

## Ergonomics Developments and Developing Countries

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According to International Ergonomics Association (IEA), ergonomic is the scientific discipline concerned with the understanding of the interactions among humans and other elements of a system, and the profession that applies theoretical principles, data and methods to design in order to optimize human well being and overall system. Derived from the Greek *ergon* (work) and *nomos* (laws) to denote the science of work, ergonomics is a systems-oriented discipline, which now applies to all aspects of human activity. Practitioners of ergonomics, ergonomists, contribute to the planning, design and evaluation of tasks, jobs, products, organizations, environments and systems in order to make them compatible with the needs, abilities and limitations of people. Ergonomists often work in particular economic sectors or application domains. These application domains like physical, cognitive and organizational, are not mutually exclusive and they evolve constantly. New ones are created; old ones take on new perspectives [1]. Most ergonomics principles are originally formulated in Industrially Advanced Countries (IACs). Ergonomics has made great progress over the period of time especially in these countries. This progress in ergonomics application as well as research is pertaining to the needs of the IACs. The nature and principles of ergonomics are often not directly addressing the needs of the Industrially Developing Countries (IDCs).

The social, economic and demographic characteristics are different in IACs and IDCs. The application of ergonomics differs between IDCs and IACs particularly through the limited infrastructure in IDCs to support ergonomics activity and interventions. The majority of IDC populations are occupied in agriculture which is the informal sector in most of the region. In agriculture the working conditions are extremely difficult due to severe environmental conditions, long working hours, strenuous work and the use of mobile equipment. The ignorance of the majority of ergonomics principles in the design of agricultural equipment makes the conditions more difficult [2]. Most of the work force in agriculture till use age old traditional techniques, equipments as the sophisticated techniques and equipments developed through ergonomics research are unavailable or affordable to them

or sometimes they are totally unaware regarding such things. Apart from agriculture there are many occupations which come under the informal sector. The ergonomic applications or research related to such a primitive occupations is either not at all existence or not known due to non availability of any data related to it. Ergonomics application and research in IACs is well developed but the fruits of this development are away from the most of the workforce in IDCs. Shahnavaaz suggested that the rate of accidents and injuries at work in IDCs is ten times that of IACs. Apart from above mentioned reasons inappropriate technology transfer is another important issue needs to be addressed [3].

To address the issues related to ergonomics application and research in developing countries certain initiative are required. As rightly pointed out by Zong-Ming Wang that to embed ergonomics research closely in it's social and cultural context as cultural traditions and social climate has strong influence on development of ergonomics. Other strategies given by Zong-Ming Wang are to promote nationwide collaborative research activities, coordinating resources, development of theoretical models based on empirical research and methodological optimization [4].

To conclude, the ergonomics application and research in developing countries must be addressing to local needs after taking into account social, economic, cultural, environmental and other relevant factors. The workforce from all sectors formal as well as informal must be benefited due to it. Such an initiatives will accelerate the further development of ergonomics.

### References

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