

## Guest Editorial

---

# Industrially Developing Countries

This special issue of *WORK* – closely following on the recent publication of the new text “Ergonomics in Developing Regions: Needs and Applications”, which explores working and living conditions in 41 of the world’s less privileged Nations – attests to the fact that there are signs of a change in attitude in global ergonomics. While there have long been isolated pockets of ergonomics in developing countries, it is only in recent years that more international interest has been shown in the problems faced and innovative local solutions offered within developing regions. One feels privileged to be a part of this international drive to foster global awareness of the plight of hundreds of millions of labourers living and working under horrendous conditions around the world. As a first step we need to understand the contribution (or lack thereof) of ergonomics in these struggling areas.

While the advanced research outputs and the significant practical strides taken in ergonomics in Industrially Advanced Countries (IACs) over the last 60 years are laudable in themselves, they serve also to highlight further the often complete lack of ergonomics in the densely populated areas which are commonly known as Industrially Developing Countries (IDCs). We have long known of the inverse relationship between the *need* for ergonomics on the one hand, and the appreciation for and expertise in it on the other. In these needy developing regions surely the time has long since passed to reverse this relationship. Appropriately, UN Secretary-General Ban Ki-moon increasingly sees his role in terms of “bridging the developed and developing countries” (Time, July 20, 2009). This over-arching geopolitical and humanitarian social mission must, in the interests of a sustainably productive world, increasingly be reflected also in the thrust of ergonomics.

That we live in a world of huge diversity is accepted by all, and this fascinating mosaic of people, cultures and interests would be a cause for celebration if it did not involve inequalities of resource access, so-

cial upliftment and standard of living. History is full of examples of the horrendous consequences of Social Darwinism in action, and the truth is that despite great technological advances in many regions of the world the disparity between the rich and the poor is growing, as the “haves” get more and the “have nots” have less. Nowhere is this disparity better depicted graphically than by Dorling and colleagues, whose “Worldmapper” programme “resizes” the countries of the world proportionally to their contribution to the incidence of positive aspects of life such as health care, education and productivity, or negative aspects like starvation, unavailability of water, rampant epidemics and low productivity (see: [www.worldmapper.org](http://www.worldmapper.org) for over 300 variables represented in this way). In the vast majority of those countries at the bottom of the positive scales and the top of the negative scales, ergonomics is unknown or poorly applied at best.

Too often in the past the more affluent countries have eased their consciences about poorer Nations by giving hand-outs to inept governments, while directly or indirectly exploiting or ignoring the masses in need. History has clearly illustrated that these token gifts are rapidly squandered away, without benefit to the huge populations living below the bread-line. “Sustainability”, the current buzz-word, must become a plan of action, not merely a slogan. This is a common theme throughout the IDC book mentioned above, a theme as valid at government level as it is for multinational companies, endemic companies of all sizes, and even in the informal sector. Indeed the ergonomics fraternity itself includes many who are slow to realize that sustainable productivity is the only hope for this millennium and that its global necessity means that IDCs cannot, without dire reverberations throughout the IACs, continue to be ignored.

Quite apart from the current recession, the financial status of the vast majority of developing countries is appalling; unemployment statistics are shocking

and productivity is poor. Developing countries are an economist's nightmare, but could be an ergonomist's dream. When so much is wrong, almost any input from an ergonomist results in at least basic micro improvements which can be built upon, leading ultimately to greater all encompassing macro improvements. Hence the negative spiral associated with IDCs could be reversed, with ergonomics playing a major role. Working conditions would improve, health and safety of the workers would be enhanced, productivity would increase and local and international markets would expand, thereby boosting personal and corporate wealth. The outcome should lead to better individual salaries, thus enhancing the quality of life, not only for the individual bread-winner, but also for the huge extended family so characteristic of IDCs. Stronger, healthier (and therefore, happier) workers are much more likely to become more involved in their jobs and more committed to the company, and the consequent improvement in production will eventually contribute to the country's overall economy: *Ergonomics truly is a win-win asset.*

This special issue of the journal comprises 10 articles whose authors have all lived and worked in a developing country. They are united in their dedication to ameliorating the depressing conditions in the areas in which they operate. I am particularly pleased to include three student papers, the products of advanced degrees in IDC ergonomics. On a personal note it is rewarding to see the third generation products of one's teaching, now staffing research programmes and producing practising ergonomists in a developing country.

The contents in this issue include both field and laboratory work, with micro and macro approaches and conceptual proposals; all focusing both on working conditions and on the ripple effect of these on workers' lifestyles. The hard-core lab work deals with the common problem of manually handling objects: One paper addresses lifting awkward shapes in restricted work sites. Another, acknowledging the musculoskeletal problems associated with lifting, investigates the use of mechanical trollies or pallets to minimise the likelihood of injury. Are such mechanical devices always the solution? They may be better in some cases, but are certainly not the panacea to all problems in any manufacturing plant, as the paper clearly demonstrates. The four field studies in this issue cover textile works in Botswana, TV manufacturing in Iran, informal work-sites in Cambodia and forest-fire fighting in Chile. While these occupations are very different and the situations extremely diverse, the focus and objectives are similar, viz to

identify key problem areas and to introduce basic low-cost interventions to reduce the high physical demands placed on the operators by adjusting work sites and overall job organisation.

These papers may draw the glib accusation: "*What's new? We have been doing this for years*" (a common response from many ergonomists in IACs), but in IDCs there are many more extraneous factors which inhibit progress and which must be considered by ergonomists assisting in such regions: factors seldom or never impinging in affluent society ergonomics. There must be a sensitivity for the local situation, the general status of the work force, and the mores of the local culture, if one hopes to get the concept of ergonomics across and to "help others help themselves". An interesting paper from Peru shows how working conditions, home environment and the workers' perceptions are all related to the physical and mental health of labourers. While a second article in the same vein proposes a Work Security Index (WSK) to evaluate how well local governments perform in respect of the protection of workers' health, and suggests that regular use of the WSK could help developing countries to establish a "good society" based on citizenship rights.

The efforts of two developing countries undergoing major changes and trying to come to terms with how political machinations affect, not only industries, but the labourers operating in them, are also reported herein. We see how in Cuba, steps are being taken to introduce ergonomics within various working environments; and how in China, they are grappling with the best way to deal with the increasing influx of migrant workers and the magnitude of problems these workers are creating.

This issue is dedicated to all those who are genuinely committed to extending "human rights" to include the billions of workers trying to earn a decent living in IDCs. Their aim is to spread the concept and application of ergonomics, and to increase the pace of ensuring the implementation of ergonomics where it is most needed: *Industrially Developing Countries.*

Guest Editor

Patricia Scott

Professor Emeritus

Department of Human Kinetics and Ergonomics

Rhodes University

PO Box 94

Grahamstown 6140

South Africa

Tel.: +27 21 6851298

E-mail: P.A.Scott@ru.ac.za