

Preface

The significance of international development as we know it today was anticipated in President Truman's inaugural address in 1949 – “a bold new program for making the benefits of scientific advances and industrial progress available for the improvement and growth of underdeveloped areas”. Six decades later, the argument continues about the contribution that techno-utopian views – commonplace in today's high-tech world – can make towards international development. Yes, real reductions in poverty and hunger have been achieved in pursuit of the Millennium Development Goals, but there is still a long way to go.

The aim of these essays is to explore access to energy as an entry point for rural development. On the supply side, what are the scientific and technological advances of today and tomorrow that could transform the way that energy, particularly electricity, could be made more readily available for rural transformation? On the demand side, what are the enabling factors that make energy access a catalyst for sustainable development in off-grid villages? What framework conditions need to be put in place so that local entrepreneurs can establish enterprises to deliver and make productive use of energy in remote villages, the home of some 1.3 billion poor and underserved (Holmes and van Gevelt)?

New technologies emerge from basic science, but innovation to bring those technologies to rural markets and in associated financing and business models is essential. Energy derived from modern technologies promises to make the transition from fossil fuels to renewable sources of energy more realistic, though how market volatility will influence their sustainability in developing countries remains to be seen. In remote parts there may be little choice in terms of the technologies available, but a range of new possibilities is being investigated (Kammen, Bahaj, Kumar).

Notwithstanding its dynamic growth and changes in investment strategy over the past 40 years, Malaysia has pioneered an early form of smart villages as analogues of smart cities (Zaidee). The potential also exists in smart villages to change lives, whether through improved health and nutrition (Soboyejo, Swaminathan and Kesavan), or democratic empowerment (Banerjee). Clearly, rural education could become one of the greatest beneficiaries of information and communication technology (ICT) if electricity from renewable resources becomes available in remote areas (González).

Public-private sector involvement and entrepreneurship are a requisite for universal energy access in remote villages. Will resources from the public and private sectors be adequate



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for the necessary capital investment and the required infrastructure, and will there be proper governance and appropriate regulation (Sovacool, Mnzava, Schmidt)?

Sir Paul Collier at the University of Oxford argues that no country anywhere has developed without urbanisation because of the way that a good city is able to harness economies of scale and specialisation¹. What is the role of smart villages in this transition and might they help redress the balance of opportunities between cities and villages? This will depend greatly on the quality of life created in smart villages (Ssali, Thorpe), and on the provision of sustainable employment (Barasa). The essays conclude, therefore, with an urgent plea to focus attention on employment as the key step towards the economics of escaping the rural poverty trap, showing how interrelated are energy provision and the capacity to create jobs and sustain employment (Nayyar).

We are deeply indebted to all the distinguished experts who have contributed to this eclectic collection of essays. They have readily turned their expertise to the task of writing about the concept of smart villages in accessible and concise ways that fit well with the United Nations Sustainable Energy for All initiative (se4all.org) and the new Sustainable Development Goals, post-September 2015.

We publish these essays with policy makers and decision takers in mind – planners of sustainable off-grid well-being faced with the demanding challenges of lifting the bottom billion out of the poverty trap.

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1. Collier, P. 2015. Achieving Sustainability: Should People be Fitted to Policies, or Policies to People? Monthly Lecture Series, Center for Corporate Responsibility and Sustainability, University of Zurich, Switzerland, 19 March 2015. <http://www.ccrs.uzh.ch/Veranstaltungen.html>