

The Role of Academic Institutions and Societies in Achieving the Millennium Development Goals

OVERVIEW

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INTRODUCTION

We are pleased to present the Proceedings of the Second International Conference of the World Association for Sustainable Development (WASD), 8th – 10th November, 2004, Edinburgh, UK.

The papers presented at the conference had tremendous scope in both focus and source; providing great encouragement for the future of this event. More than thirty quality and scholarly papers were presented, covering a broad geographical spectrum including Africa, America, Asia, Australia, India, China, Europe and the Middle East.

The papers contained within these proceedings discuss a range of issues, with a common focus, namely the role of academic institutions and societies in achieving the Millennium Development Goals (MDGs) and sustainable development. The MDGs are a framework of 8 goals, 18 targets, and 48 indicators covering every field of human endeavour, including the relief of poverty and hunger, improved access to education, greater gender equality, improved child mortality and maternal health, tackling HIV/AIDS, malaria, and other diseases, environmental sustainability and enhanced global partnerships for development. The crucial challenge is how to achieve these goals. To this end, the selected papers attempt to demonstrate clearly such challenges and outline possible solutions and recommendations.

We are cognizant of the fact that universities are greatly underutilized and are potentially powerful vehicles for development anywhere, but more so in developing countries. They should be employed as vital partners in the development process. Several papers have critically examined those factors, frameworks and paradigms that would enable universities and institutions of higher education to contribute more fully in achieving the MDGs and sustainable development.

The conference contained one session for keynote speakers, one roundtable discussion and seven sessions of oral presentations. This proceedings, which contain only a selection of the papers presented during the conference, is divided into seven sections namely, *Education; Innovation, Science & technology; Knowledge Management & ICT; Sustainable Environment; Business Excellence & Management; International Business and finally International Development.*

EDUCATION

In his keynote address, *The Role of the University Sector in Achieving the Millennium Development Goals in Africa*, **Professor Sonny Nwankwo** explains the role of the university sector in achieving the MDGs in Africa. He examines a number of issues relating to the university role and relevance to the contemporary discourse of Africa's development. He constructs an 'ideal role for universities and outlines how performance can be evaluated in pursuit of the goals of sustainable development.

Continuing the educational theme, and its relationship to sustainable development, **Dawna L. Rhoades and Daniel Petree** (*Aviation Education in the Middle East: Sustaining Growth and Indigenous Development*) discuss how aviation education can help sustain growth and indigenous development with particular focus on the Middle East. This is particularly relevant as the region is currently experiencing major growth in both airline and airport infrastructure. Rhoades and Petree successfully examine regional needs in aviation education and efforts to meet them through the establishment of local educational centres.

In their paper, *Higher Education: Options for Future Funding in China*, **John Adams and Praveen Mohadeb** assess the extent to which China is positioned to cope with the liberalisation of the Higher Education sector in the context of a globally competitive market. They argue that the Higher Education sector and the Chinese Government should openly and enthusiastically embrace liberalisation. Adams and Mohadeb recommend that Higher Education in China be opened up to market forces rather than continue its current high levels of dependence for funding upon taxpayers.

Kunirum Osia (*Africans and the Incidence of HIV/AIDS: The Role of Educational Institutions*) critically examines available data to gauge the enormity of the HIV/AIDS epidemic in Africa, with particular reference to Botswana, Ethiopia, Nigeria, South Africa, Tanzania and Zimbabwe. Osia argues that appropriate education about HIV/AIDS will make a major contribution to the control of the epidemic; also that the role of schools as an important and indispensable forum for conveying norms and societal values is often underestimated in the global fight against HIV/AIDS.

The final paper in this section, from **Michael J. Williams and Dawna L. Rhoades** (*Meeting the Needs of the Aviation Industry through Aviation Maintenance Technician Schools*), returns to issues surrounding the development of the aviation sector, highlighting the shortage of trained aviation technicians within the aviation industry, even in the United States. The paper investigates the role and capabilities of the Federal Aviation Administration (FAA) approved Aviation Maintenance Technician Schools (AMTS) in supplying qualified technicians for an environment of increasingly complicated aircraft, dwindling maintenance budgets, and increased flight schedules. After examining the current practices and capabilities of 176 AMTS, Williams and Rhoades recommend a number of alternative ways to meet industry needs in the coming years.

INNOVATION, SCIENCE AND TECHNOLOGY

Science and technology are considered amongst the most effective means to enhance the welfare growth and broader socioeconomic development of nations. Technological development has a profound and long-term impact on income distribution, economic growth, employment, trade,

environment, industrial structure and defence/security matters. The importance of science and technology to modern societies, and the role of a technologically educated population in promoting social and economic development, has long been recognised. At the same time, “modernisation”, with its related issues of globalisation, if not properly managed, can exacerbate environmental and economic risk, particularly for smaller nations; widening disparities in personal income and wellbeing with its unequal social and geographical distribution.

In the first paper in this section (*Global Partnerships in Science and Technology: The European Union as a Model of International Cooperation*), **Josephine Anne Stein and Allam Ahmed** explain how sustainable development concepts are embedded within European policies on S&T partnership, both explicitly and implicitly. They also elaborate how the European model for S&T cooperation might be adapted to develop global partnerships in a balanced, long-term and sustainable way, in the broadest sense of understanding what sustainable development means to the common future of our world.

Following in the same theme, specifically the need for international cooperation in S&T, **Hosein Piranfar and Pelin Demirel** (*Exploring the National System of Innovation in Turkey*), explore the determinants of National Systems of Innovation (NSI) and their role in explaining economic development in a global context. Here the focus is upon the case example of Turkey. Piranfar and Demirel provide an overall view of NSI in Turkey and derive comparisons with similar and developed countries, finally suggesting policy measures to support the economic growth of Turkey.

KNOWLEDGE MANAGEMENT AND ICT

There is a growing awareness of the importance of IT in achieving the goals as set out in MDGs. The constant changes in knowledge and skills required for effective application of IT makes it imperative for tertiary institutions in developing countries (DCs) to prepare skilled manpower to meet the challenges. The modern telecommunications industry has made a significant contribution to the creation and expansion of the ‘new’ economy sector in several developing countries, but mainly more developed nations.

India, in particular, achieved a phenomenal growth in the export of ‘new’ economy products during the 1990s and the early 2000s and provides the focus for **Moazzem Hossain**’s paper *The ‘New’ Economy, Knowledge Management and Growth of India: Hype or Reality*. According to Hossain the main drivers of this ‘new’ economy in India are: the development of ICT; inward flows of foreign investment in IT/software services; and the effective provision and management of technology based knowledge. Hossain’s assessment provides appropriate lessons, drawn from the India experience, for governments, industry and businesses of other developing nations in their attempts to benefit from ‘new’ economy opportunities in the years to come.

However the question argued by many scholars and practitioners is whether the growth in the ICT sector in many developing countries, particularly India, is really pro-poor? **Meera Tiwari** attempts to answer this question in her paper *Is Growth in the ICT Sector Pro-Poor? The Case of India*. Here Tiwari explores the linkages between the growth of the ICT sector and poverty within the Indian context by proposing possible channels and transmission mechanisms for the improved distribution of the benefits from ICT growth to the poor in India.

In the final paper in this section, *Comparing the Information Technology Curriculum in Nigeria and USA Tertiary Institutions*, **Muhammed Ademola Badamas** examines the IT curriculum in Nigeria, and compares it with that of the USA. This comparison allows Badamas to determine the competitiveness of the Nigerian graduates in the global market and hence the implications for human resource development and education in Nigeria.

SUSTAINABLE ENVIRONMENT

The first paper in this section, *The Practical Problems Faced by the University of East London in Meeting the Parking Restraints within PPG13* by **Stephanie Sandland**, examines the effects of a new policy by the University of East London to increase usage of its Docklands campus with limits on parking provision for staff, guidance for which is given in PPG13. Although Staff oppose this new policy with respect to their reliance on the car and therefore increased personal inconvenience, they will have to balance this private cost against the social opportunity costs when assessing their willingness to pay to commute. Stephanie recommends that compressed working weeks or home working depend upon the nature of teaching staff duties and must be supported by management and technology if a cultural change is to be achieved that continues to provide a quality service for the students.

Continuing on the same topic, notably travel and sustainability, **Wafaa Saleh and Séona Farrell** (*Sustainability of Travel Demand Forecasting Models*) examine problems that can be associated with data collection, sampling methods and types of data used in travel demand forecasting models. Saleh and Farrell argue that the problem of repeated measurements in stated preference data has generally been recognised in the literature but ignored in practice and attempts to investigate the reliability of forecasting models in their paper.

Towards Structured Integrated Environmental Approach to Maintain Sustainability in Jordan is the title of the final paper in this section by **Bassam Mrayyan**. According to Mrayyan, Jordan faces enormous environmental problems related to pollution and the depletion of natural resources exacerbated by broader economic and political problems. Mrayyan's paper examines the current environmental situation in Jordan and provides an assessment of potential national environmental policy and management programs benchmarked against best-practice in developed countries.

BUSINESS EXCELLENCE AND MANAGEMENT

Continuing the theme of sustainability, **Rick L. Edgeman and Douglas A. Hensler** argue that without a practical and objective deployment mechanism, good policies are no more than words and diagrams. They offer their *BEST* Deployment model (Biophysical, Economic, Social & Technological) paradigm in their paper *QFD and the BEST Paradigm: Deploying Sustainable Solutions* as a framework for improved decision making in the search for sustainable solutions to environmental issues.

Morrison Handley-Schachler and Maktoba Omar (*Seizing Opportunities and Facing Threats: Post-Industrial Companies and Trade in Emerging Markets*) examine opportunities for businesses in emerging markets in the increasingly important service sector. Handley-Schachler and Omar argue that firms should see an expansion into these emerging markets as a means of

diversification of their industrial base, rather than as a substitute for continued engagement in regions where they have a longer-standing presence.

The final paper in this section from **Louise van Scheers and Simon Radipere** (*Perceptions of Small Business Owners on Managerial Skills: Problems in Business Development in South Africa*) is the result of a survey undertaken in South Africa to examine the perceptions of small business owners of the importance and existence of appropriate management skills within the sector. Van Scheers and Radipere identify the lack of managerial skills by entrepreneurs as the main reason behind the failure of small businesses in South Africa. They suggest that an improvement of the managerial skills of small business owners is vital to the continued development of the sector and as a major contribution to resolving South Africa's unemployment problems.

INTERNATIONAL BUSINESS

M. Sadiq Sohail and Mohammed A. Burney (*Exporting to Saudi Arabia: Opportunities and Challenges*) attempt to review economic and market perspectives of the lucrative Saudi marketplace, the largest trading country in the Middle Eastern region with total trade volume in excess of \$102 billion. Sohail and Burney discuss important considerations for formulating guidelines for exports of goods and services to Saudi Arabia and finally propose a set of key strategies to enable exporting companies enter and sustain business in Saudi Arabia.

Meanwhile **Maktoba Omar and Morrison Handley-Schachler** examine another potential trading country, China. As the sixth largest economy in the world and the one with the greatest current potential, it has many attractions for foreign companies. In their paper *The Effects of Culture and Politics on Foreign Direct Investment and Sustainable Development in China: Some Research Hypotheses*, Omar and Handley-Schachler examine Foreign Direct Investment (FDI) in China and its consequences for the natural environment and sustainability of the Chinese economy. Finally Omar and Handley-Schachler recommend further areas for investigation, particularly the impact of cultural, political and financial factors on the sustainability of FDI projects in China.

INTERNATIONAL DEVELOPMENT

In her paper (*A Test of the Interruption of Foreign Borrowing on a Target Small Open Economy*), **Ghada Gomaa A. Mohamed** examines a simple open economy version of both the Solow and the Ramsey growth models to examine the effect of the financial embargo on the time path of the economic growth rate of South Africa. Based on the theoretical and empirical models examined, Ghada concludes that the financial embargo of 1986-1991 on South Africa had a temporary negative effect on the time path of the economic growth rate of the country. Meanwhile, different tools and techniques have been used by **Shraddha S. Sathe**, namely 'development radars' to examine the progress of India in achieving the MDG's since the 1980's. In her paper *More Development Gains or More Development Gimmick?*, Shraddha examines the relative contributions of society, government and the corporate sector to social and economic development in India.

CONCLUSION

The scientific and technological community can make a leading contribution to tackling major problems such as: fighting disease; overpopulation and urbanisation; the digital/information divide and the impacts of information technology systems on world financial markets; coping with climate change; confronting the water crisis; defending the soil; preserving forests, fisheries and biodiversity; trade in biotechnological products and building a new ethic of global stewardship. The universalism of science, and the globalisation of technological production and trade, offer unprecedented opportunities for focused cooperation by scientists and engineers, and the institutions that employ them, to further progress on sustainable development. There are opportunities for academic institutions and societies in both the developed and developing countries to contribute more effectively towards achieving the millennium development goals and sustainable development.

The complex relationship between the economy, society and the environment and scientific knowledge requires a multi-disciplinary approach, and calls for skilled communication to be able to address technological issues as well as the political framework within which problem solving necessarily takes place. At all levels and on all scales of endeavour, the role of science and technology is crucial; scientific knowledge and appropriate technologies are central to resolving the economic, social and environmental problems that make current development paths unsustainable. Bridging the development gap between the North and the South, and alleviating poverty to provide a more equitable and sustainable future for all, require novel integrated approaches that fully incorporate existing and new scientific knowledge. A clear implication of this is that international cooperation in S&T, from small cross-border research projects to global-scale coordination, must be considered as a key tool for enhancing sustainable development.

Global partnership and collaboration will be required. The United Nations (UN) provides an important framework for international scientific cooperation, especially through its agencies (UNESCO, FAO, UNIDO, WHO etc.). Much of the UN's work is related to technical assistance and supports the renormalisation of international relations in a postcolonial world, but its scope is limited and has suffered from disagreements and management difficulties.

It is our hope that the papers presented in this proceedings would help to stimulate debate amongst scholars, researchers and policy-makers. This is just a beginning but we are sure that our contributors, participants and wider readership are capable of pointing the right way to resolving some of the intractable problems facing mankind as enunciated in the MDGs protocol, especially in the developing countries.

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