making, and attitude change; they clarify roles and social structure... Wildlife professionals should re-examine the widely held view that issues concerning emotional responses are trivial, unimportant, or non-informative. Emotions merit careful consideration and thoughtful response."



The foundations of a conservation ethic must be built on human sentience. And for this to work it may need to sincerely garner the support, not only of conservation scientists, but of painters and musicians, poets and songwriters, playwrights and psychologists, humourists and social workers. It needs, as is often said, to rebuild burnt bridges across the arts, humanities, and the sciences.

He also quotes Jon Elster, who says, more pithily, "Emotions matter because if we did not have them nothing else would matter."

Another line of argument comes from the work and ideas of the renowned primatologist Frans de Waal in his recent book *The Age of Empathy: Nature's lessons for a Kinder Society*. de Waal opens his book with the questions: Are we our brothers' keepers? Should we be? Or would this role only interfere with why we are on earth, which according to economists is to consume and produce and according to biologists is to survive and reproduce? Linking ideas of competition-is-good-for-you to their origins around the time of the Industrial Revolution, de Waal presents a survey of modern research in animal behaviour, primatology, and

anthropology, where there is compelling evidence for the importance of empathy in moulding social relationships. He examines social animals from dogs to dolphins, monkeys and apes, wolves and elephants.

If man is wolf to man, he is so in every sense, not just the negative one.

He also does not shy away from talking about emotions and moods, greed and gratitude, attachments and morality. I have not read the complete book yet but the previews seem tantalisingly pertinent.

"What is it that makes us care about the behaviour of others, or about others, period?" Can we probe the hidden wells of human empathy for a more benign and graceful citizenry on this planet?

The foundations of a conservation ethic must be built on human sentience. And for this to work it may need to sincerely garner the support, not only of conservation scientists, but of painters and musicians, poets and songwriters, playwrights and psychologists, humourists and social workers. It needs, as is often said, to rebuild burnt bridges across the arts, humanities, and the sciences. It needs to bring back into serious discourse our motivations, emotions, passions, sensitivity, and humanism. Then, perhaps, in the years ahead, we will tread our path on planet Earth as *Homo sentiens*.

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*T. R. Shankar Raman is a scientist with the Nature Conservation Foundation, Mysore, with interests in the ecology and conservation of tropical forests, particularly their plant, bird, and mammal communities. He also writes on ecology, natural history, and conservation issues for newspapers, periodicals, and weblogs.*



# The Collapse of Complex Societies

*Reviewed by Akshay Ahuja*

Near the middle of *13 Bankers*, a good book about the recent financial crisis, the economist Lawrence Summers uses an analogy to suggest *how* to manage volatile financial markets. The emphasis is mine.

The jet airplane made air travel more comfortable, more efficient, and more safe, though the accidents were more spectacular and for a time more numerous after the jet was invented. In the same way, modern global finance markets carry with them enormous potential for benefit, even if some of the accidents are that much more spectacular.

As the right public policy to the jet was longer runways, better air-traffic control, and better training for pilots, and not the discouragement of rapid travel, so the right public policy response to financial innovation is to assure a safe framework so that the benefits can be realized, not to stifle the change. Talk to anyone with power in the modern world and this will strike them as an intelligent remark. Masquerading as sober analysis, though, Summers's analogy is at heart a pure statement of faith. It is the modern faith, suitable for carving on all of our tombstones: a more complex system is always better than a simple one.

Summers could, as a trained economist, attempt to gauge what is lost and gained in the move to a more resource-intensive system. In the case of jet travel, the benefit consists of many hours of travel saved; on the debit side, one has pollution and environmental damage, the depletion of huge quantities of fuel, and the immense resources invested not just in the planes but the government-funded infrastructure.

What benefit to society is left after all of this work of extraction, construction, and mitigation is done? I have no idea — obviously it is not a simple analysis. What is important is that no such analysis is ever done. It is simply assumed, as Summers does, that benefits will indeed accrue, and that governments should begin spending to accommodate the new reality.

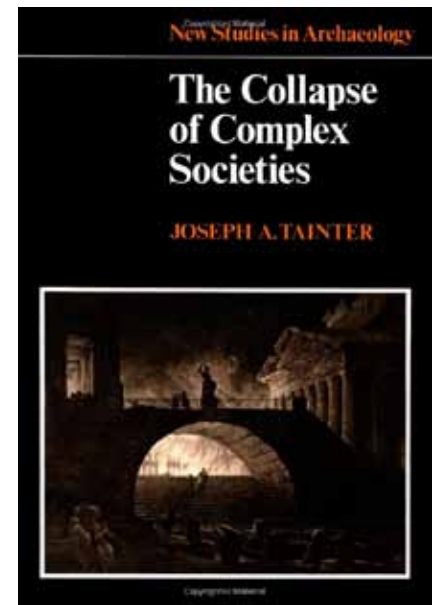
This brings us to *The Collapse of Complex Societies*, Joseph Tainter's attempt to synthesise all of the theories of decline and fall into a single model. Tainter's argument is that investing in complexity inevitably generates decreasing marginal returns for the society that utilises it. In his analysis, persisting in the same methods even when they have ceased to work — as Summers suggests we do — sets a civilisation on track for collapse.

Here is Tainter's basic narrative. A civilisation forms when some benefit accrues from greater complexity. These occasions are actually quite rare in human history. For example, in the case of the Chaco Canyon civilisation of the American Southwest, two different bioregions within a modest distance of each other might have realised that different stresses affected their food supplies — a drought in one area, for example, often didn't affect another — and decided to pool their resources.

When such pooling occurs, a new class of person springs into existence: the coordinator. Behind the leadership of these figures, a newly complex society emerges, one which is geared to pursue complexity as a strategy. And benefits do accrue — in certain human terms, and for a time — such as improved nutrition (in calorific terms) and the greater availability of certain goods.

The marginal benefits of complexity, however, eventually decline. Beyond a certain point, intensification of cultivation will produce less additional food, and the peasantry and land base will be subjected to more and more stress. In Tainter's model, however, the society now only knows how to utilise a single strategy, and a superstructure is in place — along with a much larger population — that cannot be gracefully abandoned.

Near the end, vast resources are invested in entirely unproductive ways, such as desperate attempts at regime legitimisation: the competitive monument-building of the Lowland Maya,



for example, or the lavish parades held for each new, short-lived Roman emperor. Eventually, the burden of civilisation becomes greater than any benefit it provides and the society collapses. Then, over the next decades or centuries, the remaining population begins to form new arrangements at a much lower level of resource use.

There is endless raw material for reflection in some of Tainter's examples. Here, for example, is Tainter's one paragraph summary of the origins of the Industrial Revolution in England.

Wilkinson (1973) has shown that major jumps in population, at around A.D. 1300, 1600, and in the late eighteenth century, each led to intensification in agriculture and industry. As the land in the late Middle Ages was increasingly deforested to provide fuel and agricultural space for a growing population, basic heating, cooking, and manufacturing needs could no longer be met by burning wood. A shift to reliance on coal began, gradually and with apparent reluctance. Coal was definitely a fuel source of secondary desirability, being more costly to obtain and distribute than wood, as well as being dirty and polluting. Coal was more restricted in its spatial distribution than wood, so that a whole new, costly distribution system had to be developed. Mining of coal from the ground was more costly than obtaining a quantity of wood equivalent in heating value, and became even more costly as the most accessible reserves of this fuel were depleted. Mines had to be sunk ever deeper, until groundwater flooding became a serious problem.

Watt's steam engine was developed to

Eventually, the burden of civilisation becomes greater than any benefit it provides and the society collapses. Then, over the next decades or centuries, the remaining population begins to form new arrangements at a much lower level of resource use.



Photograph from Wikipedia

pump water out of these flooded mines, and it soon put humanity on the path to our modern industrial society.

Why England, I wondered, at that particular moment in the world's history? Why did the population stresses there result in a form of resource exploitation that hadn't developed elsewhere, even in cultures, like ancient China, that had similar population pressures, a comparable level of technology, and easily accessible coal?

Along with practical issues of historical and technological development, I think there is a spiritual dimension to these questions, involving what kind of responses a society is willing to consider when it is faced with a challenge.

Maybe a story will help explain what I mean. In Chuang Tzu, a traveler sees a farmer laboriously carrying water with a pitcher to water his crops. The traveler walks up to the man and suggests that the irrigation could be done for a hundred plots much more simply with a draw-well and channels (a piece of appropriate technology if ever there was one). This is the farmer's response:

I have heard my teacher say: 'When a man uses a machine he carries on all his business in a machine-like manner. Whoever does his business in the manner of a machine develops a machine heart. Whoever has a machine heart in his breast loses his simplicity. Whoever loses his simplicity becomes uncertain in the impulses of his spirit. Uncertainty in the impulses of the spirit is something that is incompatible with truth.' Not that I am unfamiliar with such devices; I am ashamed to use them.

The Zhou dynasty out of which this story emerged lasted for over 700 years, and disintegrated without exhausting its land base. Modern industrial civilisation, on the other hand, could both collapse and render the Earth virtually uninhabitable in half that time. Why?

Tainter's answer to this question, 'different rates of declining marginal returns,' is not really illuminating. These are questions of culture and spirit. Why do some complex societies look with such suspicion on novelties, even ones that might make their lives simpler, while ours has come to embrace absolutely any new technology, no matter how trivial its benefits, even at the cost of our health and sanity?

Tainter is an intelligent and thorough writer, and I suppose it is unfair to expect certain kinds of insight from a scholarly work. For those of us perhaps too eager to see signs of terminal decline in absolutely every aspect of our culture, some of Tainter's scepticism — which catalogues how often such verdicts have been prematurely passed over the years — is a useful corrective. He dismisses most mystical theories, for example, as positing the existence of a 'vital force' in civilisation which cannot be detected empirically, and whose ebbs and flows seem entirely based on an author's personal preferences. Fair enough.

Still, there are moments when one feels Tainter's want of imagination. His model has no convincing explanation for why a civilisation would be utterly unable to change course, even in the face of imminent disaster. Such an explanation would, I think, have to explore the spiritual root system of a society — out of which

people like Lawrence Summers draw their assumptions — even if the resulting analysis was necessarily subjective.

As if to illustrate this shortcoming, Tainter ends the book by lying down in the trap that he has spent so many pages describing. Writing in 1988, he wonders whether modern industrial society might also collapse, since fossil fuels and other necessary resources show signs of declining marginal returns. And his suggestion is that that we begin looking for a new energy subsidy to replace them with, and invest heavily as an international community in the needed research.

So this is how our world ends, I thought: not with a bang, but with the formation of another committee. And somewhere in the room where that last committee meets, one hears the ticking of the machine heart, which only knows how to give one kind of answer and supplies it continuously.

The Collapse of Complex Societies is a useful book. Its model seems valid enough to me, and it contains a wealth of historical background. But I think most readers of this site already have a good idea where this society is headed. For the kind of wisdom that might point to renewal — towards which we still have to work, even if it happens long after we're gone — we need to look elsewhere.

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*Akshay Ahuja is a writer, mainly of fiction and essays. He reviews books for Dark Mountain online and also for his own blog, The Occasional Review. He grew up in New Delhi and Bethesda, Maryland, and now lives with his wife in Somerville, Massachusetts*





## Eco ART

By Barbara Roux

**The photographs are based on my journey through fragile habitats that are on the verge of civilized areas and struggle for survival. I carry a piece of cut mirror I found in the garbage years ago that I have shaped into a simple house. I hold the mirror to reflect the habitats and gain their energy. Ecology has its origin in the word *oikos* meaning 'household' in Greek.**

*I* am an artist who deals with issues of ecology. My work grows out of fascination for native habitats and often stems from my actions to preserve these wild places. Similar to the American Hudson River School artists, I see the transcendental in nature. As a contemporary artist I am concerned with the reality of what I see in the natural world and how habitats on the edges of civilization struggle and react to change. A little event

caused by some interference on the life of an isolated plant in the wilderness intrigues me. The land has secrets and needs that I seek to uncover and respond to in my work. I create my own path through wild terrain looking for the out-of-season and the out-of-place. My connection to specific habitat niches can be seen in the layering of experiences in my installations of photographs, sculpture drawings and narratives. My process of creating a



work is a ritual in itself. I document and interpret an event from a specific site, and by presenting altered elements from the place, I am able to show my physical and emotional connection to the land.

I wish to express the idea that the natural world is a reflection and metaphor for our own society. Both worlds (the natural and the societal) are alive and are being altered and damaged by progress. Like all structured communities, the wilderness seeks survival. Through my work I give wild places a voice and connect them to our lives in a universal and inclusive way. There are mysteries inherent in the natural world and their meanings are a key to our own success. I hope my work will encourage people to protect and celebrate natural habitats and strengthen their bonds with these wild places.

## Hollow

In a cold low place filled with shadows  
time and air sit silently.  
Old trees block the sun.  
Cobbles protrude from earthly matter  
veined with minerals that sparkle no more.  
Dark winged birds flutter in bramble mounds.

Buried here in this green cellar  
are secrets that wait  
like seeds, undisturbed  
for decades, waiting to be uncovered  
and embroidered with patterns of light.

- Barbara Roux, March 2010



*Barbara Roux continues to work and live in Huntington, New York. Her desire to preserve the natural landscape and her interest in conservation have become the inspiration for her artistic oeuvre.*

*Roux's drawings, photographs, sculpture and installations have been shown in numerous museums, galleries and universities over the past 30 years. She also writes poems to accompany her eco-art, two of which are featured here.*

*House in the Bottom,  
digital photograph,  
Barbara Roux, 2010.*





## Cold Woods

Wind rushes over imbs and trunks striped in white  
down their north side grounded in snow.  
Crowns of fanning branches  
swollen with buds sway and bend  
dancing with the sky.  
Branches creak as they brush against each other.  
Meandering deer tracks embed the snow  
skirting bare root collars of giant oaks.

At 4 p.m. a dropping sun paints trees marigold  
Upside the hillside wall.  
Geese call loudly as they stream above  
doves that dot the black birch branches.  
Everything turns grey as the cardinal appears.  
Then there is darkness, stars and wind.

- Barbara Roux, January 2011



*Fallen Branch takes Root*

# THE HIDDEN NEXUS: food, health and the insurance industry

By Devinder Sharma

**Changing food habits have brought the entire food system – from farm to the fork – under a monopolistic industrial food system.**

The other day, travelling from Chandigarh to New Delhi, I stopped to meet some farmers on the way. Sitting under a mango tree a little outside Ambala, I heard Rajender Dahiya a small farmer tell me proudly of his visit to an upstream coffee house. “I spent Rs 160 for a cup of coffee. I really enjoyed it.” He didn’t stop here. “I intend to take my wife also to the coffee shop one of these days,” he said, adding “I love the taste.”

I can understand how difficult it must be for Rajender Dahiya to shell out Rs 160 for a cup of coffee, which at home may not cost him more than Rs 10. But then, such is the power of marketing blitz that none of us can escape its fury. Agribusiness knows how to tickle our taste buds, and thereby turn us into addicts: beautiful packaging and aggressive marketing skills dictating new developing food habits; ending up by literally force feeding us with what the industry wants us to be fed with; and by the time we realise it, our traditional local and nutritious foods are out of our plate.

Changing food habits have brought the entire food system – from farm to the fork – under a monopolistic industrial food system.

I am therefore not surprised to find food movement in the United States – comprising NGOs, community groups and family farmers – joining the non-violent Occupy Wall Street protesters. As the American activist Eric Holt Gimenez says in his essay ‘Occupy the Food system’, the relationship between hunger, lifestyle diseases and the unchecked power of the Wall Street investors and corporations runs deep and strong. The urgent need is to connect the dots. Let me try.

The connection is however clearly visible. “Big US companies lobbying hard to enter India,” screams a headline. The large US-based multinationals queuing up to grab a pie of India’s robust economic growth includes Wal-Mart Stores, Starbucks and financial services majors Morgan Stanley. Some other technology giants like Pfizer, Dow Chemicals, and telecom major AT&T are seeking support to further strengthen their Indian businesses. Already some food majors, being driven out of America because of the campaign launched against growing obesity among children by the US first lady Michelle Obama, have recently made massive investments in food business in India.

Agribusiness knows how to tickle our taste buds, and thereby turn us into addicts: beautiful packaging and aggressive marketing skills dictating new developing food habits; ending up by literally force feeding us with what the industry wants us to be fed with; and by the time we realise it, our traditional local and nutritious foods are out of our plate.



*The large US-based multinationals queuing up to grab a pie of India's robust economic growth includes Wal-Mart Stores, Starbucks and financial services majors Morgan Stanley.*

All this is happening at a time when India has laid out a red carpet for food processing. Planning Commission had provided for Rs 1.50 lakh crore for the food processing industry in the 10th and 11th Plan periods. Massive subsidy is being doled out for setting up food processing units. If you have Rs 50,000 in your pocket and don't know what to do with it, says a radio advertisement, just meet your banker and explore the possibility of setting up a processing unit.





Occupy Wall Street - September, 2011: The relationship between hunger, lifestyle diseases and the unchecked power of Wall Street investors and corporations runs deep and strong.

The backward linkages do not end here. The Ministry of Food and Agriculture has been facilitating the process by amending and suitably modifying the national policies to suit industry interests. Massive subsidy is being poured in for the supply of hybrid seeds, farm equipment, chemical inputs and farm credit.

*More than 4 lakh people die every year in America alone from obesity and its related ailments.*



This, in reality, is the 'farm to the fork model' wherein the government extends all help in rooting the industrial food systems. The banks, seed technology firms, manufacturing units, and the retail sector join in to propose cropping patterns, which the farmers are expected to adopt. Scientists also step in by repeatedly bemoaning that only 2 per cent of Indian foods are processed. Not telling that in the US, from where the industrial push comes 'junk foods' are being blamed for turning food into a killer. More than 4 lakh people die every year in America alone from obesity and its related ailments.

It all began with the advent of Green Revolution some 4 decades back. Agricultural research, farm policies, credit supply, subsidies and technology were woven in to promote high-yielding crop varieties which responded well to chemical fertilisers and pesticides. Since then, technology has come along with a financial package that lures farmers to

shift to newer cropping patterns. Over the years, huge subsidy has been doled out to make chemical fertilisers more popular. But no subsidy has been given to organic manures, composting and green manure crops, thereby making them economically redundant.

I have always wondered why the banks provided easy credit for exotic

Massive subsidies are being poured in for the supply of hybrid seeds, farm equipment, chemical inputs and farm credit. This, in reality, is the 'farm to the fork model' wherein the government extends all help in rooting the industrial food systems.

At a time when the world is once again at the doorstep of an impending food crisis, and with lifestyle diseases growing out of proportion, the time is ripe to bring about a change in food habits, and more importantly the thinking that goes in restoring the pride in traditional foods and the natural farming system. The 99 per cent must wake up to the threat to their food.



and cross-bred cattle breeds whereas no support came for the desi cows. More than 40 years after the White Revolution was ushered in, the National Dairy Development Board (NDDB) has now realised the potential of the desi breeds of cows. It is now planning for a massive investment in developing improved pedigree bulls of desi breeds so as to shift the cattle breeding focus to improving the performance of native breeds. If only a corresponding subsidy and financial support was provided for building and improving the native breeds, millions of cows would not have been roaming on the streets.

Similarly, the food processing industry, banking on some of the big players, has, through a sustained campaign shifted the food habits to meet the industrial needs. White polished rice for instance, replaced the highly nutritious red and parboiled rice. White sugar replaced brown sugar. Both these industrial products are now

being faulted for the growing incidence of diabetes and other lifestyle diseases. But with the entry of big US food giants into India, the effort will be to wean away gullible consumers to more delectable food choices. In the US for instance, an average Wal-Mart store stocks more than 40,000 food products on its shelves, and no wonder the country is faced with a health epidemic.

The more the sale of unhealthy processed foods, the more is the gain to the economy. The more the processed and nutritionally poor products are sold, the more is the growth of medicines, illness and thereby an upswing in the visits to hospitals. In other words, the growth of pharmaceutical industry is directly dependent upon the performance of the food industry. And more the pharmaceutical industry grows, the bigger is the share of health insurance industry in the economic pie. The future of food, health and insurance industry

therefore are interlinked. Not surprising therefore to find the insurance sector in the US investing \$ 2 billion every year in the food sector. The reason is obvious. The more the contaminated food, more is the gain for the insurance sector.

The rules and institutions governing food supply favour its monopoly control by corporations. World Bank/IMF, World Trade Organisation, Free Trade Agreements and Wall Street define the regulations. The challenge is to delink food from Wall Street. This can be achieved by building up sustainable alternatives, and also by reverting back to daily cooking and encouraging a healthy lifestyle. At a time when the world is once again at the doorstep of an impending food crisis, and with lifestyle diseases growing out of proportion, the time is ripe to bring about a change in food habits, and more importantly the thinking that goes in restoring the pride in traditional foods and the natural farming system. The 99 per cent must wake up to the threat to their food.



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*Devinder Sharma is a Food and Trade Policy Analyst and Activist. He writes on policy issues concerning sustainable agriculture, biodiversity and intellectual property rights, environment and development, food security and poverty and the implications of the free trade paradigm.*

*All photographs from Wikipedia*



# Chutneys

## BRINJAL CHUTNEY

To make one cup (200 gm approximately)

Preparation & Cooking Time : 30 min.

### Ingredients and their preparation:

- Brinjal (small, purple) – 2 nos. wash thoroughly, cut coarsely into pieces and dry roast.
- Onion – 1 no. (app 50 gm) peel, slice coarsely.
- Tomato – ripe – 2 nos. (app 70 gm) chop.
- Green chilli – 1 no, chop finely
- Garlic – 3 flakes, chop finely
- Coconut – fresh – 50 gm, grate
- Tamarind – a gooseberry-sized ball (app 5 gm) soak in a little warm water to soften a bit before grinding.
- Salt – to taste

### For tempering :

- Mustard – 1 tsp
- Curry leaves – 1 sprig
- Red chilli – 1no.
- Cooking oil – half tsp -

### Method :

Grind coconut, tomato, tamarind and green chilli together, then add the roasted brinjal pieces, garlic and salt and grind again for 2 to 3 sec. Heat oil and season using the above mentioned ingredients.

**Twist :** Instead of coconut, the same amount of roasted peanuts can be used as a substitute.



**Brinjal is a versatile vegetable with abundant soft, small seeds. It is widely used in Indian cuisine , has a slightly bitter taste due to the presence of nicotinoid alkaloids and is surprisingly a close relative of Tobacco.**



## HIREKKAI

To make one cup (200 gm approx)

### Ingredients :

- |                  |            |
|------------------|------------|
| • Hirekkai       | ½ kg       |
| • Dry Cocunut    | ½ cup      |
| • White Til      | ¼ cup      |
| • Tamarind       | 3-4 pieces |
| • Green chillies | 7-8        |
| • Jaggery        | 20 gms     |



## RADISH (MOOLI) CHUTNEY

Available abundantly all over India, especially in the winter, this wonderful taproot can be magically transformed into many a lip-smacking dish.

To make one cup (200 gm approximately).

Preparation & Cooking Time : 30 min.

### Ingredients :

- Radish (white or red) – 1 no., peel, wash thoroughly, cut coarsely into pieces.
- Onion – 1 no. (app 50 gm), peel, slice coarsely.
- Tomato – ripe – 2 nos. (app 70 gm), chop
- Coconut – fresh – 50 gm, grate
- Tamarind – a gooseberry-sized ball, soaked in a little water to soften a bit before grinding.
- Green chilli – 1 no, chop finely
- Garlic – 3 flakes, chop finely
- Salt – to taste



### For tempering :

- Mustard – 1 tsp
- Curry leaves – 1 sprig
- Red chilli – 1no.
- Cooking oil – half tsp.

### Method :

Grind coconut, tamarind and green chilli together to a chutney consistency taking care not to make a very fine paste. Then add the mooli, garlic and salt and grind again for 2 to 3 sec. Tastes best when it has a 'bite' to it. Heat oil and season using the above mentioned ingredients.

## CHUTNEY

Preparation & Cooking Time : 30 min.

### For seasoning :

- methi seeds
- red chillies
- hing
- Cooking oil – half tsp
- salt to taste
- Coriander leaves - one bunch

### Preparation :

- Scrape skin of Herraikai
- Cut Hirekkai in pieces
- Dry roast til and coconut
- Heat oil and add seasoning and green chillies
- Put Hirekkai skin and add ½ cup of water and cook till tender
- Add Hirekkai pieces and cook till done
- Add roasted til, coconut tamarind salt and jaggery and coriander leaves
- Allow it cool and grind to a smooth paste



*Preetha Ramesh is a Food Technologist with a passion for organic cooking and healthy living. She has been co-ordinating the canteen at Prakriya Green Wisdom School ensuring children eat wholesome food.*





## What It Was and What It Wasn't

RIO 20, held on 20th to 22nd June 2012 was a much hyped event – but also the source of much pessimistic barbs. Formally called the UN Conference on Sustainable Development, it was the largest UN summit ever organised, and comes 20 twenty years after the original Rio Earth summit and 40 years after a similar meeting in Stockholm.

On the table were three main themes: better governance, plans to grow the 'green economy' of industries such as renewable energy, and progress on agreeing on 'sustainable development goals'.

Our PM Manmohan Singh was there along with François Hollande (France), Vladimir Putin (Russia), Mariano Rajoy (Spain) and Julia Gillard (Australia) among the big name leaders attending the event. Much noticed no-shows were Barack Obama, Angela Merkel of Germany, and David Cameron.

### The Future We Want

After a two-year effort, the conference pre-negotiations wrapped up on the 19th June with a 49-page document called "The Future We Want." Participating world leaders accepted that document during the conference, with the intended goal of laying out a road map for sustainable development. Environmentalists at the conference criticized the document as inadequate to make meaningful progress.

### Extracts from statemnets by UN Major group of NGOs:

We stand on the brink of Rio+20 being another failed attempt. With governments only trying to protect their narrow interests instead of trying to inspire the world. If that happens, it will be a big failure.

You cannot have a document called *the Future We Want* without any mention of planetary boundaries, tipping points or planetary carrying capacity.

The text as it stands is completely out of touch with reality. Just to be clear, NGOs at Rio do not endorse this document.

They cited a few examples of what the considered failures in the text:

- no mention of the end of fossil fuel subsidies
- failed to give clear mandate to even make a start on end to abuse of high seas
- missed opportunities to start new treaties on sustainable reporting
- extraordinary lack of any reference to nuclear power, especcally in light of Fukushima disaster

### Some comments...

**George Monbiot:** on putting a Financial Price to Nature – to conserve it:

"It's the definitive neoliberal triumph: the monetisation and marketisation of nature, its reduction to a tradeable asset. Once you have surrendered it to the realm of Pareto optimisation and Kaldor-Hicks compensation, everything is up for grabs. These well-intentioned dolts, the fellows of the grand academy of Lagado who produced the government's assessment, have crushed the natural world into a column of figures. Now it can be swapped for money."

**Dilma Rousseff,** the president of Brazil, told the conference:

"Current development models have pretty much exhausted their ability to respond to contemporary challenges."

**Kumi Naidoo,** Greenpeace International's executive director:

"Rio+20 has turned into an epic failure. It has failed on equity, failed on ecology, and failed on economy."

**The World Wildlife Fund** called the document "less than satisfactory from any point of view" and warned that without improvement the conference "will have been a colossal waste of time."

During a pre-conference plenary, delegates from the European Union criticized the draft for lacking specific time



*Tom Goldtooth of Indigenous Environmental Network speaks about the negative impacts of REDD*

frames and targets and for having a “lack of ambition.”

France’s newly elected president, **Francois Hollande**, told the conference that he regrets that the plan does not specify funding goals.

**Wen Jiabao**, the premier of China, told the conference, “We must promote global sustainable development and promote equal right to development for all countries.” Jiabao said, “The gap between the North and the South is widening.”

## Not everyone is unhappy with the lack of progress in Rio

Danish professor Bjorn Lomborg, author of the *Sceptical Environmentalist*, had this to say today:

A breakdown at Rio+20 might be a good thing. The UN has chosen to focus on trendy issues like global warming and a green economy instead of banal - but much more important environmental issues - like air and water pollution.

For every one person that dies from global warming, about 210 die from air and water pollution. In other words, twenty years from now, we could have saved 120 million lives, if only Rio+20 had focused on solving simple environmental problems. Instead, we’re spending money on windmills, solar panels, biofuels and other rich world obsessions.

*Sources:*

*Website of National Geographic and The Guardian*

## Germany Swaps Nuclear for Solar and Wind Power

Last year, in response to the disaster at the Fukushima Daiichi Nuclear Power Plant, Chancellor Angela Merkel announced a plan to close down all 17 of Germany’s nuclear reactors and replace them with renewable energy, mostly solar and wind power. Germany, the world’s most aggressive adopter of renewable energy, is taking a bold leap toward a future free from nuclear energy. In March, the German government announced a program to invest 8 percent of the country’s GDP in renewables, according to the DIW Economic Institute in Berlin.

Germany has already closed eight nuclear reactors, and the rest will be shut down by 2022. For now, natural gas is filling the void left by nuclear power, which formerly produced 20 percent of the country’s electricity. Under Merkel’s plan, 80 percent of Germany’s energy will come from renewables by 2050, according to the German Advisory Council on the Environment. Studies by the council show that 100 percent renewable power is a realistic goal for Germany.

In contrast, the United States has been much less ambitious. The president’s “New Energy for America” plan aims to supply the country with 25 percent renewable energy by 2025.

Eighty percent of German residents want to see their country abandon nuclear power, but some Germans have also opposed new energy projects in their backyards. The website for “Wind Power Opponents,” [Windkraftgegner.de](http://Windkraftgegner.de), lists more than 70 protest campaigns, most of which are regional, grassroots groups organized to stop specific projects.

Germany’s renewables plan will be expensive, but so was the Fukushima melt down—it did \$50 billion in damage to Japan’s economy by some estimates. Dealing with the effects of climate change won’t be cheap either. Even German nuclear power companies are investing in the plan. Not only will it make Germany’s energy infrastructure among the safest in the world, it should provide many chances for economic growth, according to press statements by Philipp Rösler, Germany’s Economics Minister.



*A new type of lightweight solar panel that can be integrated into the design of buildings and even used in electricity-producing tinted windows, developed by a German start-up.*

*Sources:*

*By Oliver Lazenby, <http://www.nationofchange.org/>,  
Down to Earth Magazine*



## Walking / jogging in a forest twice as good as gym workout!

A jog through a forest can cut the risk of suffering from mental health problems and is as twice as good as compared to a trip to the gym, a study has found. Researchers found that anything from a stroll in the park to a run through woodland can have a positive effect on people suffering from depression and anxiety.

The study also showed that the positive effect on people's mental health was 50 percent more than they might expect from going to the gym. Researchers at Glasgow University looked at natural and non-natural environments for physical activity, including walking, running and cycling, and found that being around trees and grass lowered brain stress levels, the Telegraph reported. Only activities carried out in a natural environment outdoors were found to be associated with a lower risk on poor mental health.

"There was around a 50 percent improvement in people's mental health if they were physically active in the natural environment compared to those who weren't," a researcher said.

*Source: Deccan Herald, 22nd June 2012*

## How to make curcumin cure better

Traditionally, it has been well known in India that turmeric has medicinal properties. Turmeric is used in everyday cooking - and most housewives know it is a disinfectant and that it can be used as a home remedy on bruises and as a medicine for cough. India is also the biggest grower of turmeric - and exports 28 tonnes of turmeric annually which is 60 per cent of world exports.



THE Ayurveda system of medicine recommends use of turmeric, *Curcuma longa*, for a range of ailments including inflammation and pain. The age-old cure for common diseases has now been turned into a new age wonder drug that could cure cancer. It goes by the name curcumin. But uses of curcumin, the component that gives turmeric its curative property, are limited - it is not soluble in water, hence not well absorbed by the human body. For therapeutic use curcumin has to be administered in high doses.

Only 60 to 66 per cent curcumin gets absorbed. The rest either breaks down in the presence of enzymes from the liver and the intestines or gets rejected as waste. "Difficulty in delivering curcumin is limiting its use. If it can be delivered successfully by overcoming its absorption (bioavailability) problems, it can have a huge market," said D V Ratnam of University of Strathclyde, Glasgow, UK. Ratnam works on nano-drug delivery that holds promise for cancer patients. Curcumin encased in nanoparticles has been found highly effective in treating breast cancers.

### Boiling helps

Heat has been found to increase turmeric absorption which gives credence to the popular belief that turmeric mixed in hot milk enhances its curative powers. Researchers at Oklahoma Medical Research Foundation found twelve-fold increase in curcumin solubility when it was boiled with water for 10 minutes. Whether curcumin made soluble with heat leads to its increased absorption is yet to be proved.

Another way to increase curcumin solubility is to combine it with sugar. Pharmacists in Bengaluru studied the anti-inflammatory benefits of curcumin combined with sugar and found it more soluble in water.

### Nature's solution

Curcumin is soluble in ethanol and oils. But it is not known how ethanol affects curcumin. Companies that market herbal products claim curcumin solubility can be increased using oils. A Kerala-based manufacturer of herbal extracts, Arjuna Naturals Extracts Limited, uses emulsifiers to make curcumin soluble and claims its product Biocurcmax (curcumin with turmeric oil) proved to be 700 per cent more active during human clinical trials, making it suited for therapeutic use. The results were published in the Indian Journal of Pharmaceutical Sciences in July-August 2008.



*Source: Down to Earth Magazine*

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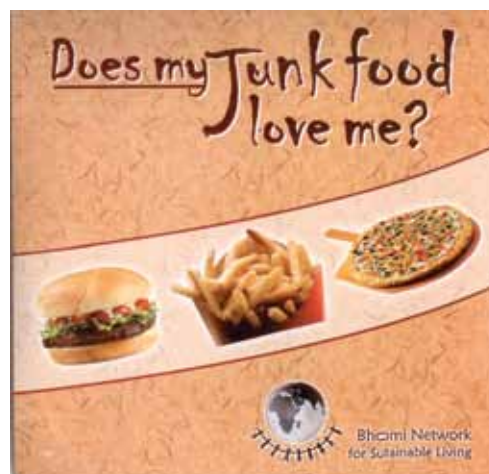
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## ANNOUNCEMENTS

### The Bhoomi College - Short Programmes

#### Calendar of Programmes for 2012 - July to December:

The following are some of the short programmes offered by the Bhoomi College. They are usually offered on weekends (Saturday & Sunday) unless otherwise indicated.

- July 28 Reversal of Hypertension (Dr. Nandita Shah)
- Aug 4,5 Hill Top Trekking in Kemmanagundi (see details below)
- Aug 11, 12 Hill Top Trekking in Kemmanagundi (see details below)
- August 11 Organic and terrace Gardening
- Sept 8, 9 Holistic Nutrition, Conscious Kitchen (Basic)
- Sept 29, 30 Holistic Nutrition, Conscious Kitchen (Advanced)
- Sept 14,15 Globalisation and Food Security
- Oct 1 (Mon) Gandhian Thought and Education for Sustainability
- Oct 1, 2 Bhoomi Utsav
- Oct 8 to 13 Gaia Theory & Learning from the Sharavathy Rainforest
- Nov 16 to 18 Soil, Soul and Society (by Sri Satish Kumar)
- Dec 8, 9 Workshop on Creating Stories for Ecological Education

For enquiries and registration please contact: [bhoomi.programmes@gmail.com](mailto:bhoomi.programmes@gmail.com)

### Hill Top Trekking in Kemmanagundi

Dates: 4th and 5th August, 2012 (Sat - Sun)  
and 11th and 12th of August, 2012 (Sat - Sun)



Kemmanagundi is an overnight journey away from Bangalore in Chikmangalore District in Karnataka.

These range of hills offer fantastic views of meadows and magical clouds that you can touch! Trekking on the top of hills, visiting exhilarating waterfalls and ancient temples will be the highlights of this wilderness programme.

Other interesting activities will include climbing with ropes and adventure games.



For enquiries and registration :  
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EternalBhoomi

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**(August 2012 to June 2013)**

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### **About Bhoomi College**

The Bhoomi College for Sustainability Studies is a participative space for holistic learning. It is located in the outskirts of Bangalore on a campus with an organic garden and eco-friendly buildings.

The Bhoomi College believes in an integrated approach, combining the arts and sciences, theory and practice, eastern and western wisdom as well as intellectual, emotional, physical and spiritual self-exploration.

**Look up our websites:**  
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### **About this Programme**

This programme has been designed for those interested in Green Careers or Green Entrepreneurship, for students, researchers, mid-career professionals, teachers, home makers and others keen on sustainable living. In a world headed towards climate crisis and social and political conflicts we need to re envision economics, technology and science which are aware of ecological realities. This programme aims at bringing to its participants the best work on these issues from around the world and use them meaningfully with committed facilitators and innovative and creative methods.

### **Unique Features of the programme:**

- **Great Teachers and Facilitators:** The faculty includes scientists, activists, writers and others who have done path-breaking work in their fields. Satish Kumar (co-founder, Schumacher College, UK), Dr. Ashish Kothari (Kalpavriksh, Pune), G. Gautama and Shri Narayana Reddy and Shri Devinder Sharma are a few teachers who will offer short courses during the one year programme.
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# Bhoomi's Panel of Advisors

We are happy to introduce our Panel of Advisors for Bhoomi College and the Bhoomi Magazine... pioneering leaders and wonderful human beings who support us through their inspirational work, through articles contributed to the Bhoomi Magazine and / or as teachers at the Bhoomi College



**Shri Satish Kumar** walked 8000 kms in 1962, from India to Europe and the US to campaign against Nuclear Weapons, with the blessings of his Guru, Sri Vinobha Bhave. In 1973, he settled in England, taking on the editorship of Resurgence Magazine and becoming the guiding spirit behind a number of ecological, spiritual and educational ventures. He was the driving force in the establishment of a unique institution, Schumacher College in the UK.



**Dr. Madhu Suri Prakash** is a professor of Education at the Pennsylvania State University and is recipient of the Eisenhower Award for Distinguished Teaching. In addition to numerous articles in professional journals she has co-authored *Escaping Education – Living as Learning within Grassroots Cultures*, with Gustavo Esteva.



**G. Gautama** is the director of the Chennai Education Centre of the Krishnamurthi Foundation of India (KFI). Under his guidance several Innovative programmes have been developed at The School, KFI. He has over 2 decades of experience as an educationist and is known for his radical and humanistic views on education. He has recently set up the Pathashala School.



**Mr. Narayana Reddy** is a passionate farmer, a pioneer who converted from chemical to organic farming in the eighties. He has set up a centre in Doddabalapur, near Bangalore, for experiential learning of organic farming. He now is an active promoter of organic bio-diverse farming in various Indian & International fora.



**Dr. Ashish Kothari** is a founder-member of Kalpavriksh, a 30-year-old environmental research & action group. He has been a member of the Expert Group on the Biodiversity Act, the Environmental Appraisal Committee for River Valley Projects, etc. He co-chairs the IUCN inter-commission Strategic Direction on Governance, Equity, Livelihoods & Protected Areas (TILCEPA) and is currently chair of the board of Greenpeace India.



**Dr. R. Balasubramaniam** is a development activist, social innovator, writer and a leadership trainer. He has spent the last 25 years of his life in the service of the rural and tribal people in the forests of India. At the age of 19, he founded the Swami Vivekananda Youth Movement, based on the principles of Ahimsa (non-violence), Satya (Truth), Seva (Service) and Tyaga (Sacrifice). He has been honoured as a fellow or faculty at many universities in India and abroad.



**Shri Devinder Sharma** is an award winning journalist, writer and researcher on food and trade policy. He is the author of "GATT and India - Politics of Agriculture" (1994) and other books. He is the chairman of the New Delhi based Forum for Biotechnology and Food Security and has been passionately fighting against the entry of GM foods in India.



**Dr. Harish Hande** has extensive grassroots experience in renewable energy and is the co-founder and Managing Director of SELCO-India which has installed over 95,000 solar lighting systems in rural households since 1995. He has also been involved in a large number of health, education and water related projects. Dr. Hande has received several national and international awards including the Magsaysay Award in 2011.



**Dr. Vandana Shiva** is one of India's leading scientist-activists and the founder director of Navadanya and Foundation for Research in Science, Technology and Ecology. She is a farsighted visionary who has been battling for India's Food Security and to uphold Farmer's rights. In 1993, she received the Right Livelihood Award. She is the author of several books on Agriculture, Biodiversity, Corporatisation of Agriculture, The Politics of Food, etc.

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*See page 54 inside for more details*

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