# SUSTAINADITYNEXT Volume 3 Issue 3

## Sustainability and CSR Are The Same



Dr. Bhaskar Chatterjee, Director General & CEO of the Indian Institute of Corporate Affairs, is spearheading India's movement to make businesses more responsible by aligning them with civil society goals. In his address at the 10th national convention on 'Sustainable Transformation for India,' organized by the UN Global Compact, in Bangalore recently, he spoke of the challenges and opportunities ahead and what's being done to address them. Edited excerpts:

he Global Compact Network India is ten years old. The UN Global Compact is itself is in its 15th year. I think it's the right time to pause and ask ourselves what have we been doing, what do we now need to do. This is the time to take stock, realign ourselves and realign our vision. We have seen this happening in the premier body of the UN itself. When the Millennium Development Goals were set up they were done with this wonderful view that there are 15 years to go and certainly these would be universal principals for the world to follow.

Many countries which are behind in these stages of development will perhaps get there in 2015. When the UN takes stalk today what does it see? Sadly, unfortunately, almost unbelievably, all the countries that needed to measure up to the MDGs have pretty much miserably failed.

Were the goals set wrongly? Was the performance not good enough? Should the year have been 2015 or 2020? Questions that the world body is asking itself, they realize that if the rules of the game did not work, then, change the game or change the rules or change the players.



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**Purpose:** To excite Indian businesses, SMEs, executives and students about the immense business opportunity in not only adopting Sustainability as Strategy in their companies but also inspire them to the possibilities of a big market for innovative sustainability products and services.

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You also need to move on because the world thinking has changed. It's not so much about just the green part, not just about the environment part but the social development matrix that surrounds the environment part is now the larger focus. One must go hand in hand with the other.

Look at the way business has changed. If you look at the time when a very prominent economist said in the early 90s the business of business is business. What did he mean? The business of business is to make money, full stop. His thought was right at that time because the board of directors was there to satisfy its shareholders. But between by the late 90s the reference has moved from shareholders to stakeholders.

The whole perspective has changed when the father of Triple P, John Elkington wrote his famous book *Cannibals with Forks - The Business Agenda of the 21st Century.* He put forward the Prahaladian (C K Prahalad) dictum **that a successful business cannot survive in a failed society.** 

Should businesses change just their strategy to look at the new world or should the business itself transform? The core of business needs to change to accommodate the new world, to accommodate the new thinking, to accommodate that which the Global Compact is working now with the UN, to see the world with a different set of glasses. How do we do that?

### Sustainability & CSR are the Same

In the last 3-4 years when the CSR legislation was being propelled by the Indian Parliament were people said sustainability is the right thing, CSR is the wrong thing or vice versa. **The fact is, it's not CSR or sustainability, it is CSR and sustainability; one envelopes the other.** 

These are not even synergistic because they don't need to be; they are one and the same. That's exactly what Section 135 tells you in the New Companies Act. **There is a confluence of these two streams** 

### **Connecting Good Corporates & Good NGOs for CSR**

Problem of plenty is as difficult to handle as problem of scarcity. The Indian government's mandatory two percent spend on CSR projects has thrown up the problem of good companies chasing right projects to fund and the right NGO which can implement them.

The NGO community is eager but is not able to market itself too well.

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which says companies need not choose between one and the other. In complying with the provisions of Section 135 you can achieve all the sustainability objectives that you ever wanted to achieve. Now since there is a guided road map it is easy for corporates to follow.

There is optimism in the air. We need to ask ourselves though that if sustainability and CSR are themselves to become sustainable, then what are the things that this country, our civil society organizations and corporate world need to do.

### Who is a CSR Professional?

We have marketing, advertising, HR and finance professionals, why aren't there CSR or sustainability professionals? So, the IICA (Indian Institute of Corporate Affairs) started the very first professional program in CSR sustainability. It's a nine-month online course.

When corporates say that we do sustainable development or CSR how do they do it? They were not created for CSR or sustainable development. They were created to do business. We have a whole civil society sector that actually relates to communities, that works on the ground, that derives its livelihood from doing work among the downtrodden, the less privileged, the marginalized and that's why this particular piece of legislation tries to bring synergy between the corporate world and the civil society sector, tries to bridge the trust deficit between them.

If CSR or sustainable development or sustainable transformation is to work in India companies can fund, monitor, evaluate, they can bring their business genius, get skills, get better bang for their buck but at end of the day, the foot soldiers on the ground are not corporate entities, they are civil society people who work with communities.

The whole concept of CSR is to allow civil society its real part in the domain of social development. What does that mean? Trust deficit to go but also that civil society must be able to step up and say if this is our big chance are we equipped to deal with it.



Nita Ambani with school kids as part of her CSR

Are we ourselves professionalizing? Can we meet the challenge that the corporate sector, the government and the legislation have thrown before us? Over decades we have hoped that this opportunity will come, our dependence on only government funds must go, now that opportunity has come. If you do not shape up you will need to ship out and if you ship out the ship of CSR will sink. So, as much as we talk about corporate doing their thing an equal if not a greater responsibility lies with civil society to deliver the goods.

### First List of 'Reliable' NGOs

Corporates ask: where do we find these NGOs, reliable civil society organizations? Some of them say: we don't know if they are professionalized, and, in a way, they might not be wrong. So who does the due diligence?

IICA has now put up a list of **80 civil society** organizations after due diligence. Here again, the government has taken the leadership. It has taken us almost six months to develop a database of only eighty.

We are also doing training of NGOs. When I say civil society must step up it can't be a magic wand. How do they step up? Where do civil society organizations left out on the fringes of development find space in which to develop their managerial skills. That onus too is been taken up by IICA. When the Corporate Affairs Ministry talks about getting this job done we mean business.











## **Smart Cities India 2015**

### 20-22 May 2015 Pragati Maidan, New Delhi









### **Some elements identified for Smart Cities:**

- USD 1 trillion to be spent on infrastructure between 2012-17; half of which to come from the private sector
- India to emerge as the world's 3rd largest construction market by 2020
- The Government of India has allocated US\$ 6.1 billion to build 8.500 KMs of new roads in FY 2014-15
- India plans to build 200 low-cost airports in the next 20 years to connect tier-II and tier-III cities
- The Ministry of Human Resource Development plans 1,000 private universities for producing trained manpower to meet the services and industry requirements

### 843 million

people will be living in Indian cities by 2050

### 100 new cities

will be developed by Government of India, with plans to transform satellite towns and existing cities

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## **The Coconut Palm Man**



In 1997, a small businessman was surprised by the performance of Deejay Farm's hybrid coconut palms and advised his father to plant them in his four acre farm. Three years ago, he bumped into **David Lobo** and proudly claimed that his and his friends' farms had now grown to 400 acres, all with Deejay Hybrids, and that they were all earning very good profit. A year ago, C Mahendran got elected as the Member of Parliament from Pollachi in

Tamil Nadu. Mahendran is one of the thousands of small farmers/businessmen who have grown big using David Lobo's revolutionary hybrid coconut palms.

David Lobo says he is a happy man today. After slogging for three decades, he is seeing the impact of his efforts with more than two million Deejay Hybrid Palms in southern India. His early-producing hybrid palm and farmer-friendly crop management practices are resulting in his farmer customers making handsome profit.

David now wants to popularize Virgin Coconut Oil, coconut milk, coconut sap and coconut sugar. They are known to have exceptional health-giving value added products.

David started his entrepreneurial journey early in 1967 after he realized he was not priest material. A successful poultry farming and poultry hatchery man, he diversified into information technology developing security products with 14 patents to his credit. Yet his passion continues to be coconut farming. He supports micro entrepreneurs and small

farmers and is a founding trustee of a leading business school, Xavier Institute of Management & Entrepreneurship (XIME) in Bangalore.

He says he was instrumental in bringing McDonald's Fast Food Chain to India, building and running their Vista Food Processing Factory for the first 6 years. However, his claim to fame is the patent-pending hybrid palm.

This hybrid coconut palm flowers in one third the time [2 years compared to 6 years] and yields three times the number of coconuts per annum [250 nuts compared to 80 nuts] which are also 30% larger, with more water, kernel and oil.

Excerpts of a chat David had with Benedict Paramanand on the sidelines of the Development Dialogue organized by the Deshpande Foundation in Hubli recently.



David Lobo with a delegation in a coconut plantation

## You said you are developing a drone? Why?

Farmers climb every palm at least ten times per month. We are experimenting with using a drone to assist us to reduce the labor component in emasculation and pollination of coconut palms, to take pictures of the bunches, to count the number of coconuts and by RFID recognition automatically complete more accurately our computerized recording systems and to actually do the pollination of the coconut flowers.

## Looks like your farming is very high on technology...

We believe we have a better breeding program than anybody else in the world, as we have a bigger and a very exhaustive database. Being the first company in Karnataka to buy and use a computer in 1981 – it was a DCM cupboard size computer – every palm's monthly/annual growing and production statistics are recorded. Today, our data bank has 23,000 mother palms' detailed records, one if its kind in the world.

We have the pedigree, i.e. the parentage, of all our palms. We have the strictest selection process any one can hope for. What does this mean? The computer selects 500 out of the 23,000 mother palms based on productivity, and then we painstakingly select the best 200 with all the desirable characteristics in mind. The next generation is the progeny of these two hundred palms. They truly are the crème de la crème. Therefore we believe our hybrids are not just exceedingly good, if not the best, but will continue to improve with time.

Apart from the breeding program, we attempt to incorporate feasible high tech breakthroughs into our management and production systems.

### What are Mother Palms?

We produce a hybrid; it's a cross between two types of coconut palms - the dwarf and the tall. We have a specific dwarf and a specific tall and that gives us a specific hybrid. Two plus two equals eight. The dwarf we have is a wonderful mother. Good qualities are passed on to the progeny from both parents. Hybrid vigour results in earlier, higher and better production.

Presently, these seedlings are produced at Madurai and Ambur in Tamil Nadu, Bailur on the West Coast in Karnataka, Sanguem in Goa and in a few years in Penugonda in Andhra Pradesh, where we are presently planting the Parent Palms.

### Does this fall under GMO?

No, GMO is when you do genetic modification. We do selective breeding crossing specific palms with each other.

## Beginning of the journey, the Deejay group was in poultry farming for a long time...

I was in the seminary studying to be a priest in Bangalore, 6 years later I left. I am happy today because it's given me opportunities to do things which otherwise I would never have done. I started with poultry farming. In the poultry hatchery business we grew to be one of the largest in India, producing more than 100,000 chicks per day!

## You said you are driven by powerful business philosophies?

Our profit is and must be the legitimate profit from services rendered to society. If we do not improve our product, how can we improve our profitability?

I have three strong business principles: one I picked up from my father and the others I brought into the business. My father taught me that there is only **one** way to do a job, the best way. After you find the best way find a better way after that.

And a sale is not complete until the farmer gets the anticipated rewards.

### You wrote these 30 years back? Most companies are still struggling with their vision and mission statements...

Yes. That's because this world of competition is creating a lot of confusion in the minds of people. Someone told me – "All of us are honest due to lack of opportunity." I disagree, but it's challenging



### today to hang on to one's personal beliefs.

I must add that I find these principles actually make business very easy. The first keeps making our business better. The second keeps us focused building for us a huge positive reputation and credibility. And the third leads to more and more sales with our customers becoming our sales people. A customer is happy and every passer bye is told the high yielding hybrids are Deejay Hybrids and our bookings sometimes automatically go to more than a year and a half in advance!!! And although our prices are high because our cost of production is very high, that does not make a difference!

### Coconut is your main focus now?

Yes. We have an IT company, Trinity Future In Pvt Ltd. We have 14 patents for our security products that have not yet been hacked. However, changing the life of the small farmer is much more satisfying. I think, indeed, that there is no greater satisfaction than playing a role in his success.

### Are you profitable?

After 20 years we became profitable instead of the anticipated ten years. This is also because of unique difficulties faced in Madurai with its climate and rainfall and water shortages. In 2005 we made our first profit.

## Where do you want to see these 10 years from now?

In 15 years I hope to see the coconut tree used as a platform by all farmers. This exceedingly friendly

tree, allows all types of inter cultivation, be it spices, vegetables, fruit or cereals. In Indonesia the coconut tree gives a small regular monthly income for the farmer whose main income is from other forms of agriculture. In India at a minimum income of Rs. 3,000 per Deejay Hybrid per annum, even 10 trees can create a secure financial safety net for the farmer. One acre planted with our hybrids i.e. 70 palms, earns more than two lakhs per annum and higher depending on the market prices.

## It's said coconut milk is very close to mother's milk?



Coconut milk is compared to mother's milk because both contain Lauric acid, a fatty acid that becomes monolaurin in our systems. Monolaurin is the only known natural product that kills or damages viruses. Hence infants seem so resistant to getting ill. [Otherwise specific antibodies via

vaccination are required]. Research findings suggest that 16 different viruses are damaged or killed by Monolaurin including the flu, herpes, measles and HIV, and very important the cytomegalovirus, which in my opinion is the main cause for blockage of the arteries. Virgin coconut oil has a far greater amount of lauric acid – between 45 and 52%.

### You said the sap is very useful as well...

Few people know that sugarcane is NOT the highest producer of sugar in the world. It is the coconut tree. Toddy or neera, if not allowed to ferment, but boiled, can be made into coconut syrup, honey, jaggery or sugar. Sugar cane gives it juice once in its lifetime. The coconut tree can give sap daily. Sugar cane produces about 8,000 kgs of sugar per hectare, using 12,000 liters of water per kg produced. The normal coconut tree gives about 12,000 kgs of sugar per hectare using 200 litres only to produce one kg of sugar.

# In 15 years I hope to see the coconut tree used as a platform by all farmers.

Deejay Hybrid can produce more than 60,000 kgs of sugar per annum. Coconut sugar is low in glycemic [35 count] where as white cane sugar has a glycemic count of 80 which is really bad for diabetes.

State governments are now quickly reversing laws that forbid the tapping of coconut trees without a license from the excise department. This is because fresh toddy easily ferments. Fresh, unfermented sap or toddy, is one of the most delightful, tasty, nutritious drink Mother Nature provides us. I believe it is the best natural drink in the world! Work is going on successfully to produce an organic and an inorganic compound that stops all fermentation of freshly tapped toddy.

## If that is successful it will revolutionize coconut farming?

Yes, soft drinks will stop using cane sugar and use coconut sap. Coconut sugar has a low glycemic index, so straight off you make a healthier drink. Ordinary sugar has no protein, mineral, vitamins, but coconut sap has 7% protein, vitamins, minerals, it's a fantastic food. Six dollars a kilo is the minimum wholesale price of coconut sugar internationally.

## How do you feel currently as an entrepreneur?

Making money in the right way is a blessing, giving one greater capacity to do more good with it. But when you make money and change lives at the same time, that's really wonderful. To live your passion, to enjoy it and to get great satisfaction --- nothing like it! It's been a tough journey but an interesting one and a very fulfilling one.

## Hathikuli Farm Seeks Centre's Help

malgamated Plantations Private Ltd (APPL), the second largest tea producer in the country, is moving the Centre to help it sustain its organic initiative at Hathikuli — the largest integrated organic farm in the country.



Fishery pond at Hathikuli Tea Estate

The tea company, which has 25 gardens in Assam and Bengal, is making this move to take advantage of the Rs 100 crore budget provision made this year to promote organic farming in the Northeast.

A senior company official said as a first move, it is looking to the government to allocate funds from the current year's budget for organic production and will send a detailed proposal.

"This will encourage sustaining the organic movement in the Northeast," he said.

The cumulative loss of going organic at Hathikuli has been huge, which is mainly due to loss of production, he added.

The process of organic transformation was undertaken in 2007 and it was achieved in 2011. "The acreage converted to organic farming is the largest contiguous conversion that has taken place anywhere in the country," the official said.

The 687-hectare Hathikuli tea garden, situated on the periphery of Kaziranga National Park, is certified organic according to the Indian, US, European Union and Japanese organic agricultural standards.

Hathikuli is known for its CTC, orthodox, green teas and black pepper with a total annual production of 600 metric tonnes.

The teas are being exported to Germany, the US, the UK and West Asian countries.

### Hathikuli Tea Garden

The demand for organic food and beverages in the country is huge and estimated at \$129.3 million and is expected to grow at a compound annual growth rate of 15 per cent.



"We are in the process of educating ourselves and developing organic packages and practices, which will help create a knowledge base for farmers across the world and specifically Assam," the official said.

The company's net profit during 2013-14 reflected a growth of 56 per cent compared to 2012-13. The company held its annual general meeting last month with Ranjit Barthakur as its chairman.

The company has recorded an increase of nine per cent in its own crop harvest as compared to the Assam Valley increase of six per cent.

The company has focused on increasing its volume on operations through sustained development of its tea areas and purchase of bought leaf for conversion. It has also focused on orthodox manufacturing, which has added considerable value to the operations.

The focus on quality has also improved its earnings.

APPL has deployed a fairly large number of mechanical harvesters across 17 estates, as these machines will help in harvesting the crops in time. "This would also help in availability of mandays to do cultivation, as many estates are facing a shortage of workers," the official said

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# CSR Creates Only an Illusion of Responsibility

eter Bakker, president of the World Business Council for Sustainable Development, at the recent Sustainability Science Conference in Copenhagen recently said CSR is dead. Bakker represents 200 of the largest corporations in the world. Bakker's key argument is that leading companies already are going way beyond CSR by integrating sustainability into everything they do.

He calls for a revolution in capitalism — led by carbon pricing, and he means a real price of \$100-plus per ton — to reflect true costs to people, society and planet, and to drive real business progress. "Carbon pricing is inevitable," Bakker said. "Learn to love it." Are we serious about making the necessary transformation in our businesses and economies, or are we simply motivated by trying to enhance our corporate image, he asked?

Interestingly, Technical University of Denmark collected 40,000 CSR reports from around the world found that less than 5 percent of organizations made references to planetary or ecological limits. Only 31 organizations actually have engaged with these limits by defining science-based performance targets and strategies designed to inspire changes in product portfolios or business models.

# "Could it be that at least 95 percent of CSR efforts are merely exercises in window-dressing?

Perhaps we should not be too surprised by the lack of transformative impact. There is a fundamental problem with the philosophy underpinning CSR as a business methodology."



Peter Bakker
President of the World Business Council for Sustainable
Development,

### **Integrated Sustainable Business**

Bakker called for an integrated sustainable business. There cannot be two models for doing business, going forward — or even two sets of metrics — based on business as usual, with a bolt-on CSR strategy. There can be only one integrated model.

For example, Unilever effectively closed down its CSR department and started integrating sustainability principles into everything it does. Sustainability responsibilities are now integrated within everyone's role.

CSR is, at best, only a partial solution, which can be misused to create an illusion of responsibility while delivering very little real change.

## **Green India Mission to Converge** With MGNREGA to Reclaim Forest

The government of India recently decided to converge National Mission for a Green India with the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) to facilitate afforestation on 10 million hectares of land over the next decade is significant for two reasons. One, it estimates that this will provide forest-based livelihood to three million households and help reclaim forest land.

### This initiative will help India increase its forest cover by five million hectares while increasing the quality of the forest around

it. The government is using modern technology like remote sensing to monitor the progress of this initiative regularly. All type of lands – village common land, shifting cultivation area, wetland and private agricultural land will be eligible for afforestation under this scheme.

Green India Mission is one of the eight missions of the National Action Plan on Climate Change. It envisages a holistic view of greening and focuses on multiple ecosystem services, especially biodiversity, water, biomass, preserving mangroves, wetland and habitats.



The Cabinet Committee on Economic Affairs had approved GIM as a centrally sponsored scheme in February 2014 with an aim to increase and improve the quality of forest cover and contribute to enhance ecosystem services along with reduction of carbon footprint as a co-benefit.

Employment scheme MGNREGA, introduced by the previous UPA regime, promises 100 days of work in a year to every rural household.

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# VayuGrid Signs MOU With AP for Bio-power Generation

Bangalore-based enterprise VayuGrid announced that it has entered into an MOU with New Renewable Energy Development Corporation of (NREDCAP) of the State of Andhra Pradesh to develop Panchayat level Bio Energy Zones (BEZs) for green power generation. The MOU also includes support infrastructure facilities like the bioenergy green coal plantation supply chain and the bio fuel processing infrastructure necessary to meet the low cost production of clean energy. Each of these panchayat level BEZs established on wastelands are optimized to generate 10 Mw and 14 million litres of biodiesel, along with nearly 1,400 farm labor jobs through the 60-year productive life of the BEZ.

Mr. Kamalakar Babu, the CMD of NREDCAP said, "We are taking our collective learning to do bio-energy in a better and more effective manner." The state has a total of over 60 lakh acres of wastelands spread over 7 districts. Of these, the state is looking at districts such as Cuddappah, Kurnool, Chittoor and Anantpur as initial districts to establish such BEZs. "The goal of the MoU is to replicate the Panchayat level BEZ

of 10 MW to reach 1,500 MW capacity over the next 10 years to increase rural energy access, create jobs, and make wastelands a productive asset for the state" he further stated.



Each wasteland based BEZ will attract investment of USD 20 million, which will be brought in by VayuGrid along with its partners. Additionally, each cluster becomes a huge carbon sink, sequestering nearly 30,000 tons of carbon annually, thus making each BEZ eligible for Carbon Credit and become a significant player in the Cap & Trade scheme, leading the pollution regulation market even while the State aims for fast and speedier economic growth.

"We are pleased to be recognized as the leading bioenergy solution to be deployed across the state by

> Andhra Pradesh, which is reputed for its clean energy portfolio," said Mr. Doug Peterson, CEO of VayuGrid. He went on to add that VayuGrid's patent pending elite Pongamia sapling VayuSap™ has been developed over 25 years to be a disruptive platform for bio-energy based on optimal yields in the greatest diversity of environments.



## Wind Energy is Like a Neglected Wife in India

n the last two years, India's wind energy usage has dropped from 3000 MW to 1500 MW, despite having one of the world's most established and mature wind sectors. Even the Central government's ambitious 60 GW target announcement hasn't generated much enthusiasm amongst wind sector stakeholders.

## Industry representatives blame India's uncertain government policies as one of the key reasons for their apprehension.

'Even though the cost of wind power per mega watt is the cheapest in India, we think twice about setting up shop in India because of the lack of assurance in policies and incentives, and the ill health of state power utilities. We would like to receive our money on time', said Mr. Glen Reccani, Managing Director, Acciona Energy – India.

Today, India has manufacturing capabilities to the tune of 10,000MW per annum, but less than half of this capacity is being utilised. States with surplus wind energy generation have had to keep their mills shut due to lack of scheduling of power. The need of the hour, established at the Fourth Wind Discussion Forum, held in Bangalore recently, include the setting up of Renewable Energy Management Centres for streamlining forecasting and scheduling of wind power and the need for stability and convergence in government policies.

'The problems of scheduling and forecasting are not unique to the wind sector, even for successful solar projects, the government will have to think about institutionalising these activities', said Mr. V. Subramanian, former secretary, Ministry of New and Renewable Energy in his keynote address at the forum.

With all the excitement in India's renewable energy sector about solar energy, the



### wind sector has become the neglected

wife. Both, the government and the private sector are asking for solutions to long standing problems of intermittency land allotment, grid integration, absence of power markets, uncertainty in incentives provided by the government, poor health of utilities, lack of access to finance at reasonable rates and divergence between state and central government policies.

'Karnataka has 2500 MW of installed capacity, but produces only 103 MW of power from wind. We want to understand if and how the state's entire capacity can be generated and what alternate sources can be used to fill in the gaps?' enquired Mr. P. Ravikumar, Additional Chief Secretary (Energy), Government of Karnataka.

Idam Infrastructure Advisory, Center for Study of Science Technology and Policy (CSTEP) and Shakti Sustainable Energy Foundation organized the 4th Wind Discussion Forum to bring together representatives from the wind industry, power dispatch centers and the government to discuss key challenges faced by the wind sector.

# Organic Farming can Close The Gap on Conventional Yields



techniques to reduce the negative impact of agriculture, such as organic farming, which has been shown to outperform conventional farming by many standards of environmental sustainability.

The question is whether we can meet these environmental standards and still meet the demand for food, which is predicted to rise substantially in the next 50 years.

## Comparing food systems

In our new study, published in Proceedings of the Royal Society B, we found that

organic farming systems, when done right, come close to matching the productivity of conventional systems.

Designing a single experiment that could possibly represent the huge variation in crops, weather and soil necessary to get a complete answer is impossible. Instead, we examined the many specific studies that have already been conducted and combined their results - a meta-analysis.

We compiled studies from across the globe that compared organic and conventional yields over three decades, representing more than 1,000 comparisons of 52 crop species from 38 countries.

This isn't the first time researchers have attempted to answer this question, but previous studies have had conflicting results. Combining studies carried out by different scientists for different reasons is a big challenge.

he apparently lower productivity of organic farming systems is caused by research bias, writes Lauren C. Ponisio, and the far greater research spending on 'conventional' agriculture. Funds should be redirected to agro-ecological methods that are highly productive, sustainable and maintain biodiversity.

We can develop highly productive organic farming methods if we mimic nature by creating ecologically diverse farms that draw strength from natural interactions between species.

The unintended consequences of our agricultural food system - polluted air and water, dead zones in coastal seas, soil erosion - have profound implications for human health and the environment. So more sustainable agricultural practices are needed as soon as possible.

Some farmers have turned to less chemically intensive



Depending on what data is included and how it is handled, answers can vary substantially. Many previous studies found organic yields were 8-25% lower than conventional systems. Another study found that organic farming outperformed conventional in developing countries. In revisiting this

question, we used the most extensive dataset to date and methods that try to account for the complexity of the data.

### A mirror to nature

We found that although organic crop yields are about 19% lower than conventional yields, certain management practises appear to significantly reduce this gap.

In fact, planting multiple different crops at the same time (polyculture) and planting a sequence of crops (crop rotation) on an organic farm cut the difference in yield in half. Interestingly, both these practices are based on techniques that mimic natural systems, and have been practised for thousands of years.

Our study strongly suggests that we can develop highly productive organic farming methods if we mimic nature by creating ecologically diverse farms that draw strength from natural interactions between species.

Crop rotation and polycultures are known to improve soil health and reduce pest pressure. Because these practices add diversity to the landscape they also support biodiversity, so they may improve yields while also protecting the environment.

We also found that for some crops such as oats, tomatoes and apples there were no differences in yield between organic and industrial farming at all. The largest yield gaps were found in two cereal crops, wheat and barley.

The 'gap' may be caused by the huge gap in research funding, However, since the agricultural Green Revolution in the mid-20th century, improving the

yields of cereals grown using conventional, industrial agriculture has received a huge amount of research and funding - far more than organic agriculture. Little wonder, then, that we see a large difference in yields.

For example, some seeds are specifically bred to work well in the nutrient-rich, pest-free conditions found in conventional farms due to the heavy use of fertilisers and pesticides, so they may underperform in organic farms.

But if we invested in organic agricultural research and development we'd no doubt see a large increase in the yield too.

We also found evidence that the yield gap estimate we and others have calculated is likely an overestimate. We found evidence of bias in the studies we compiled, which favoured the reporting of higher conventional yields relative to organic.

This can arise for several reasons: the studies can favour specific crops or practices so that the results are unrepresentative, or introduce bias during the selection of results to be published. It's impossible to know the origins of the bias, but it's necessary to acknowledge the effect it will have on yield estimates.

### Won't solve everything

It's important to remember that simply growing more food is not enough to address the twin crises of hunger and obesity.

Current global food production already greatly exceeds what is needed to feed the world's population, yet social, political, and economic factors prevent many people from living well-fed, healthy lives. A focus solely on increased yields will not solve the problem of world hunger.

To put the yield gap into context, the world's food waste alone is 30-40% of food production per year. If food waste were cut by half, this would more than compensate for the difference in yield from converting to organic agriculture, as well as greatly reducing the environmental impact of agriculture.

Presented with Permission from **Organic Growth Jan - Mar 2015** 



Andreas Lauenroth (extreme right), executive director – technical, Volkswagen India Private Limited and head of Volkswagen Pune plant, shares his plant's ambitious goals and current achievements in an interaction with SustainabilityNext

## Why is your factory called 'Think Blue.'? Are all your factories called the same?

The concept 'Think Blue.' is a holistic approach adopted by Volkswagen globally that encompasses the goal of creating environment-friendly products and solutions, encouraging eco-conscious behaviour and contributing to a sustainable future. It's about being more responsible on the road and more environmentally conscious - not just in the cars, but everywhere, every day.

'Think Blue. Factory.' is an addition to the Volkswagen 'Think Blue.' portfolio which includes key measures in the area of vehicle production. The program is adopted by 27 Volkswagen plants worldwide, and is concerned with efficiency improvements in production and the expansion of environmentally aware energy supplies addressing all employees at the plants.

## What have been Volkswagen's key insights that you brought from home to Pune on environment sustainability?

The 'Think Blue. Factory.' initiative was adopted by Volkswagen globally in 2011. Aiming to reduce the impact of its manufacturing process on the environment by 25% per car globally, Volkswagen Pune Plant has been working towards the goals since 2012.

Ecological sustainability at Volkswagen is a major corporate objective. The impact on environment through manufacturing processes is measured across five key areas of 'Energy Consumption', 'CO2 Emissions', 'Water Consumption', 'Waste Generation' and 'VOC Emissions' and the reduction is targeted in these areas on per car basis. This same idea has been brought from worldwide locations even to Pune Plant.

## When will the India plant achieve your best plant results in sustainability standards?

Since the programme's introduction three years back, the Volkswagen Pune Plant has achieved 17.3% reduction per car in the impact of manufacturing processes on the environment and the plant is on track to achieve its set target of 2018 (-25% per car). In specific area of 'Waste Generation', there has been a reduction of 30.5% per car by the end of 2014 and the target in this particular area has been achieved four years before the timeline. In the areas of CO<sub>2</sub> emissions and energy consumption, the targets are around the corner and will also be achieved before the timeline. The current focus for achieving the results is on the 2018 target and it is a continuous, ongoing process.

## What have been Pune Plant's key achievements?

## 30.5% reduction in specific waste generation

Amongst the five key measurable areas, maximum reduction has been achieved in the area of 'Waste Generation'. As compared to the base value of 2011, the Volkswagen Pune Plant has been able to reduce specific 'Waste Generation' by 30.5% (8.1 kg/car in 2011 reduced to 5.63 kg/car at the end of 2014). The main measure contributing to this achievement was the recycling of paint sludge. This reduction was achieved by cutting down the moisture content from paint sludge through centrifuge and further recycling the paint sludge to produce primer as a by-product.

## 21.2% reduction in specific CO<sub>2</sub> Emissions and 20.6% reduction in specific Energy Consumption

Volkswagen Pune Plant has closed in on the targets of two more key areas of 'CO2 Emissions' and 'Energy Consumption' by the end of 2014. With specific reduction of 21.2% and 20.6% in specific values respectively, the targets are around the corner and will be achieved well within the defined timeframe of 2018.

Maximum saving in 'Energy Consumption' and hence also in 'CO2 Emissions' has come through the optimisation of operation of 'Air Supply Unit' in the Paint Shop where huge reduction in CNG consumption has been achieved. The annual saving through this translates to approximately 2,943 MWh/a out of the total 3,741 MWh/a saving.

The other projects contributing to this total saving include optimisation of operation of utility equipment, installation of 'High Speed, Low Volume' (HSLV) fans, optimisation of lighting equipment and optimisation of ventilation. The positive side of all the activities undertaken at the plant is that none of the activities have hampered the working conditions for the employees. In fact, activities like installation of HSLV fans have improved the working conditions on the shop floor.

### 14.4% reduction in specific 'Water Consumption'

A reduction of 14.4% has been achieved by Volkswagen Pune Plant in the area of specific 'Water Consumption'. The major contributors to this saving are through modifications made at the shower test area in Assembly and optimising the process PDI car wash. Adding to these is the saving achieved through activities undertaken in 2013 that have yielded results on a longer term in x2014.

## What's the future target and how would you engage customers and vendors into your sustainable goals, not just the factory?

Like Volkswagen is committed to quality, engineering, innovation and so on, there is also an intense focus on sustainability and we pay the same attention in choosing our vendors. There are rigorous environmental requirements that the vendors have to comply with before they are selected to work with Volkswagen. If they don't comply with our standards, we take the efforts to develop them and bring them to accepted sustainability level.

### **Manipal Foundation**

## Impact Through Partnerships

ost foundations have similar purpose – to impact the underserved – but have different ways of going about doing it.

Most foundations are funded by business houses or philanthropists who have a team and a mission.

Manipal Foundation, founded in 2002, is a shade different. It acts more like a catalyst that sources funds from Indian and foreign donors, enters into partnerships with NGOs and service providers and provides funding as well as expertise in chasing their goals.

So far, MF has formed 56 partnerships with several education institutions, education service providers such as Pearson and EduMedia, state governments, Dream IN – that helps rural youth become entrepreneurs, women groups, other charitable trusts and foundations and many more.

It has picked five verticals – healthcare, education, vocational/skills training, women empowerment and environment. In each of these verticals it works with



a few partners. "The success of Manipal Foundation is because of building sustainable partnerships over a period of years, with various individuals, NGOs, corporate across India for executing various programs for the benefit of the needy,"

says **P Balachandran Warrier,** CEO of Manipal Foundation.

Mr. Warrier joined Manipal Foundation in 2007 after a long stint in the corporate world. He is determined to run Manipal Foundation like a business so that the outcome and impact could be maximized. He says, "I run this foundation like a business – have targets, reporting system and transparency. I can be harsh sometime because I need results."



Primary School Students in Orissa

One of the secrets for Manipal Foundations' success, he says, is its ability to keep the operating cost very low. The other big secret is not getting into implementation, which, he says, there are better agencies and people who do a better job.

Running a foundation is Mr. Warrier's second career. He says he didn't have any difficulty in adapting from working with corporates to working with a foundation. He says, "If you have passion and compassion in your heart, even a raging fire will look like a flower. If you have integrity even a mountain on the path is like fistful of dust."

To executives who might want to look at the social sector for their second career, his advice is – take less, leave more for your successors. "The more you give - experience, love, money - the more you have.

### **Fund Poor Students' Tuitions**

Manipal Foundation is looking for individuals and businesses to help scale its virtual class initiative that provides tuition classes to students of government high school and pre-university colleges. Currently the single teacher virtual class is tutoring 1100 students in Udupi – eight of whom got admissions into premier institutes such as Manipal Institute of Technology, Kasturba Medical College.

The equipment cost per school is Rs. 2 lakh. The foundation hopes to connect 100 schools and 10,000 children a year in Karnataka shortly.

Those interested can write to manipal.foundation@manipalgroup.com





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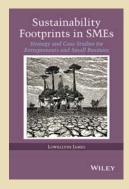
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## BOOKSHELE



### Sustainability Footprints in SMEs: Strategy and Case Studies for Entrepreneurs and Small Business

Lowellyne James, Wiley, February 2015

Sustainable Footprints in SMEs explores the evolution and theory of Sustainability Footprints and examines the critical success factors and contributions to small to medium sized enterprises (SME) growth. It critically analyses the context, perceptions of contribution of sustainability footprint tools to growth and potential to assist firms in achieving further sustainable growth in four key areas Innovation Impact, Cost Impact, Environmental Impact, and Stakeholder Impact.

Sustainable Footprints in SMEs features:

- Identifying the challenges and Critical Success Factors (CSFs) in the use of sustainability footprint methodology within small businesses by the use of case studies
- Proposing a strategic model suitable for the deployment of sustainability strategy and initiatives within business
- Additional learning resources are: Case study PowerPoint slides, Podcasts to accompany case study slides, an interactive online Sustainable Strategic Model Analysis Tool, PowerPoint's and lesson plans for each chapter, and Links to the author's blog

The topics covered are applicable internationally, highlight the role of government policy, and propose a strategic model to guide implementation using case study examples.



## Climate Change and Global Equity (Anthem Environment and Sustainability)

By Frank Ackerman and Elizabeth Stanton, Anthem Press, March 2015

his collection of essays incisively warns that inaction on climate change will have farreaching economic and environmental consequences.

"Ackerman and Stanton have written a state-of-the-art economic analysis of the most important environmental issue of our time. They build a compelling case for moving quickly to reduce greenhouse gas emissions, and for making fairness within and among nations a central element in how we do it." —James Boyce, University of Massachusetts Amherst





### **Sustainability Policy: Hastening the Transition to a Cleaner Economy**

Steven Cohen and William Eimicke, Jossey-Bass, January 2015

n a complex economy on a crowded planet, there is a desperate need for rules and regulations that respond to the international stress and complexity that our global economy has created. We need rules to ensure that economic life does not destroy the planet that provides us with food, air, and water.

Sustainability Policy: Hastening the Transition to a Cleaner Economy is a strategic guide for envisioning, developing, and implementing effective sustainability public policies that will bring about the transition to a renewable resource-based economy. The private sector cannot make the transition from a waste-based economy to a renewable one by itself. This transition can only happen if we can create a public–private partnership. The authors and public policy experts, Steven Cohen, William Eimicke and Alison Miller, show what it takes for federal, state and local governments to create policies to support sustainability in the areas of water, energy, waste management, and more.

Sustainability Policy explores the government's strategic role in critical areas such as funding basic science and infrastructure, to providing financial incentives, to building effective public-private partnerships. Cohen, Eimicke, and Miller outline the sustainability policy tools that are available at the federal, state, and local levels and explore the elements that constitute effective policy, and the factors that can help or hinder implementation and adoption. At the heart of the book, the authors detail programs that have proven effective in the United States as well as policies from other nations that can serve as standards that could be adopted by our government. With examples from around the world, the authors make the case that cities are at the cutting edge of sustainability initiatives as forward-thinking city policymakers experiment with innovative energy initiatives, air quality programs, community design, and climate resiliency projects.



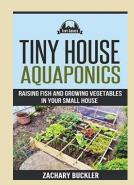
### Implementing Campus Greening Initiatives: Approaches, Methods and Perspectives (World Sustainability Series)

By Walter Leal Filho and Nandhivarman Muthu, Springer, January 2015

irmly rooted in the theory and practice of sustainable development, this book offers a comprehensive resource on sustainability, focusing on both industrialized and developing nations. Implementing Campus Greening Initiatives: Approaches, Methods and Perspectives is an attempt to promote and disseminate the work being done in this field by universities around the world.

The need to integrate the principles and concepts of green campuses and sustainability into the core of students' educational experiences, from high school to college or university, has now been broadly recognized. By doing so, we can ensure that the students of today and tomorrow will acquire the knowledge, skills, attitudes and values needed to create a more sustainable economy and social environment.





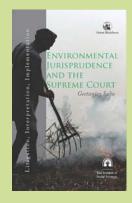
### Tiny House Aquaponics: Raising Fish and Growing Vegetables in Your Small Space

By Zachary Buckler, Kindle Edition

he tiny house movement is an emerging and growing trend in architecture and home design. It has been present in the real estate market for years but has now only grown to become the latest craze in the architectural world. Many people have decided that less is actually more, and even more are beginning to downsize their living to create a more suitable and much affordable lifestyle.

Meanwhile, aquaponics is an innovative technology used to raise fish and to grow plants for the purpose of producing food. It allows the practitioner to become independent in terms of his food resources and in this sense, it becomes a very sensible complement to the goal of the tiny house movement.

In this book, you will learn more about the history of both the tiny house movement and the aquaponics technique. It will also show you the different disadvantages and more importantly, the advantages that come along with choosing to create a lifestyle revolving around these two ideas. It also contains tips and tricks on how to incorporate aquaponics in the design and aesthetics of your tiny home so that the overall appeal of the house is not compromised. You will also be taught about the things you have to consider when building your tiny home and in maintaining your aquaponics system. Moreover, it will open your eyes to the importance of not only achieving self-sustainability but also of sustaining the environment wherein we live and thrive.



### **Environmental Jurisprudence and the Supreme Court: Litigation, Interpretation, Implementation**

By GeetanjoySahu Orient BlackSwan

Since THE 1980s, the Supreme Court of India has actively intervened in cases involving the environment, taking both state and private parties to task for destructive actions and policies. In the process, it has earned itself the reputation of a "green court". But how "green" is it really?

GeetanjoySahu's book looks into this question. It offers a comprehensive empirical analysis of cases pertaining to environmental litigation presented before the court between 1980 and 2010. This analysis is supplemented by interviews with judges, lawyers and petitioners. The current volume emphasises that environmental litigation and activism in India cannot be studied in isolation but in tandem with the twin, and sometimes rival, concerns of development and social justice.



## **The GRIHA Summit 2015**

12-14 MARCH, 2015 | IHC COMPLEX, LODHI ROAD, NEW DELHI-110 003



### **Key Highlights**

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AND PRACTICING
PROFESSIONALS IN
THE FIELD OF GREEN
BUILDINGS

REGISTER FOR THE SUMMIT AND ATTEND 3 DAY E&T AT DISCOUNTED RATES

EXHIBITION OF GREEN PRODUCTS

LEARN ABOUT
LEED ALTERNATIVE
COMPLIANCE PATHS
(ACPS), ADAPTEED
FOR INDIA BY TERI
AND USGBC

CONGRATULATE
PROJECTS WITH
EXEMPLARY
PERFORMANCE
AND THOSE
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CERTIFICATION

DISCOUNTED RATES FOR GROUP REGISTRATION

### **Special Event**

11th March 2015

Training workshop on energy efficient homes

To create awareness on the promotional programme on energy efficient new homes and training on the use of IT Toolkit:ResBuild

14th March 2015 Site visit to GRIHA registered/ certified projects 16th - 18th March 2015
GRIHA 3 day Evaluators & Trainers program
The 3-day workshop will be divided into fourteen sessions including the GRIHA Evaluator and Trainer qualifying exams.

### **Key Themes**

DESIGN IN INDIA!

URBAN INFRASTRUCTURES

NDIA! AQUA ACCESS

**ECO-INNOVATIONS** 

**INNOVATING URBAN FUTURES** 

LAUNCH OF REGIONALIZED LEED EB



PADAMSHRI SHANKAR G Head & Chief Architect Habitat Technology Group



MR RAJEEV TALWAR Group Executive Director DLF India



DR VINCENT KITIO Chief, Urban Energy Unit Urban Basic Services Branch UN-Habitat



MR JOHN HARDY Founder Green School, Bali, Indonesia



DR STEVE KARDINAL JUSUF Senior Research Fellow, National University of Singapore



MR. RAJAN RAWAL Faculty of Design, Centre for Environmental Planning and Technology



MR ADITYA JAVDEKAR Managing Partner, Vilas Javdekar developers



MR P SAHEL Vice Chairman at Lotus Greens Developers Pvt. Ltd.























For more details logon to

http://grihaindia.org/grihasummit/index.php or call on - 011- 46444500/24339606-08











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http://www.cseindia.org/content/international-trainingprogramme-mainstreaming-sustainable-urban-watermanagement

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http://www.cseindia.org/content/cse-media-fellowshipsprogramme-global-south

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http://www.wikicfp.com/cfp/servlet/event. showcfp?eventid=39226&copyownerid=45395

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