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This, the third FT Urban Ingenuity magazine, marks the end of a year-long process leading up to the announcement of the winners of the 2012 FT/Citi Ingenuity Awards.

Entries for the awards came from all over the world, and from city authorities, community groups, charities and companies. Some entries were high tech, for example looking at how to use data from people's mobile devices to ease traffic congestion. Others were simpler, but potentially transformative, such as one asking children to document an urban Indian hazard.

Our distinguished panel was charged with establishing the most ingenious solutions to urban problems in the categories of education, energy, healthcare and infrastructure, as well as deciding on an overall winner. But what were the criteria?

As the judges' discussion went on, it became clear that they were looking for originality. Some entries were highly impressive, but the same solution had already been effected elsewhere. The judges wanted to be sure that the winning projects had had an impact, or were most likely to do so. They wanted the winners to inspire others. They wanted them to engage with a wider community, attracting sufficient public support to be sustainable. This was the most important criterion: the winning projects needed to be enduring. All of the category winners, and the overall winner, promise to be exactly that.

These awards have proved something most of us already suspected. Cities are dense networks of systems and people. Disrupting those has immediate effects; witness the upheaval superstorm Sandy caused in New York. But those same densely packed people immediately set about re-establishing the city, just as they did after the 9/11 terrorist attacks.

Urban dwellers are energetic, and the most innovative go further than simply finding ways to ease their lives. They come up with ideas, technologies and systems that benefit us all. It is their endeavours that we celebrate with these awards.

Michael Skapinker
Editor, FT Special Reports

FT/Citi Ingenuity Awards: Urban Ideas in Action

ENERGY

Winner: Community Cooker Foundation, Kenya

Runner-up: Tokyo Metropolitan Government, Japan

HEALTH

Winner: GSK New Citizen Health Care Project, China

Runner-up: Child Eye Care Charitable Trust, India

EDUCATION

Winner: College Possible, US

Runner-up: The judges preferred not to choose a runner-up

INFRASTRUCTURE

Winner: JCDecaux - Vélib' (Lifetime Achievement), France

Runner-up: The judges preferred not to choose a runner-up

OVERALL WINNER:

Community Cooker Foundation

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INTRODUCTION AWARDS ENTRIES



Compare and contrast

The awards attracted an impressive field of international entries trying to benefit city dwellers, writes **Edwin Heathcote**

Cities are simultaneously both the zenith of civilisation – a word that derives from the Latin *civitas* for city – and incubators of some of the worst poverty and injustice on the planet. As more than half the world's population is now urban – a figure expected to rise to 70 per cent by 2030 – the city has become universal.

The experience of the city, however, is very far from uni-

versal. As our world urbanises, the gap between wealthy and poor widens. Cities attract the adventurous, the ambitious, the chancers and the crooks just as they do the wealthy, educated and inventive. There is no single solution to the problems of urbanity. Instead there are myriad small innovations – surely many yet to be discovered – that can slightly improve the lot of city dwellers in particular places. There are seemingly simple ideas

that can radically transform the everyday lives of those for whom fresh running water, sanitation and electricity are still far-off dreams.

The FT/Citi Ingenuity Awards: Urban Ideas in Action programme is an attempt to find the cream of those ideas, inventions and innovations. It is an effort to gather the most ingenious solutions to the most ubiquitous problems and to encourage those with ideas to

roll them out and export them, to help as many city dwellers as possible improve their experiences of urbanity.

This first year for the awards attracted a huge raft of entries from a truly international spectrum. The ideas addressed everything from cycling to recycling, from smart cities to simple school books. There were complex and high-tech ideas aimed at incrementally improving the lives of commuters in wealthy cities and the quality of air, transport and life in those cities. There were ingenious, low-tech ideas aimed at addressing the basic needs of the one-third of city dwellers who currently survive in slum conditions.

The discourse around cities is often polarised into developed and developing worlds, high-tech solutions for the global north and worthy low-tech innovations for the global south. The middle however – where the real growth is – often remains absent. The exponentially growing middle-tier cities being built in China and elsewhere for an emerging middle class have their own issues of incubating urbanity. They are also being required to absorb millions of migrant workers whose status is uncertain. It was good to see some entries looking to alleviate some of the many problems, from health to education, that these shifts in populations can cause.

The four categories – healthcare, education, infrastructure and energy – were intended to address the issues most fundamental to the growth, development, sustainability and success of cities. They also cover the issues that apply most broadly to citizens of every nationality, class and income bracket. A lack of intelligence, investment, ideas or progress in any of these fields can be enough to cripple

a city or to prejudice life for millions living in them. Those four categories did indeed throw up a remarkable range of ideas and it was heartening for the judges to see such a wide spread of programmes, innovations and inventions spanning global south and north.

That same spectrum, in its remarkable diversity and richness, also threw up a number of difficulties in the judging process. We found ourselves attempting to compare Barcelona's high-tech Bitcarrier with iKhalayami's attempts to rehouse slum dwellers. One improves traffic congestion in a sophisticated city with a smart city system while the other radically transforms the lives of some of the planet's poorest people.

Energy is another broad category, one in which the judges ended up comparing an admirable programme attempting to make more efficient commercial office space in Houston, Texas – perhaps the least green city on the planet – with the Community Cooker Foundation that aims to supply basic facilities to communities with no public infrastructure, and few opportunities even to create a carbon footprint. It transpires that those living on the least spend an inordinate amount of time each day simply foraging for fuel. Freeing up that time allows them to do other things. It is a small advance but a life-changing opportunity.

The contrasts between Houston, the air-conditioned and gas-guzzling capital of the world's energy industry, and the conditions in some of the world's biggest and worst slums like Kibera are shocking. Arguably,



On the fringes: as cities grow many struggle to cope with the influx of migrants

Debate about cities often misses out the middle, where the real growth is happening

that means it is all the more important for the future of the planet for the global north to change its ways than it is to make changes in the slums.

The cooker project was selected as the overall winner because it managed to ingeniously address two huge problems afflicting the slums. Rubbish is the bane of the informal city. With no organised collection it piles up and becomes a magnet for disease and pests. The cooker addresses the problem of rubbish disposal as well as energy, at the same time creating a real community resource that brings people together. It is an extraordinary and deserving winner that emerged to unanimous acclaim.

The debates we had during the judging process have prompted us to make some changes to the categories for next year's submissions.

We have decided to take a more regional approach for the future, inviting submissions on a geographical basis that will, we hope, allow us to make clearer comparisons. The principle will remain the same. This is a competition to find the finest, most ingenious and innovative ideas able to touch the most people and make the biggest difference to the quality of the everyday lives of city dwellers.

The trend towards urbanity is entrenched and inevitable. People come to cities to make better lives for themselves, whether those cities are the nearest centres of industry and employment or whether they are halfway across the world.

Now that they are established, the FT/Citi Ingenuity Awards will, we hope, continue to be a magnet for the best ideas and a mechanism for disseminating the innovation and ingenuity that those cities foster. ■

JUDGES THE PANEL

Profiles

The judges for the FT/Citi Ingenuity Awards were chosen to cover the broadest possible spectrum of knowledge and specialism in the issues affecting cities globally.

Chaired by Edwin Heathcote, the panel covered a wide range of specialities, ranging from the economics of poverty, to aid delivery in the developing world, public and private sector healthcare, education and communication. The panel generated a lively discussion of the entries, and we hope the winners will both make a real difference and inspire others.

David Adjaye

One of the foremost architects of his generation, David Adjaye's work spans art and large institutional and municipal buildings. Born in Tanzania, he moved to London as a child but maintains a critical interest in urbanism in Africa. His designs include East London's Idea Stores and the Nobel Institute in Oslo.



Abhijit Banerjee

India-born Abhijit Banerjee is the Ford Foundation International Professor of Economics at the Massachusetts Institute of Technology. He is one of the most important contributors to the field of development economics and co-founded the Poverty Action Lab. His ideas are outlined in his award-winning best-seller *Poor Economics*.



John Bowis OBE

A former UK member of parliament and member of the European parliament, John Bowis served as both a health and a transport minister in the Conservative government in the 1990s. He is currently the executive president of Health First Europe.



Sir Terry Farrell

One of the world's most respected architects, Sir Terry Farrell is responsible for an array of highly recognisable buildings. His practice has huge experience in infrastructure and transport, and in setting out the frameworks for the way cities will grow.



Reinier de Graaf

As a partner of Rotterdam-based architecture practice OMA and the supervisor of the Think Tank AMO, Reinier de Graaf has combined the design of ambitious buildings and urban plans with an analysis of global issues, including energy and education.



Edwin Heathcote

Edwin Heathcote is the FT's architecture and design critic. He is also an architect, a writer and designer and co-founder of architectural hardware manufacturer izé. He is a contributor to international architectural journals and has written numerous books.



Bruno Lanvin

The executive director of the Insead business school's global knowledge engine eLab is a former senior executive at the World Bank and the United Nations. He has been a commissioner of the Broadband Commission since it was established in 2010, and is a member of the World Economic Forum's Global Advisory Council on the Future of Government.



Prof Carlo Ratti

Prof Ratti is an architect and engineer practicing in his native Italy and teaching in the US, where he set up MIT's Senseable City Lab. He holds a number of patents and has co-authored more than 200 publications. His work with Senseable is based around the study of the urban environment and transforming our understanding of cities.



Luanne Zurlo

After a career as a Wall Street securities analyst, Luanne Zurlo founded, in 2002, the non-profit Worldfund, aimed at using education to fight poverty in Latin America. With a network of partnerships, it has launched innovative teacher training programmes and literacy, numeracy and arts projects across the continent.

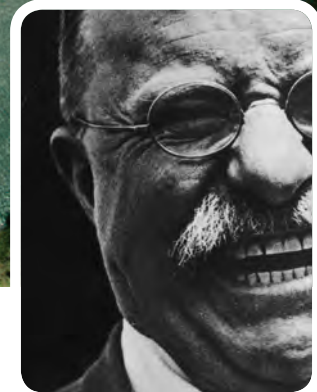


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OPINION
ABHIJIT
BANERJEE



Difficult truth

The poorest people are often the most ingenious because they are forced to make up for the failures of their leaders

We don't need more urban ingenuity. We need a world where less ingenuity is necessary to survive.

Ingenuity is everywhere the world's poor live. Ingenuity is the tiny tailor shop I saw in Dakar. It was a kind of treehouse a couple of feet off the ground, with a wooden ladder that the tailor

would throw down so his clients did not have to step through the garbage surrounding his shop and then quickly pull up to leave the pavement unobstructed.

It is the group of women described by Esther Duflo and I in *Poor Economics*, our book on how to fight poverty, who sat on the kerb across from the stock exchange in Mumbai drying wet sea sand by laying it out on the

road, quite literally under the wheels of commerce. Then they sold the sand to their neighbours who used it to scrub their pots.

It is Abdul, one of the central figures in *Beyond the Beautiful Forevers*, Katherine Boo's magnificent description of life in a Mumbai slum, who figured out how to sort the "new garbage" that came with modernisation and globalisation into the

PHOTOS: GETTY, REUTERS

categories that the owners of recycling plants demanded.

But why was Abdul, a boy of 15, spending 12 hours or more a day hunched over a pile of rubbish? What did that do for his physical development? Why was he not in school? He was bright enough to figure out how to sort rubbish better, and willing to put in very long days; would he not benefit from finishing his schooling?

The answers, if I am reading the book correctly, are the usual ones. The family needed him to work—they could only afford to send one child to high school. The Indian government does little to protect the young from such economic exigencies. And it is probably true that even if he had been given the chance to try, he would have flunked out, like his brother did. The education system in countries like India seems stacked against the poor, emphasising the ability to master vast amounts of content rather than basic universal skills, and providing no support for those, including a vast majority of the first-generation learners, who fall behind.

We should also ask why there was a tailor shop in a rubbish dump. Why endure the noxious fumes rising from the waste, and the risk of illness? Why not locate somewhere more salubrious? The answer, presumably, is

that this was one spot where the shop could be visible, that was nevertheless available and cheap. Paying for a proper shop in that neighbourhood would probably make the tailor unaffordable for most of his (poor) clientele.

I don't know enough about Dakar to swear that this is what happened, but most cities artificially inflate real estate prices in the city centre by restricting construction, and by underinvesting in transport and other infrastructure outside the centre. This is what forces businesses to seek out "creative" solutions.

Finally, while the idea of drying the sand under the wheels of cars is inspired, it is not at all clear that four women needed to be there to watch the sand; one could have easily done so. The reason four showed up is, presumably, because they had no other way of making a living.

The truth is that most poor people prefer someone else to supply the ingenuity (and the capital and know-how) so they can focus on the one thing they are best equipped to do: work hard. A combination of poorly developed capital markets, ill-considered labour regulations, reliance on technologies that are imported from more labour-scarce economies and a host of other factors means many developing countries fail to create jobs.



Living on their wits: the poor are least well protected from harsh economic realities

So the primary reforms that we in the developing world need are in things like enhancing access to a quality primary and secondary education, improving labour, capital and land markets and changing urban policies, all of which will hopefully reduce the need for the average poor person to be ingenious.

But here is where I lied to get your attention: we will need a great deal of ingenuity to make that happen. From our leaders, present and future, economic, political and social, who will certainly include many who are themselves poor.

How does one improve the delivery of high-school science in countries where relatively few of the potential teachers themselves have a good grounding in science? How do we reduce the cost of monitoring borrowers, and improve the incentives for banks and borrowers, so there is a greater willingness to lend to people who are long on ingenuity and short on cash? Here I do not mean microcredit, which offers tiny loans to those without

Ingenuity will be needed to reduce the need for the poor to rely on their ingenuity

any demonstrated ingenuity; I mean much larger loans for those with really good ideas.

How do we change the urban landscape, the victim of years of bad policies, without

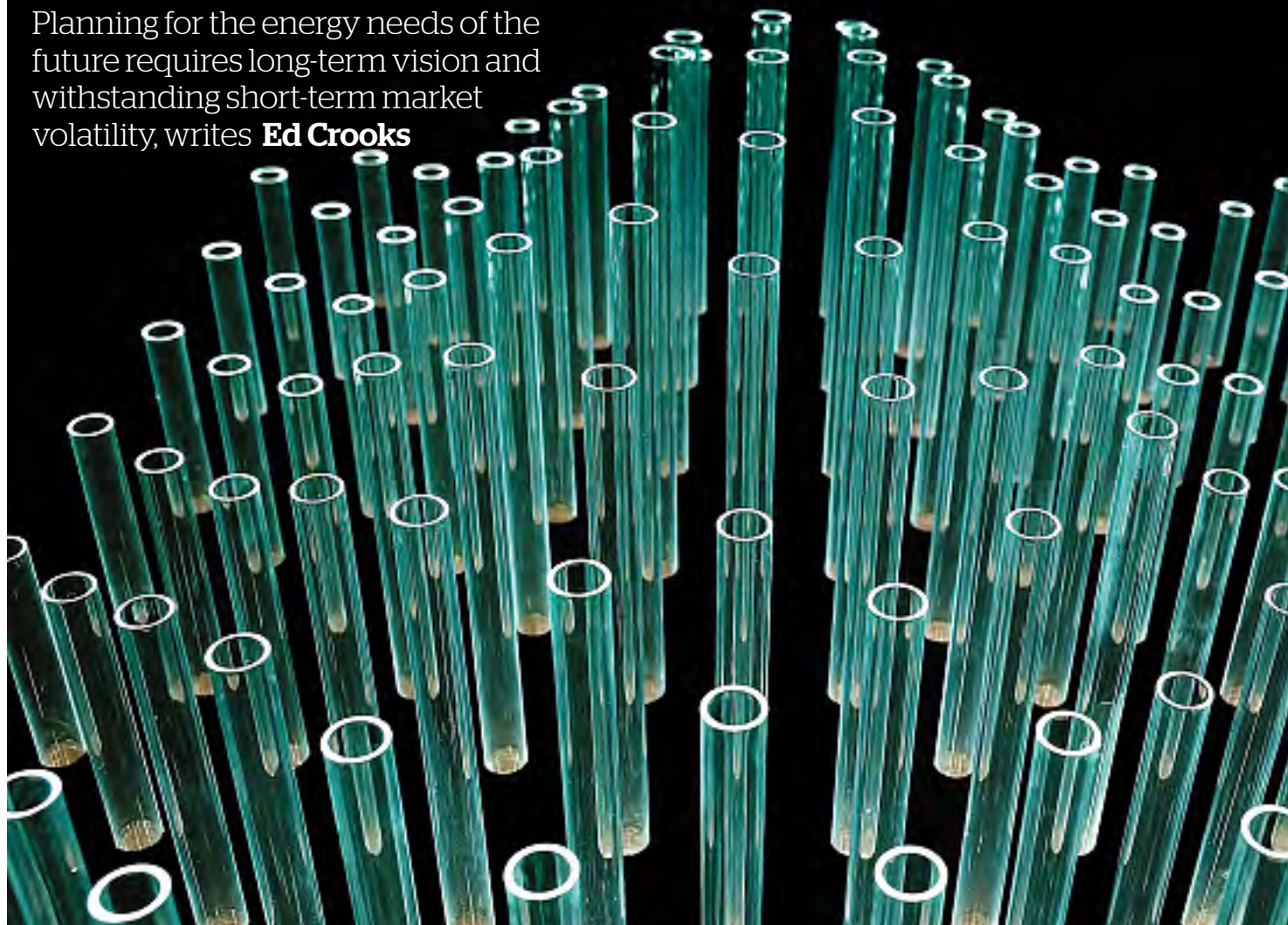
razing the existing infrastructure? How do we prevent the streets of Kolkata or Karachi exploding from growing traffic? How do we make the slums less slum-like?

Only when we start finding real answers to these questions will we be able to offer people like Abdul liberation from the ingenuity of everyday survival. ■
Abhijit Banerjee is an economist and author of Poor Economics



Balance of power

Planning for the energy needs of the future requires long-term vision and withstanding short-term market volatility, writes **Ed Crooks**



The fundamental problem of energy is that it is a long-term business perpetually swayed by short-term influences.

A wind farm will last for at least 20 years; a gas-fired or coal power plant potentially for 60. Companies building new reactors say there is a good chance they will still be in service a century from now. An oil or gas

field can remain in production indefinitely, depending on how the reservoir is managed.

Yet all of these investments are critically affected by government policy and commodity market fluctuations.

Attention is often focused on the uncertainty induced by the instability of government supports. The cuts to many solar power feed-in tariff programmes in Europe, the debate over sup-

port for nuclear power in the UK, and the looming end of the US production tax credit for wind power – which expires at the end of the year unless the US government agrees to extend it – have made it difficult to assess those industries' financial prospects.

A report earlier this year from the Brookings Institution, the World Resources Institute and the Breakthrough Institute said the low-carbon

Sunny days:
glass tubes
made for solar
panels by
Solyndra find
use in the art
installation
SOL Grotto



energy industry is failing to move “beyond boom and bust”.

What is less often noticed is that the threat of volatility applies equally to fossil fuel industries. Commodity markets fluctuate, and in energy markets where supply and demand are often relatively inelastic, fluctuations can be large.

Technological change can throw established market relationships and industry structures

out of the window. The crisis in the US coal mining industry today, for example, has less to do with the administration’s supposed “war on coal” than it does with plunging North American natural gas prices resulting from the shale gas boom.

When thinking about innovation in energy, it is essential to consider how a product or service can be robust to a wide range of possible outcomes. Solyndra, the manufacturer of innovative solar panels that collapsed last year owing \$528m to the US government, might never have been a commercial success, but any chance was made worse by the precipitous drop in the price of conventional crystalline silicon panels caused by huge global overcapacity in the industry.

A common feature of the short-listed entries for urban ingenuity was that they were able to withstand this kind of shock, and be effective in a world of energy that is very different from the way it looked four or five years ago.

Energy policy always tries to hit the three moving targets of value for money, security of supply and environmental protection. With the resources of both governments and the private sector under pressure, the trade-offs between those criteria have been sharpened.

All of the shortlisted entries in the energy category showed both resilience to changing conditions and the ability to meet multiple objectives. In two cases – Houston’s Green Office Challenge and Tokyo’s cap-and-trade system for carbon dioxide emissions – there are new institutions that will push businesses



Air power: a
wind farm can
last for at least
20 years

Technological change can alter market relationships and industry structures

towards greater energy efficiency – voluntarily in Houston, by law in Tokyo – saving money as well as cutting pollution.

The Energy and Resources Institute of India has innovated with institutions, creating a new financial structure to allow poor communities to buy cleaner, safer liquid petroleum gas cookers so they can stop burning wood.

The only advanced technology is the electric bus from Proterra of South Carolina. It focuses on cost as well as environmental benefits, promising to be “the lowest-cost solution for safely transporting human beings in urban areas”.

The Community Cooker Foundation from Kenya, winner of the category and overall winner this year, developed a technological advance at a brilliantly simple level to address health problems caused by traditional cooking methods.

Among this impressive range of ideas there are some conspicuous absences – for instance, there are no technologies for power generation. But given the uncertainties about the economics of energy supply, it might be difficult for one of those to emerge as a clear winner.

The greater potential, perhaps, lies in energy storage, an area attracting serious entrepreneurial interest. Intermittency still bedevils renewable generation, especially wind power, and existing storage technology is not adequate to provide the back-up that would enable it to replace fossil fuels entirely.

While there is a great deal of activity going on in this area, the results have been mixed. Identifying what works and highlighting it would be an extremely valuable service.

It would be welcomed if next year’s awards inspired exciting submissions in this area. ■



Trash to treasure

A brick and metal stove that uses rubbish to produce clean, cheap and safe energy is also helping to fuel communal harmony, writes **Katrina Manson**
Photographs by **Mariella Furrer**



ENERGY COMMUNITY COOKER FOUNDATION

Caroline Adhiambo rolls out dough for more of the thick chapatis that are sizzling on the huge stove beside her, marvelling at the new technology that is transforming her community in the Karagita slum.

“Strange,” she calls the six-ring, rubbish-burning stove that is helping clean the local environment and provide faster, cheaper and safer energy for local householders. “It is something that we have never seen.”

The “community cooker” she is using is the brainchild of Kenya-born architect Jim Archer, of Planning Systems Services. It not only won the energy category but was chosen as the overall winner of this year’s FT/Citi Ingenuity Awards.

The industrial-scale oven safely incinerates food and household waste while channelling the energy it produces to cooking, heating and boiling water, helping cut reliance on more traditional fuel sources such as wood and charcoal.

It also provides a communal meeting point in a country that has long been blighted by ethnic tensions, and this slum of 54,000 people, in the midst of Kenya’s most important flower growing region, has not been immune to the violence such conflict can bring.

If teething problems with a business model can be overcome, the community cooker will also be a self-sustaining source of income from a complementary Community Café.

“It is something good because we are not going to use things like firewood and charcoal, so it’s cheap,” says 29-year-old Adhiambo, one of several flower farm workers who are busy firing up the recently installed community cooker.



Together: the communal cooker at the Karagita slum has helped ease ethnic tensions while providing a cleaner, safer space for food preparation

ENERGY COMMUNITY COOKER FOUNDATION

The cooker reaches temperatures above 800 degrees Celsius, in line with World Health Organisation standards aimed at ensuring that noxious fumes, such as those produced by plastic bags and polythene packing, are eliminated during the incineration process.

The oil for Adhiambo's chapatis is spitting at temperatures of about 880C, and the air around the stove shimmers with the heat it is creating.

The metal-and-brick stove can burn 12kg of rubbish an hour. Judy Wambui, a rose buncher at a local flower farm, says her rice cooks in half the time on the communal cooker than it does at home.

The Karagita area of Naivasha, two hours north-west of the capital Nairobi, is home to more than 50 flower farms that earn vital export income for Kenya. A group of workers here took it upon themselves to explore the possibility of installing the cooker after learning of the benefits it had brought to other communities where it was already in use.

The improvement in the quality of life in this small corner of the slum stands in stark contrast to the rest of Karagita, where children brew tea and cook tomatoes in metal mugs they sit on plastic waste that smoulders at temperatures too low to burn off the toxic fumes.

Rubbish – food refuse, plastic bags and bottles, wood shavings – piles up in breeze block enclosures that punctuate the tracks separating rows of concrete huts roofed with sheets of beaten zinc. Godwin Simiyu calls a one-room hut in the midst of this squalor home, and tries to brighten the gloom with huge posters of red and yellow roses.

He uses a charcoal-burning stove for heating and cooking,



Slice of life: the Karagita slum is home to 54,000 people who live without formal civic services such as rubbish collection

yet is unaware of the potential health risks. "We cook inside but we have ventilation," says the 39-year-old flower grader, pointing to five narrow slits in the concrete walls. The economics of charcoal, however, do not escape him. "In the rainy season the roads are bad and the trucks can't make it and so the price goes up too high," he says.

A short walk to the fringes of the slum, and life could not be more different: men are stoking the community cooker with refuse collected locally and dried in a three-tier storage unit. Rice, beef stew and vegetables bubble away in pots on the stove top.

The Community Cooker Foundation, the charitable trust set up by Archer's Planning Systems Services, installed the stove for 1.85m shillings (\$22,600) after farm workers at Longonot Horticulture, which grows roses for, among others, the UK's

Tesco and Marks and Spencer chains, first looked into the idea in 2010.

"We built it about eight times before we actually got it right," says the foundation's Janice Muthui. The foundation – with the help of the rubbish collectors who sift the rubbish to remove recyclable and sellable items – are still working out what type

of rubbish provides the highest energy output when it burns.

For now, farm workers are running the cooker, but plan to soon hand it over to the community as a going concern,

earning its keep from selling food in a cafeteria that will be called the Community Café.

"Eighty to 90 per cent of our workers live in Karagita and it was very congested and dirty," says Julius Njuguna, packhouse manager and Fairtrade officer for Longonot Horticulture. The company uses the 8 per cent

Workers saw that the cooker could clean the environment and generate an income

ENERGY COMMUNITY COOKER FOUNDATION

premium charged on Fairtrade-labelled flowers sold in the UK and elsewhere to fund a number of projects, including workers' transport to work and childcare facilities, and a tree nursery that grows seedlings to be planted throughout the slum.

The Longonot Fairtrade Association decided to go ahead with the cooker after seeing its potential in Nairobi's sprawling Kibera slum, where the first one was set up in 2007. "We saw this cooker can clean the environment (and) generate income, so it could be a sustainable project," says Njuguna.

Kibera is the largest slum in east Africa, consisting of 13 villages and home to hundreds of thousands of people who live in rented shacks that are literally held together with string. Thanks to Archer's communal cooker, much of the ubiquitous garbage is now recycled into energy that has transformed the lives of many of the residents.

Aside from the Karagita and

Kibera cookers, and a pilot cooker set up at Archer's offices, a fourth is under construction at Kawangware Children's Garden Home in Nairobi, and another four are expected to be built elsewhere in Kenya soon. Enquiries have come from the Indonesian island of Bali, Cornwall in the UK, and Nigeria.

Muthui says the cooker is helping to nurture peace in a community that five years ago was wracked by ethnic violence that followed the 2007 elections and left more than 1,100 people dead. Some of the worst of the violence took

place in Naivasha.

"Flower farm workers come from all over Kenya and therefore Karagita is a real melting pot of different tribes and cultures," says Muthui.

"There is a very deeply rooted need for the community to engage in common activities, and the community cooker and Community Café offer a recreational area where they can come,

The cooker creates a communal area where people come to mingle



Flourishing future: time to take the Kibera cooker to the next level with a Community Café that pays its own way

unwind and mix freely after a hard day's work, or bring their families on the weekend."

Adhiambo says her neighbours were among the victims of the 2007 violence, but she adds that few in the slum escaped. "Even me, I lost my property, they stole everything; I started afresh," she says.

Today she is among flower farm workers from different parts of the country who mingle happily at the community cooker. Simiyu, who saw people killed on this very spot, hopes it will complement plans for a park. "People can interact as they cook food," he says. "Before, they were avoiding each other."

The lack of a business plan is a problem facing the community cooker, with concerns about a lack of clarity dating back to 2008, according to an early report from Arup consultants.

While the benefits of the cooker might be obvious to those who have funded, built and installed it, it cannot work without local involvement.

The Kibera cooker provides an object lesson – technically, it works well, but the group in charge of it has yet to devise a business plan that matches income with expenses.

Muthui is unfazed. "We are confident that this temporary impasse will sort itself out.

"We just want to build it and get the community to embrace it and run it without looking back to us. If they feel it's part of them, they'll use it."

The foundation is now seeking assistance from Jhpiego, the Kenya affiliate of the Johns Hopkins University in the US.

"We know that we have to take it to the next level now. And the next level is for the community to come on board with us and really embrace this new technology," she says. ■



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1945 WORLD WAR II ENDS

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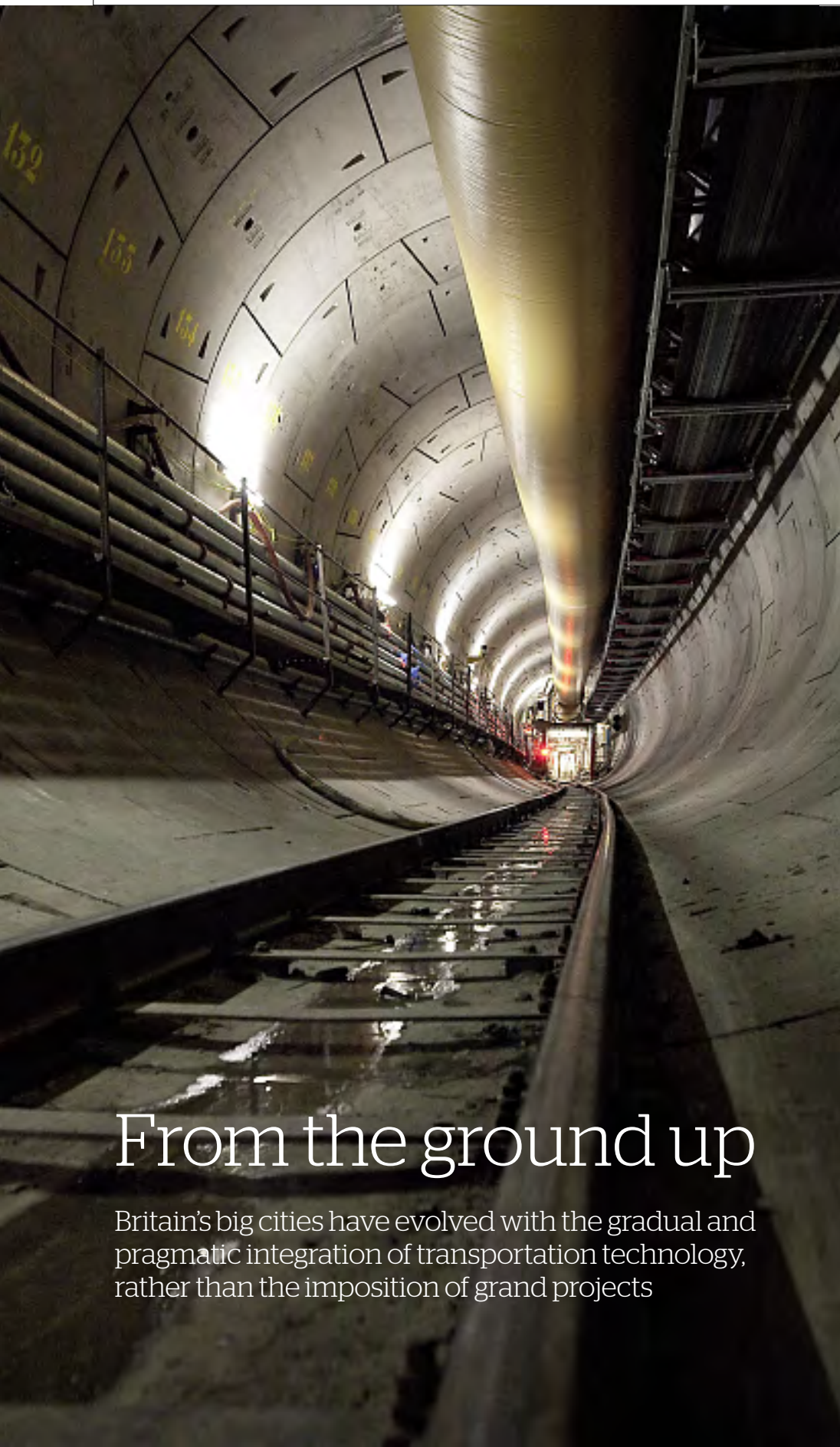
George Marshall, U.S. Secretary of State, knew that helping Europe recover from the devastation of WWII would mean restimulating its economies, not just rebuilding its structures. So, Citi decided to help support the funding for the “Marshall Plan.” In under three years, 16 nations had received nearly \$13 billion in aid, and postwar Europe was fast becoming prosperous Europe.

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2012 EUROPEAN
UNION WINS NOBEL
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OPINION
SIR TERRY
FARRELL



From the ground up

Britain's big cities have evolved with the gradual and pragmatic integration of transportation technology, rather than the imposition of grand projects

There has been much talk recently about big projects and the need to recapture the heroic Victorian spirit when addressing future infrastructure needs in London, and the UK. In my view, there is often a fundamental misreading of these Victorian times, driven by the additional misreading of the country's post-industrial position in the world.

Britain's infrastructure genius was in adapting, incrementally and pragmatically, the benefits of inventions, usually much more than the inventions themselves. Isambard Kingdom Brunel, the 19th-century engineer, is often raised as a model but, while brilliant, he left a trail of failed applications of his inventions.

His first project (with his father) was the Rotherhithe pedestrian tunnel, which was rescued when it was reused as part of the underground rail network. Then the great Hungerford suspension bridge failed because the town planning concept was flawed. The market at Charing Cross failed to rival Covent Garden – and its ultimate success in Bristol was a triumph, more than anything, of pragmatic reuse. Broad gauge rail was the ideal design, but, like the perfectly designed and conceived Betamax video format, it failed to become a part of the bigger commercial network. It is not the inventive hardware of these or any civil engineering projects on their own, but the software, the town planning integration and their part in the bigger network of systems that were key to what prevailed.

And so it was with all our infrastructure systems networks. Our industrialised water transport of canals and docks were brilliant town planning products of experimentation and step-by-

step integration into a network of related patterns of use, reuse and practical application. So it was with rail: London's mainline stations were originally built as goods stations outside the city core. When it became clear that the main trade was in passengers rather than goods, the answer was to invent the Underground Railway (eventually reusing Brunel's tunnelling shield from the failed Rotherhithe tunnel). But the Tube grew, and connected, and grew again, and it continues to evolve today with new computerised card ticketing systems. It is still a live and evolving project, with the Victoria, Jubilee and now Crossrail lines all adding to and enriching the existing system.

The "ideal and perfect" design response to the motor car was drawn up by town planner Patrick Abercrombie in the 1940s – an eight-lane, limited access motorway that ran through the centre of Camden Town, Primrose Hill and on through Maida

Vale, Paddington and around to Elephant & Castle, destroying inner London in the process.

What was then built? Well, we learnt that the motor car had to be radically tamed to be integrated and adapted to the prevailing town planning realities and we have instead congestion charging, and pedestrianised streets, and investment in the reinvention of the tram, more underground rail, and even cycling revisited and reinvented with rental bicycles as part of a comprehensive, integrated network solution that has evolved pragmatically without grand projects.

China, with 1.3bn people, where my firm has built the world's two largest (high-speed) railway stations, is only now industrialising and urbanising. But its gross national product is projected to be twice the size of the US's by 2050. This is not a model for the UK – our infrastructure has matured and integrated into our lives and built fabric. Also, the UK is quite a different model and national scale, and we will no longer be in the big league of China, Brazil and India.

So we need to look at all infrastructure planning as it meets our needs now and in the future. It is about adding to networks that exist. Our airport planning cannot be based on the huge scale of China. Neither can it afford the hit-and-miss experimentation of early UK industrialisation – Brunel's and many other historic failures are not conceivable in our democratic, historically well settled, post-industrial age.

Closing major airports, building giant new hubs or any other grand gestures must only be con-



Engineering a future: the audacious genius of Isambard Kingdom Brunel laid the foundations for modern infrastructure

These projects brilliantly use a bottom-up approach to dynamic city development

sidered in the light of looking first at what we have now, and how they can be better utilised, not only within themselves but in the light of a mature existing network of other transport systems in road and rail, and also the addition to these networks of high-speed rail and other considerable rail improvements that will change and rebalance all the potentialities of the total system.

My own conviction is that an evolutionary, networked system approach to our airport capacity will obviate the need for new mega-projects. They never were how we did things, and will be too grandiose and too costly and risky for us now.

All the shortlisted projects brilliantly recognise and apply this bottom-up, dynamic systems approach to city making. Bitcarrier in Madrid uses communication technologies – Bluetooth, WiFi and mobile devices – to manage traffic more effectively, reducing congestion, protecting the environment and improving quality of life. The Vélib' self-service bicycle system in Paris uses old technology (the bike) and integrates and re-charges it to create a collective yet individual form of transport.

Riverpark Farm in New York expands a growing movement in urban agriculture, reinventing with new technologies and reuse of unconventional urban spaces, the relationship between the city's inhabitants and its food production. And iKhayalami reorganises and enables poor communities by incrementally upgrading the more disadvantaged central urban informal settlements in a way that has global application for the billions of people living in impoverished urban environments. ■ *Sir Terry Farrell is an award-winning British architect*



HEALTH OVERVIEW



A clean bill

Empowering citizens to counter the health risks of living in cities helps them function as communities working for the greater good, with powerful results, writes **Andrew Jack**

Beneath the bright lights of big cities around the world, not all is so alluring. Urbanisation may be the desirable result of the benefits of city living, but conurbations also bring the negative consequence of intense concentrations of illness and death.

With globalised travel, infections are able to move across borders more quickly and effectively than ever. Non-communicable diseases are also spreading as wealth rises, bringing pollution, traffic accidents, mental health problems and lifestyle ailments such as diabetes intensi-

fied by less physical exercise and unhealthy diets.

As David Wilson, global HIV/AIDS programme director of the World Bank, noted at a pioneering City Health conference in London in October that already more than half of the globe's total population is urban. By 2025, there will be more than 600 cities, each with more than 1m inhabitants; and the majority of the poorest people on Earth will be living in urban areas. "Cities concentrate and incubate new health threats," he says.

Londoners may overall have relatively high average income and longevity. Yet that conceals

impoverished pockets of people with far worse health outcomes, harbouring some of the highest rates of tuberculosis infection in western Europe, for instance. Immigrants, who are essential for urban growth, get a particularly poor deal from prevention and treatment programmes.

The City of London itself has exceptional challenges in coping with an enormous transitory population of workers and evening visitors far outstripping permanent residents.

That suggests the need for innovative approaches to bring convenient healthcare services to people wherever they spend time

PHOTO: GETTY



Overwhelming:
every city has its
own public health
challenges

and not just where they live.

As elsewhere in the UK and beyond, that also means finding new ways to cope with the corollary of the superficially attractive and wealth-generating urban entertainment “eco-system” of pubs and clubs: a thoroughly mixed cocktail of drug abuse, alcoholism and violence.

This year’s laureates in the award for urban healthcare innovation highlight both the pressures of living in built-up areas around the world, and the continued ability of residents, social organisations and the private sector to work together to generate new

solutions, even when public sector support is limited.

China and India are the world’s most populous nations, with a large and growing number of its biggest cities. New migrants are essential to maintain that dynamism but are among the most precarious, disorientated and disenfranchised inhabitants. Many live in marginal areas with poor infrastructure and suffer disproportionately bad health.

Yet they are sources of ideas and energy, as GSK’s winning New Citizen Health Care Project in Shanghai, and the runner up, the Child Eye Care Charitable Trust in Mumbai, demonstrate. Empowering people to improve their own lives and function as a community to help others can deliver powerful results.

Similar innovation is taking place in urban locations worldwide. Many may think of Latin American cities as chaotic and crime-ridden, none more so than Medellín in Colombia, with its association with the country’s notorious drug cartels.

Yet local civic leaders have transformed the environment through urban planning, enhanced public transport, the provision of libraries, bike lanes and car-free zones.

As John Ashton at Liverpool Medical School put it at London’s City Health conference, citing a long tradition of urban renewal, planning, community involvement and innovation over decades: “The city can be such a powerful focus for health protection and improvement, as a total place where all can come together round the table to work for the common wealth and common good.”

Edinburgh’s politicians earlier this year took a stand against granting licences to sell alcohol to supermarket outlets. It has

become the subject of a legal challenge; but it is a pioneering effort to limit cheap supplies that intensify local health problems.

Their counterparts in Vancouver have defended the provision of a supervised site for drug users, designed to respond to a reality rather than stigmatising a practice that would otherwise operate underground. The result has been to help rehabilitate the deprived Downtown Eastside district.

The Stad initiative – Stockholm Prevents Alcohol and Drug Problems – has shown progress through a combination of tough enforcement of sales, community education and training of doormen and serving staff. The results far outweigh the costs.

In future urban innovation award applications, it would be worthwhile highlighting and crediting such initiatives that come from elected officials and civil servants working alongside the non-profit and private sectors. It

Inspiration in
dealing with
new health
challenges can
come from
anywhere

would also be useful to provide rigorous analysis demonstrating efficacy, and highlighting lessons for others seeking to replicate the best approaches.

Urban areas in long-industrialised countries provide a taste of things to come in the best and the worst of global health trends. Yet the use of new technology including mobile phones gives poorer countries the chance to leapfrog their richer peers in developing innovative approaches. Innovation can come from anywhere. And in the struggle against the escalating epidemic of non-communicable diseases, humanity needs inspiration from everywhere. ■

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Life at the sharp end: the Sanlin centre provides healthcare for migrants and their children

HEALTH GSK NEW CITIZEN

Fit for purpose

Community health centres are showing local governments how to fill a gap for migrants to China's big cities, writes **Patti Waldmeir**
Photographs by **Jonathan Browning**

Two years ago in Shanghai, an infant girl with a heart defect was abandoned in the shadow of the luxurious Four Seasons hotel, possibly because her migrant worker parents could not afford her medical care.

That child's plight cast a sharp light on one of the biggest social problems facing China's new political leaders: how to improve healthcare for tens of millions of migrant workers who live in desperate poverty amid the conspicuous consumption of its biggest cities.

The abandoned infant, who now lives in an orphanage after her heart repair was paid for by the local government, is one of 230m migrants who have boosted urbanisation to the point where last year, for the first time, more Chinese lived in cities than in the countryside. In Shanghai alone, she is one of nearly 10m migrants who make up 40 per cent of the population – and whose numbers are forecast to rise to 14m, or half the city's population, by the end of the decade.

Helping those new migrants integrate into a city that is not their home – and where their lack of a residents' permit, or *hukou*, still makes it harder for them to get education and healthcare – is the mission of the GSK New Citizen Health Care project, funded by GlaxoSmith-

Kline, the drug company, and operated by the Xintu Centre for Community Health Promotion, a local non-governmental organisation (NGO) that specialises in public health education.

In Sanlin town, a crowded urban community of 100,000 migrants in Shanghai's Pudong district, the GSK project has built one of four community centres, complete with air-conditioned playroom, classrooms and lecture rooms, provided rent-free by the local government. The project has been such a hit with local residents that GSK is planning to open a similar centre in Beijing next year.

At the macro level, the Chinese government has made healthcare reform a top priority, fully aware that as their standard of living rises, peoples' willingness to tolerate the country's antiquated healthcare delivery system is fading. In 2009, Beijing set itself the ambitious goal of providing universal access to effective, safe and low-cost healthcare by 2020. Since then, it has extended some form of health insurance to 95 per cent of the population, says a recent report, "Healthcare in China: 'Entering uncharted waters'", from McKinsey, the consultancy.

But when it comes to the micro level – the level of daily life in a migrant community such as Sanlin – the picture is much less rosy. In theory, for example, migrants to Shanghai

HEALTH

GSK NEW CITIZEN



Education for life: migrant women can attend classes at the health centre on a wide range of topics, from using Skype to sanitation

as knowing about a free service,” says Guo. “You may have the right in theory, but first you have to know that you have it – which most migrants don’t. And then you need various certifications in order to get it.”

Most migrants “don’t have the resources to go through the whole process”, she says, adding that implementation is the problem, not policy. The GSK project does not try to provide the medical care that migrant workers and their families are lacking. Rather, it tries to prevent them getting sick, by offering basic preventive education on topics such as sanitation, childhood nutrition and childhood diseases.

From its annual budget of RMB

have the same healthcare rights as those who hold Shanghai *hukou*. “But without health insurance, the services are too expensive,” says Guo Xiaomu, director of Xintu.

Migrants may have some form of health insurance, but most can only use it in their province of origin. The central government is working hard to improve the portability of health insurance across provincial borders, but there is a long way to go before that becomes reality. Even provinces that allow insurance portability often make it so difficult to claim that in practice reimbursement is impossible.

In Shanghai, where the best hospitals have some world-class equipment and practitioners, the local government provides some healthcare services free for poor residents, including migrants, and foreign and local charities fund many healthcare services, including free operations, for instance to repair the heart defect that prompted the abandonment of the migrant infant. “But it’s not as simple

Authorities are eager to learn how they can extend the project to other communities



Im (\$160,320), it provides a mix of services, even beyond its public health focus: recent workshops have been held covering such areas as preventing hand, foot and mouth disease, but also on domestic violence, and how to use Skype and shop safely online.

Guo says local governments are watching her projects to learn how they can be extended to other communities. But while other NGOs provide help to migrant schools, the GSK project seems to be one of the few in China to focus on migrant healthcare.

Reform of Chinese healthcare has only just begun: projects such as this could blaze a trail others will follow. ■

Additional reporting by Yan Zhang

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Rio de Janeiro and Niterói are only five miles apart, but it once took a trip of more than 60 miles to travel between the two port cities. Though a link was vital, it took nearly a century for the project to be completed. Today, the Rio-Niterói Bridge that Citi helped make possible carries 140,000 vehicles and allows the passage of hundreds of ships entering and leaving Guanabara Bay every day. This majestic project is now the longest bridge in the southern hemisphere. And by far the most beautiful.

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OPINION

SEBASTIAN COE



Game on

A new sustainable community is emerging in the UK capital's East End, built on the vision and success of the London 2012 games

The seeds for the London Olympic Games and Paralympic Games were sown more than a decade ago. A handful of people met in a West End pub to discuss the prospect of London hosting the games, and a feasibility study was duly commissioned. Fast forward to November 2012, and the rest is history.

Looking at it in such linear terms does the process a disservice because the reason we managed to garner such support in the sporting community, in the UK and beyond, was the vision we had for a London Olympics.

Our dream was to use the power of the games to inspire lasting change.

The games had the potential to provide opportunities for the UK that would never come around again in our lifetimes, so the vision would have to run through every aspect of the project. This included where we would locate the Olympic Park. The support of Ken Livingstone, then mayor of London, was total, but he was adamant that any development should be centred on London's East End.

He was spot on. Underdeveloped since the war, the area of east London near Stratford chosen for the Olympic Park was, on the surface, prime real estate with strong transport links. But with multiple land use over hundreds of years, much of it was contaminated and would require significant investment to make it suitable for development. The prospect of hosting the games provided the catalyst to bring together three critical things – host the world's greatest sporting event; regenerate a large area of London; and create a blueprint for new, sustainable, urban communities.

Add to this the prospect of inspiring young people to take up sport and providing the UK's capital city with sporting facilities it should have had generations ago, and the idea of London 2012 had an unstoppable momentum that transcended party politics. London 2012 had become an opportunity for the nation that could not be missed: inspire a generation – and create a new postcode.

We brought together the UK's greatest creative minds to help prepare the bid and then deliver the games. From town planning to sustainability, architects to crowd management specialists, everything was planned and developed in great detail. The work done by the London 2012 team demonstrated that when it comes to large infrastructure projects, we have vision and we can deliver. And we can do both on time and within budget.

So on July 27, 2012, when the eyes of the world turned to London for the opening ceremony of the Olympic Games, we were ready. The sports had been meticulously planned and tested, crowd movements modelled to ensure a smooth experience for our spectators,





PHOTOS: ANTHONY PALMER, CHARLIE BIBBY

the games makers were trained and ready. What we saw in the summer was a fantastic festival of sport and celebration. From the moment the Olympic flame landed in the country right through to the closing ceremony of the Paralympic Games, we witnessed a wave of support and outpouring of national pride not seen for many years.

The games, by popular acclaim, were a massive success. But what next?

Now we need to deliver on the next part of what we planned for all those years ago. The London Legacy Development Corporation has been set up to ensure that the Olympic Park's future is as we hoped it would be.

The challenge is to ensure the blueprint for vibrant urban renewal grows

The signs are positive: 8,000 new homes will be created in this well-connected part of London, in five new neighbourhoods.

In addition to the magnificent Westfield retail development, a further 91,000 sq m of commercial space will bring more jobs to the area. The park will come to life in innumerable ways – there will always be something to do for those who live in the area and beyond.

It is estimated that each day there will be 25 sports and activities to choose from, including concerts, art exhibitions and, of course, big sporting events. In 2015, the park will host the European Hockey Championships and, in 2017, the World Athletics

Before and after: London's 2012 Olympics organisers are completing the move from brownfield site (left) to new urban community

Championships. There is still much to do, but the vision of the Olympic Park as a vibrant new urban community with sport at its heart is becoming a reality.

It sounds obvious, but by making sure the project was delivered in partnership with all those affected, across all levels of government, the city and other bodies, and by starting the legacy discussions before the games began, we are in a promising place.

The challenge now is to build on the success of the summer of 2012 and make sure not just that the vision survives, but that the blueprint for the new urban community with sport at its heart in east London thrives and grows into the future. ■

Lord Coe, a former athlete, is head of the London Olympic Games organising committee

RIO DE JANEIRO SPORTS



Go for gold

The Olympics and World Cup will bring Rio more than sporting glory. **Joseph Leahy** reports

Golf is not a sport that naturally lends itself to association with the upcoming Olympic Games in Brazil, unlike the national obsessions of football and beach volleyball.

Yet it is in the area of golf that the 2016 Rio Olympics will leave one of its more idiosyncratic and, it is hoped, lasting legacies with the city's first public golf course.

Earlier this year, the city chose US-based Hanse Golf Course Design to deliver a facility to host what will be the first golf tournament played at the Olympic Games since 1904.

Unlike the city's two private

courses, this facility in Barra da Tijuca, a newer part of Rio that will host many Olympic events, will be focused on developing the public's interest in golf.

"The idea is to build the first public golf facility in Rio, to focus on developing the sport, teaching children and training professionals," says Arminio Fraga, a former central bank governor and member of the Rio 2016 golf advisory committee.

In a developing city such as Rio de Janeiro, a metropolis of around 6m people, the question of legacy has to dominate any attempt to stage important international events like the World

PHOTO: AFP/GETTY

Cup or the Olympic Games.

City officials working on the 2014 World Cup and the Olympics two years later know they have a limited time to prove the value of the events to residents struggling with such everyday urban problems as traffic congestion, poor housing and sanitation, and urban violence.

For this reason, the golf course is only one of many legacy projects that officials are promising the two events will bequeath to the city. The others include radical improvements in policing, particularly in the most violent favelas, or slums, and better public transport to ease congestion, particularly in areas that are off the tourist trail but are where most of the people live.

“We are taking advantage of the Games to do what we need to do for infrastructure,” says Maria Silvia Bastos Marques, president of Rio de Janeiro’s Municipal Olympic Company, the body in charge of co-ordinating projects for the games.

Perhaps Rio’s most lauded achievement in the four years since the city won its bids for the two events has been improve-

mentally cleared armed drug traffickers from the favelas around the upmarket southern suburbs and to the north in the Complexo do Alemão, and has installed specially trained community police units, known as UPPs, to maintain order.

The presence of the state has also allowed for the introduction of city services, such as rubbish collection, as well as the beginning of ordinary commerce. Already, a number of banks, department stores and supermarkets are beginning to enter the “pacified” favelas. Property values are on the rise.

The UPPs have occasionally faced problems of police violence and a sporadic return of crime as a result of the power vacuum sometimes left by the departure of the gangs. Only a small number of the hundreds of favelas that spread like patchwork across the city have been pacified. But the programme has so far proven a success and is said to be popular with residents.

“Everyone wants a UPP to come to their area,” said Sany Pitbull, a disc jockey specialising in “funk Carioca” dance music



All aboard: some are concerned that improvements for the Olympics and World Cup, such as a planned golf course (below), will only benefit the city’s elite

The Olympics organisers estimate public transport use will rise to more than 60 per cent, from 20 per cent now.

Another legacy project is the rejuvenation of Rio’s charismatic old docks area with estimated investment of R\$8bn (\$3.87bn) and including light rail, hotels and some operational centres for the games.

While Rio Mayor Eduardo Paes recently easily won re-election, not everyone is impressed with his plans for the international sporting events and the city.

Residents in areas that are to be cleared to make way for Olympics facilities, such as those in some favelas in Barra da Tijuca, argue that many of the projects are little more than elite real-estate schemes.

Others believe the new public transport links will make life more convenient only for residents in upscale suburbs, while leaving many of the peripheral, poorer and overcrowded neighbourhoods as disconnected from each other, and the rest of the city, as ever.

Even the golf course has come in for its share of criticism because it will swallow up part of a protected area. But local reports have said that another nearby parcel of land will be set aside as a nature reserve.

Despite the reservations, the people of Rio are generally optimistic about the projects linked to Olympic Games and the World Cup, including the golf course, which is expected to become a tourist attraction in its own right. “A lot of people will... want to play the course that hosted the Olympics,” says Fraga. ■

The city is already seeing benefits from hosting the world’s biggest sports events

ments to law and order, particularly in the wealthy beach-side areas of the Zona Sul district, near Ipanema and Copacabana, but also in less touristic areas further to the north and west.

The government has system-

who plays in the favelas.

Residents are waiting to see how the big sporting events will benefit the creaking transport infrastructure. Marques says the government’s plan includes a new bus and rail rapid transit system.





Learning curve

Projects aimed at closing the education gap are fundamental to economic growth in rich countries as well as poor, writes **Chris Cook**

One of the most important ideas in education is called “skill-biased technological change”. The idea is that scientific innovations, from the computer to the mobile phone, have made higher-skilled people dramatically more productive. But the less educated have been gifted no such growth in efficiency.

It is often cited as an important reason for rising inequality, although its role is disputed. Thanks to improved technology, bankers and lawyers can do – and thus earn – more each hour than ever before. But the people feeding them or keeping their offices clean can do little more.

This means that, for all governments, education matters. A country where there is

less education will not enjoy the fruits of innovation. Where learning is confined to the wealthy, growth could come at the price of rising inequality.

The sums involved are big. According to the Harvard Pathways to Prosperity project, the lifetime earnings gap between a US high school graduate and those with a college degree is estimated at around \$1m.

The labour market is not creating new low-skilled jobs. Poor education means a life at higher risk of unemployment. In 1972, 32 per cent of jobs in the US needed less than high school graduation. Now it is 11 per cent.

That is why policymakers in the developed world spend so much time worrying about get-



Patience is a virtue: a degree from universities such as Georgetown, can provide a lifetime income \$1m higher than that of high-school graduates

ting poor children into university. In countries like the US and UK with top universities, it is an obvious way to boost growth while containing inequality. For cities, inequality means pricing large parts of the community out of city centres.

Certainly, their task is easier than countries without world-famous universities. But it is not straightforward, requiring interventions across a range of issues from school and family life to basic form-filling skills.

First, it means getting children to do well enough at school to make a plausible application. This is a challenge, especially in the urban US where school systems are patchy and drop-out rates are high.

Second, it means persuading students they should apply, and be willing to take on the uncertainty of waiting four years before joining the labour market – and debts. For young people whose families have no experience of university, that can feel like an enormous bet.

Finally, it is not enough to get young poor people into the colleges. They must stay there. Drop-out rates among ethnic-minority and deprived college students are worryingly high. According to the Organisation for Economic Co-operation and Development, only 56 per cent of people who start a four-year degree in the US have graduated six years later.

The winner of the FT/Citi Ingenuity Award in education, Minnesota’s College Possible, addresses all these issues. Jim McCorkell set it up, he says, “because too few low-income students are making the critical transition to college, one of the surest pathways to a solidly middle-class life”.



It aims to raise aspirations and to dispel “the stereotype that only wealthy, privileged students are meant to go to college”. It does this in five ways: intensive exam assistance to help overcome the school disadvantage; help with applications; financial consultancy; support during the

EDUCATION OVERVIEW

A university education is a ticket into the middle classes for low-income children

transition to college; and support during studies.

College Possible is unusual in dealing with so many issues. It seems safe to say that we can expect future projects with

similar aims to win the award. Perhaps some will deal with only one link in the chain that College Possible addresses, but in an innovative way or with better data on success.

There are other big challenges out there, not least the difficulty in securing education in the poorest countries, where school and university systems are rudimentary. These countries sit in an education trap: without graduates how, exactly, do you create more graduates?

Qatar and the UAE are approaching the problem with money: they have installed branch campuses from universities in the developed world in their own countries to inject a nucleus of highly educated people.

In countries with less cash, the answers are going to require more finesse, maybe using technology to leverage up the power of graduates.

A future winner might be a nominee that overcomes other problems. One that tackles traditional gender roles that keep women out of school, or that takes on structural problems that can mean that learning does not pay. The unemployed, over-educated graduate is a fixture on the Arab street.

These are the challenges for the modern town. Cities act as pressure valves. If education systems fail, it is cities that take in the rootless and the jobless. But, with all shades of the population side by side, crowded cities can also be pressure cookers. ■

EDUCATION COLLEGE POSSIBLE

Brain bank

A US non-profit is helping low-income students get into the best universities, report **Hal Weitzman** and **Sharmila Devi**



Luminary alumnus: Iris Hoover is one of many successful graduates of the College Possible programme

College Possible, a non-profit organisation that helps young people from underprivileged backgrounds get into university, has big plans.

By 2020, it hopes to reach 40,000 students annually across the US, up from the current 8,700 young people at 28 high schools and 150 colleges.

Jim McCorkell, founder and chief executive of College Possible, is clear about how helping young people can boost productivity and help the economy.

“One business leader estimated the return driven by contributions to the tax base of someone who gets a college education at more than \$1m over their lifetime,” he says. “We’ve got many companies partnering with us to get access to our college students because we’re helping to create a diverse and talented pipeline.”

Students on his programme typically graduate with degrees that help them find jobs more quickly than their peers from wealthier backgrounds. “The poorer you are, the more likely you are to major in something that looks like a job, like nursing or accounting,” he says.

Since it was founded in 1998, when the programme served 35 pupils at two high schools in the twin cities of Minneapolis and St Paul, the organisation has added offices in Omaha, Nebraska and Portland, Oregon. It aims to establish a presence in 10 cities within the next five years.

“When we go into a new city, we have the task of raising a minimum \$2m over three years from the private sector, corporate boards and foundations,” he says.

The organisation coaches students to help them find funding to pay college tuition and living

expenses, and gives high school pupils a grounding in basic financial literacy.

About 98 per cent of high school students on the programme earn admission to college, the vast majority to four-year institutions.

Some 37 per cent who go through the programme and enrol in a four-year degree course graduate within four years, while 56 per cent graduate within six years. That compares favourably with the national statistic for low-income students - only 11 per cent graduate within six years.

McCorkell received an alumni achievement award from Harvard's Kennedy School of Government this year, and was recognised by President Barack Obama at a White House event in 2009 highlighting innovative programmes that make a difference to communities.

Iris Hoover, 25, and her twin sister were raised in St Paul by a single mother who worked as a nurse and was frustrated when her applications for promotion were turned down because she only had a two-year associate degree. "She pushed my sister and I either to go to college or get a job and pay rent," says Hoover.

She considered studying locally but College Possible broadened her ambitions and she ended up studying sociology at private Beloit College in Wisconsin. She now works in the continuing education programme at the University of St Thomas in Minnesota. Her sister, who was also coached by College Possible, is studying for her PhD in engineering.

To "give something back", Hoover worked after graduation for College Possible, advising and mentoring students.

One of the organisation's aims, and challenges, is to help prospective students navigate the financial aid process and overcome the common view that top private universities are beyond their financial means.

That is especially the case for ethnic minority students, says McCorkell. "Many people come dangerously close to saying that if you're a low-income person or a person of colour, you should be content to go to a community college and get a two-year degree or a certificate in welding.

"I very rarely meet an upper-middle-class person, a partner at a law firm, a doctor or a successful business person who is dreaming that



Anything is possible: the programme helps change perceptions about who is entitled to a top university education

their daughter is going to get a certificate in welding."

That need not mean that a student with Ivy League ability should settle for a local state university for financial reasons. Many students from low-income backgrounds could find they are eligible for financial assistance, making it cheaper to attend a top private college than to go to a state institution.

"There's a lot of aid available," McCorkell says.

"Typically, the kids from our programme will graduate with debt of less than \$10,000," he says, compared with the national average debt level upon graduation of \$30,000.

McCorkell wants the young people in his programme to understand what they are getting into and so encourages college applicants not to take on more debt than they could expect to earn after graduation.

So is college for everyone? "Not necessarily a four-year degree," says McCorkell. "But this economy is going to require everyone to have some kind of post-secondary education."

The more success he has in placing young people from poor backgrounds in top universities, the more high school students

will see what is possible. "A key element of tackling America's education problem is having low-income kids see somebody who looks like them and came from the community and had a good outcome."

Key to tackling the education problem is creating role models for poorer youths

If College Possible can even approach the numbers in its ambitious plan, there are soon going to be many more role models available to expand the horizons of those under-privileged children. ■



PHOTOS: RICHARD SENNOTT



Future shock

Medellín, once known for drugs and murder, is being transformed by citizens intent on reclaiming and redefining public spaces



A city is defined by its meeting points and events. I recently attended a very revealing and exciting event at Colombia's Casa de la Cultura de Moravia, where the creative energies of young people in the hip-hop and rap movements converge – young people who live in a neighbourhood that in the 1960s was the dumpster of Medellín and which in the 1980s and 1990s presented a portrait of the violent and exclusionary drama of the city's history.

On the patio of this cultural centre, opened in 2007, we could see the picture of what this city wants to be today. The musicians, who came from the previously stigmatised neighbourhoods on the slopes of Medellín, created a get-together for everyone invited for the opening of an international exhibition called "Public Space in Action". It made

me feel that our city is looking at itself bravely and is rewriting its own narrative: it is a city where we can all share the same spaces.

The country's second largest city is in the centre of Colombia, in a long, narrow valley with a river running from south to north, contained by two mountain ranges that run from 1,400 metres to 2,400 metres above sea level. It is a city interlocked within mountains and drawn by a number of ravines that descend from the slopes towards the river.

In 1950, the city, popularly called "the silver cup", was home to 350,000 citizens; then we grew to approximately 2m in the 1980s, and to 3.5m today in the metropolitan area. It is now Colombia's industrial capital.

This immense migration, much of which responds to displacement as a result of rural violence, quickly and informally occupied the two slopes of the

northern part of the valley. This produced a broken and divided city, obvious in its division; the city on the slopes, called "*las comunas*", where 40 per cent of the population lives, most of them of informal origins, and the city of the centre and south of the valley, where the middle and upper classes live.

The drug cartels conquered the young people of the *comunas* during the 1980s and 1990s. Medellín was known as "Pablo's City," after drug baron Pablo Escobar. In 1991, we were the most violent city in the world, with 381 deaths per 100,000 inhabitants – 20 deaths every day of the year, most of them young people. A city where the life of a police officer was valued at \$2,000, which was what the Medellín cartel paid in 1992 for each dead officer to the young people of the communes, where they recruited their army of hitmen.

The portrayal of these dramatic years has produced some of the most beautiful testimonies of our literature, such as *El Olvido que seremos* ("Oblivion: a memoir"), a profound book by Hector Abad about his father Hector Abad Gomez, a doctor and human rights activist who was assassinated on a Medellín street and found by his wife and son. Or the movies of Victor Gaviria, *Rodrigo D* and *La Vendedora de Rosas*, which relate the life stories of the young people of the Medellín *comunas*.

Parallel to this painful journey, many other processes were taking place. Civil society, academia and the private sector were each working to respond and find solutions to the real-life drama. In 2003, Sergio Fajardo, mathematician, investigator and professor, was elected mayor of Medellín, with a civic movement called "Compromiso Ciudadano".



Taking it to the streets: Medellín was the murder capital of the world, often referred to as 'Pablo's town,' after drug baron Pablo Escobar

He created a political space between 2004 and 2007, bringing together leaders and experts of different ideologies and backgrounds but with the shared objective of recovering trust in the public sector and defining education as the core method of integrating the poorest and most violent zones of the city.

Alonso Salazar, author of two books essential to understanding Medellín – *No Nacimos para Semilla* and *La Parábola de Pablo* – was mayor from 2008 to 2011, thus providing continuity to this process of civic governance.

The city has become a living laboratory, where the drama of violence and exclusion has receded into the background of successes that have created some structural, and visible, changes.

Changes in culture and education have been the most powerful manifestation, reflected in new meeting places, as well as the physical and mental reclamation of streets in neighbourhoods that had been lost to violence.

New networks of programmes, buildings, spaces and public transport, localised in the northern neighbourhoods, have reunited the city, allowing people to gain confidence in the idea of inclusion.

The first step towards education quality is the dignity of space, sending powerful messages by giving the poorest citizens access to the same opportunities as the wealthiest.

Violence has not yet disappeared from our streets, but the decisiveness and transparency with which our city has started to rewrite its story, and remake its future, makes me feel optimistic that not all the loss to date will have been wasted. ■
Alejandro Echeverri is an architect based in Medellín

PHOTOS: EYEVINE, AFP/GETTY



Education has become the core method of integrating the city's poor

INFRASTRUCTURE OVERVIEW

Living cities

Infrastructure is the lifeblood of urban living, where simple ideas can solve complex problems, writes **Edwin Heathcote**



Infrastucture is the veins, the viscera and the guts of a city, the unimaginably complex network of utilities, roads, rail and communications that can seem almost invisible, yet without which cities cannot work.

The city was famously likened to a body by Peter Ackroyd in his magisterial biography of London. But, even further, infrastructure increasingly represents the synaptic network of the urban brain, the system of crucial connections that allows the contemporary city to function as a knowledge economy. What was once guts represented by the hidden tubes, pipes and wires is now the mind – the wired buzz that allows a city to be part of the explosion of communications, making even the smallest city a global presence.

This has entailed a leap in the understanding of infrastruc-

ture. What was once a basically Roman system of physical connections, virtually unchanged for two millennia, is now something leading us towards the much-vaunted smart city.

Infrastructure is also the ultimate collective urban undertaking. Innovative infrastructure is usually expensive to install, often politically difficult to undertake and it makes demands on both the private and civic spheres, requiring national and local government to drive investment and ideas.

Yet, as the entries for the inaugural FT/Citi Ingenuity Awards showed, the breadth of what the category encompasses allows it to span the lowest to the most high-tech projects.

In the informal settlements of the global south, piping water into homes would represent an almost immeasurable good. While western cities might seem

Wired: smart cities feature buildings of the future, like the Tri-Bowl exhibition centre in South Korea's Songdo

to be tinkering with arcane refinements to highly refined systems. It would have been good to see more innovative solutions for informal settlements, where small changes can make radical differences. It was interesting to note that the entries based in informal cities, notably the iKhayalami project in South Africa, attempted a nimble approach that embraced a multitude of incremental improvements, addressing various issues of quality of life.

This also raises issues of regularisation and security of tenure that so often muddy the conversation about informal settlements. By improving slums are we acknowledging them and formalising an unacceptable mode of living? Should we instead be focusing on ending the problem or should we in the global north be looking to the innovations emerging from informality and be inspired by the resilience of the poorest urbanites?

That brings us to another approach that is more about the social nature of infrastructure. The Development Innovations Group, which fosters innovation in financial services for the poor, wraps up the myriad possibilities that can allow those living in the informal margins to lift themselves into sustainable livelihoods and decent surroundings through everything from microfinance to product design.

Back in the global north it seems from our shortlist that transport has become the key to the sustainable city. Two entries broach both ends of the spectrum, from high to low tech, digital to pedal.

Shortlisted Bitcarrier from Barcelona is a step towards creating smart cities in historical centres. We have heard much recently about Songdo in South Korea where a new town has

been conceived and constructed as a smart city, fully wired and connected from the moment it is complete. But it has proved harder to adapt the existing centres (where people want to live) to smart standards.

Bitcarrier allows real-time information on traffic flows and accumulated data from GPS systems to be fed into a network with the capacity to use any system at the city's disposal to make traffic run more efficiently. It is intelligent and innovative.

The winner, though, combines digital technology with Victorian mechanical genius, high-tech with pedal power. The Vélib' bicycle hire system, launched five years ago in Paris, is neither new nor original but

it is a simple, sustainable idea that allows short trips to be made across the city, reducing congestion and public transport overcrowding, even keeping us fit. Never as simple as they seem in retrospect, the mix of ease of payment and docking with the branding and the design of the bicycles has been integrated into a brilliant demonstration of urban ingenuity.

Cities need to change to develop, they need to move, respond and adapt. Perhaps the ideas here will inspire other cities to change the way they do things or themselves to innovate and invent new ways to make living in cities that bit better. ■

The winner is a brilliant mix of old and new; pedal power meets digital technology



INFRASTRUCTURE VELIB'



Pedal power

The Paris Vélib' scheme set the standard for urban bike-hire schemes in cities worldwide, says **Yann Morell y Alcover**

Paris sera toujours Paris," sang Maurice Chevalier in the 1930s. But while Paris will always be Paris, it has also been changing. The French capital has been leading the way in personal mobility, as

the bicycle-sharing Vélib' scheme, launched in 2007, has demonstrated its ability to transform urban public transport.

"Vélib'... really put bike-sharing on the map," says Paul Demaio who runs MetroBike, a consultancy based in Washington DC. Similar schemes already existed in smaller French cities, but the Paris scheme became a global showcase for the concept.

In the years that followed, the number of bike rental systems being set up soared. A UN report last year said that the number of schemes worldwide more than doubled between 2007 and 2010 as cities such as Dublin, Monaco, Montreal, Valencia and Toyama

tion Studies' Transportation Sustainability Research Center at the University of California, Berkeley, who reckons that no fewer than 20 new schemes will have been launched in the US this year alone. This has been made possible by new bike-sharing systems sold and operated directly by bikemakers themselves. They have enabled promoters, usually but not exclusively city councils, to consider different funding models.

Montreal's Bixi scheme, launched in 2009, quickly became a benchmark in technology, while London's Barclays Cycle Hire project, set up in 2010 and using the Bixi hardware, features a new source



Short and sweet: bikes and even electric cars are helping to keep global cities moving

tising company JCDecaux, which operates the scheme. Asséraf also says that some improvements have been already been made. One of them is Allbikesnow, a smartphone application that enables users of any of the 25 schemes operated by JCDecaux around the world to locate the closest available bike or space.

Possible ties with Autolib, the Paris car rental scheme started in October 2011, are also being looked at by the city council. The two schemes are run by very different operators (Bolloré, the French industrial conglomerate, in the case of Autolib), but they share the same approach to urban mobility. Autolib gives city-dwellers access to 1,800 electric vehicles available in 700 stations across greater Paris for very short rides. Building bridges between the two systems is thus appealing.

Evolving the Vélib' system would require a political push. One constraint of the advertisement-backed model is that contracts with local authorities last for a limited time, which discourages heavy new investment once a scheme is up and running. Moreover, as fees paid by users (JCDecaux only gets a share) are

only a tiny portion of the revenues generated through advertising, there is little incentive to boost rental figures.

Benoît Beroud, founder of consultancy Mobiped, thinks the milestone for Vélib' will

come in 2017, when the 10-year agreement between the Paris and JCDecaux comes to an end. By then the political landscape and the city's priorities could be different, But Vélib' has become such an emblem of the city that "it will be very difficult for Paris not to have it". ■



caught the cycling bug.

However, while most of the systems launched in the late 2000s were greatly inspired by the Vélib' example, this does not seem to be the case any more. As well as improved technology, business models are changing.

The advertisement-backed schemes that have largely prevailed across Europe, operated by outdoor advertising specialists in return for discounts on the price of concessions, are no longer the most dynamic segment.

"There is a lot of business model diversification in the US," says Susan Shaheen, co-director of the Institute of Transporta-

of funds: the designation of a major sponsor. "There has been a lot of progress and pioneer systems are now a little old-fashioned," says Martti Tulenheimo of the European Cycling Federation.

Some analysts now talk about a fourth generation of bike-sharing systems – Vélib' and its siblings were already considered the third generation – which, for example, could feature docking stations powered with solar energy, greater integration with other public transport networks, GPS tracking and electric bikes.

"Vélib' is still a quite recent system," replies Albert Asséraf, executive vice-president at adver-

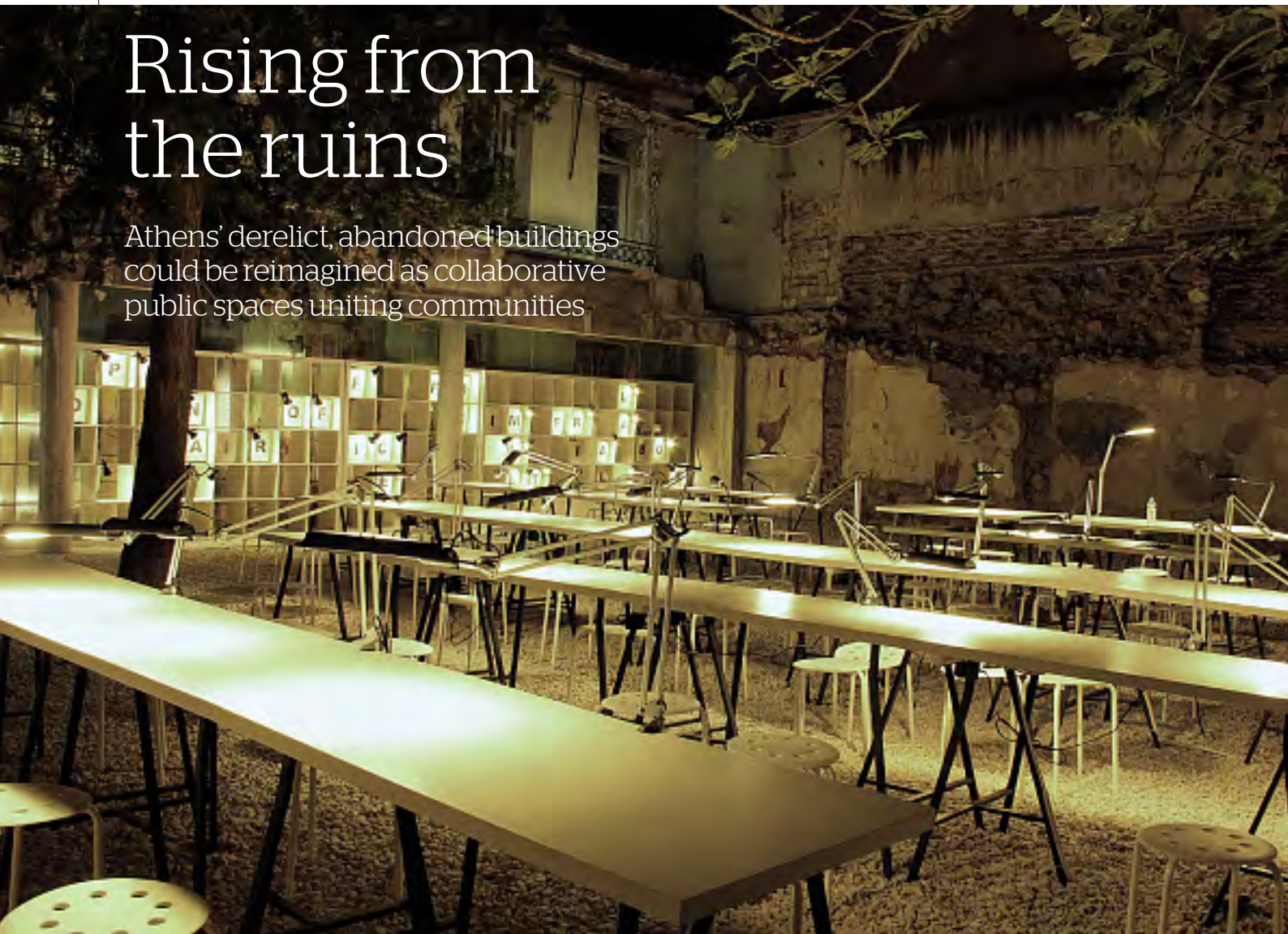
Montreal's Bixi scheme quickly became a benchmark in technology

OPINION
ARISTIDE
ANTONAS



Rising from the ruins

Athens' derelict, abandoned buildings could be reimagined as collaborative public spaces uniting communities



The city centre of Athens is an idiosyncratic void. Many older inhabitants abandoned it years ago. Some of the newcomers were dislocated during recent police operations.

The city is changing constantly: there are many homeless people on the streets. Landlords do not rent out their apartments, preferring instead to leave them empty. In a similar way the small, ground-floor shops, so typical

of Mediterranean street life, are closing as merchants find it impossible to survive. Many once-vivid streets now look like abandoned remains.

My architectural practice, Antonas Office, has investigated this peculiarly empty city environment with the assumption that the existing structures, with minimal alteration, can host or create spaces that will work in different ways for the city's inhabitants.

Athens owes much of its character to the constructions

that were built after the 1950s: the *polykatoikia* blocks of flats are still in good condition, and are ripe for reinterpretation. Using "urban protocols" that are in tune with the new economic and social realities of Greece, we have looked at giving a different content to this field of urban remains.

Urban protocols can be seen as benevolent versions of internet viruses, spreading and filling parts of this emptiness in new and – unlike the viruses that

spread online – benevolent ways.

These protocols would expand not because of commerce or profit but because they produce scenarios of unprecedented function. They would bring together small communities by making concrete the functions that the communities need in what could be termed “overlapping abstract neighbourhoods”.

These can be thought of in terms of the internet’s open-source culture, where individuals collaborate to build free software: as with the software, these functions would be formed from individual acts within the abandoned city.

Again, as with open-source software, these protocols do not necessarily guarantee positive results. Social mechanisms would arise if a legislative platform allowed them. A research area for social applications or communal assets could foster good ideas, and control or discourage bad ones.

The first protocol concerns the terraces of the city. The fragmented spaces at the roof level of each Athens city block constitute an unused, deserted, semi-public space. Every block’s roof terrace could be given over to ownership by a co-operative or similar legal entity. Canopies could cover the unified areas, connecting them

with metal bridges and stairs, and allowing the areas to function as simple public spaces.

Gardeners could use these roof spaces to grow vegetables and plants, while the covering grid could also be used for photovoltaic cells to generate power for the people who live in the apartments.

The second protocol is open-air and public working spaces. Uncovered parts of the city could be furnished to create outdoor office spaces for all.

Free internet access and water would be the prerequisites for such communal spaces, in which a new type of real networking would emerge.

This communal space can be thought of as corresponding to a cinema, but with people viewing individual screens instead of a communal one. In this way, the abstract idea of digital networking would become a concrete city space.

The bare-bones urban projects do not support beautification – empty spaces, unused streets, city-centre voids are all suitable. In this way Athens could take a lead on treating a problem that could soon become global.

Minimal intervention, such as lighting the public tables,



Function over form: it would require minimal intervention to create meaningful spaces

in such insignificant empty places could charge them with meaning while maintaining their image.

The first open-air office was created last year, sponsored by the furniture chain Ikea. The project was then commissioned by ReMap, a project that uses the derelict spaces to host art events.

The third protocol is the urban hall, which would be the bankrupt-city version of the Fun Palace proposed in the 1960s by visionary architect Cedric Price.

Instead of Price’s flexible building, in which he imagined visitors creating their own entertainment, the urban hall would use an empty area as an adaptable space to serve the temporary needs of different users.

The urban hall in Athens is intended to give new purpose to a city square that was, until recently, openly used for public buying and using of illegal drugs. The users of the hall

would depend on its programme, which would serve as a cell for various gatherings of different visitors.

The uses and even the changing details of the new architecture of the square would be decided by

Uncovered parts of the city could be furnished to create office spaces for all

the public, either online or curated by a chosen individual.

The building could perform functions as varied as an open-air hospital, a theatre, a concert space or an open office.

A constantly flexible responsiveness, counterpointed by the stability of the surrounding buildings, would mean the space could be adapted to the needs of the city and its people, or follow a strategy of reform controlled by the neighbourhood. ■

Aristide Antonas is an Athens-based architect



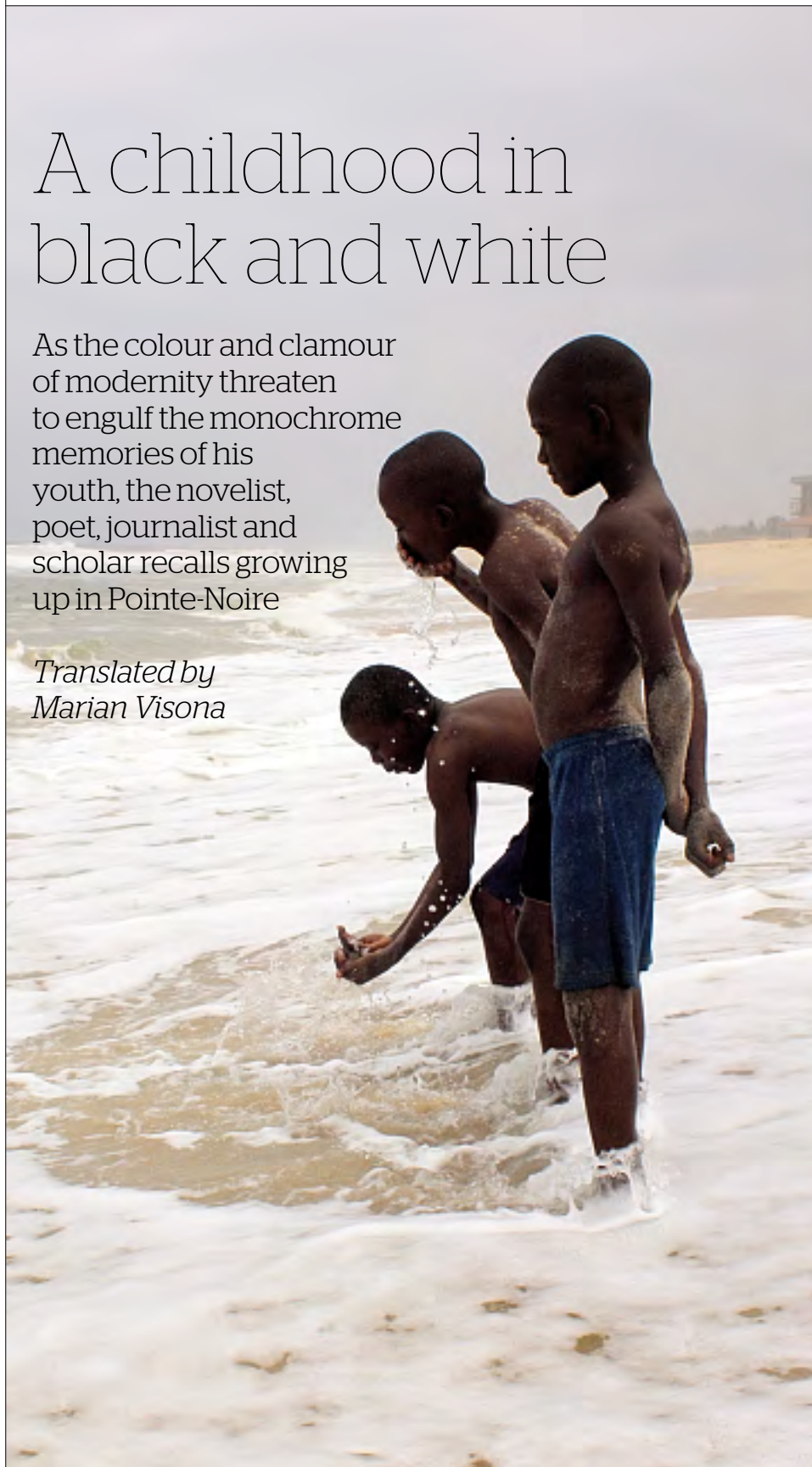
OPINION
ALAIN
MABANCKOU



A childhood in black and white

As the colour and clamour of modernity threaten to engulf the monochrome memories of his youth, the novelist, poet, journalist and scholar recalls growing up in Pointe-Noire

Translated by Marian Visona



Pointe-Noire, the economic capital of the Republic of Congo, has a reputation built on nicknames bestowed by its residents: “Beautiful Boardwalk” or “Boardwalk by the Sea”. Its beauty derives from its lush vegetation and the architecture of its city centre, a blend of modern and traditional, such as the famous terminus building of the Congo-Ocean Railway.

When I was growing up there, the city was known, above all, for its calm and tranquillity. It had always managed to escape the country’s multiple civil wars. The Atlantic Ocean gives the city a prominent role within central Africa: Pointe-Noire, “a world city” and one of the most important ports on the continent – an axis of communication benefiting several neighbouring landlocked countries.

I grew up in the neighbourhood of Tié-Tié, where my Uncle Vicky owned the famous bar Joli Soir (Beautiful Evening), not far from Independence Avenue. This lively place was crowded every evening, with as many people outside as inside. My uncle installed lanterns and speakers outside, so it was no surprise to see couples dancing in front of the entrance, or for passers-by to stop for a moment and join in the merriment.

The music of Franco Luambo Makiadi, Youlou Mabiala, the Bantous de la Capitale or Pamelou Mounk’a played all night and the revellers would not leave until the first light of dawn.

My uncle also owned a photo studio, Studio Vicky, just off Independence Avenue. I would see adults come in dressed to the nines in their bell-bottom trousers and brightly coloured shirts and pose in ridiculous positions in front of scenery

that could have been devised by Jean Depara, the famous Angola-born photographer.

These are the black and white images of my childhood, of the 1970s and 1980s. I can still hear the commotion of the streets, the sound of the buses, exhausted from the winding journeys across the city. I cannot forget the small shops or the pedlars or the West Africans who ran the stores in the working-class areas.

We spoke mostly Munukutuba, while the residents of Brazzaville expressed themselves in Lingala. Life in our city was driven by the humours of the Atlantic Ocean, while in Brazzaville it was the Congo River that administered its law. The residents of Pointe-Noire were at the crossroads of the world. They saw ships arriving from far-off lands. They waited at the seaside port

for fishermen from Benin who braved the waves to bring their fish, which the small shopkeepers then argued about among themselves.

Pointe-Noire was, at that time, one of the cities symbolising the awakening of an Africa that hoped to find its autonomy by embracing communism.

The city was still divided between the working-class neighbourhoods (Tié-Tié, Fouks,

The city was a symbol of the awakening of an Africa that was embracing communism

Rex, Roy, quartier Trois-Cents, Voungou, Matende) and the centre of town, which was mostly inhabited by Europeans and the wealthy residents of Pointe-Noire.

When we were in “the city” and we wanted to go into the city centre, we said: “I’m going into town.”

And we dressed up nicely. You couldn’t miss the crowds along the avenue: here was a woman with a bag of rice on her head and a baby on her back, heading to the Grand Marché (the big market). There, a driver whose car had broken down in the middle of the intersection, getting help from some kids to push it out of the way. A little further along, a fight was attracting an excitable crowd.

Uncontrolled urbanisation and urban sprawl are progressively disfiguring Pointe-Noire



PHOTOS: CAROLINE BLACHE

On the boardwalk: Pointe-Noire has grown and changed so rapidly some suburbs now resemble favelas

to the point where, in many new neighbourhoods, the housing structures resemble favelas. Some major streets, paved long ago, are in such poor condition that drivers must worry just as much about the potholes as they do about the pedestrians.

To add to this issue are the eternal problems of rainwater run-off, rubbish-choked rivers, and the waste from oil companies that over time has encrusted the sand of the Côte Sauvage (the Wild Coast), disfiguring the face of this city to the point where some now jokingly refer to it at the “Trash Bin Boardwalk”.

Despite all this I know that Pointe-Noire is a city that has always cultivated enthusiasm. And, because of this, the Beautiful Boardwalk deserves its name now more than ever. ■

Alain Mabanckou is a writer and academic. His new book, Lumieres de Pointe-Noire, will be published in January.



Small beginnings

Projects around the world are providing children in the world's biggest and most chaotic cities with the opportunities that can transform their lives

Where you sit determines what you see. As chief executive of the Global Fund for Children, it is best for me to sit on the ground. GFC transforms the lives and futures of some of the world's most vulnerable children. And while doing this work, it is good to remember that the world looks different when you are small. From a child's height, chaos and complexity can tower over you and threaten to make you invisible.

This is true everywhere but it is magnified in cities. People are pouring into urban areas, drawn by the promise of opportunity and resources. Instead of progress, many find extreme marginalisation, living in slums, with whole families doing whatever they can to generate something to sell, or something to eat, and without access to adequate education, health, water – or dignity.

Among them are 1bn children. Their view of the world can be grim, seen from atop a waste dump or from the streets where they hustle to take care of themselves.

Yet if you look closely, there are reasons for optimism. Consider the train platform school.

In Bhubaneswar, India, at a train station where children lived, worked and slept, Inderjit Khurana founded Ruchika Social Service Organisation. She

recognised that a pathway had to be carved out if these children were to have a different future. Inderjit sat down on the platform at the station, chalked out the circle that would become her classroom, and began to teach. Since we first funded this programme in the 1990s, thousands of children's lives have been transformed.

From that first investment, GFC has partnered with 500 groups. Such organisations take a small amount of capital, technical assistance and

access, and make huge changes. In our experience, four things set their work apart.

First, they go to where the work is needed. The leaders at Ruchika put it this way: "If you can't bring the child to school, bring the school to the child." In Phnom Penh, the Cambodian capital, Community Sanitation and Recycling Organisation

If you can't
bring the child
to school, bring
the school to
the child

Rescue from
the rubbish
heap: GFC
supports
kerbside
classrooms
for children
on Phnom
Penh's huge
dump



has 18 kerbside classrooms for child wastepickers, providing them with education plus nutrition, medical check-ups, vitamins and first aid.

Second, they are locally led by the right people. Knowing the local context, building community support and enabling community leadership are key to grassroots success. Schemes such as Kliptown Youth Program in the South African township of Soweto are often started by young people after their own childhood experience, growing up without what they knew they deserved: resources, education and acceptance for their talents, rather than being shunned for their poverty.

Third, necessity drives invention and innovation. When there is no reliable electricity for school or homework, we see local solutions built around solar energy. We have worked with global brands, such as sportswear manufacturer Nike and software producer Adobe, to arm vulnerable children, especially girls, with video equipment and storytelling tools to give voice to their stories.

Fourth, they are replicable and sustainable. Our work has reached 8m children. By lifting up these ideas and innovations, connecting them to others, we help their power to grow.

Within 12 years, the world's population will hit 8bn. Many of those children will be born in cities. We owe them choices that include school rather than work, safety rather than fear. Cities are at the epicentre of huge change, in the economic and political landscape, in globalisation and in civil society. We will all rise or fall together. ■

Kristin R. Lindsey is chief executive of the Global Fund for Children, the FT's chosen charity for its 2012 appeal

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