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| Institution: Buckinghamshire New University |
| Unit of Assessment: 19 Business & Management Studies |
| Title of case study: Sustainability practices in furniture manufacturing industry |
| <p>1. Summary of the impact</p> <p>The team has conducted research on environmentally friendly practices in furniture manufacturing for developing countries such as Bosnia, Ghana, Malaysia, Thailand, Romania and Vietnam in partnership with the United Nations Development Programme, the World Bank and the European Union Erasmus Multilateral Projects programme. The developed practices were used to protect traditional skills in furniture-making crafts in areas affected by war, in the intensive labour furniture sector of tropical timber producing countries and in temperate countries. Such environmentally friendly practices have impacted on production and employment.</p> |
| <p>2. Underpinning research</p> <p>The research programme described in this case-study was led by Professor Florin Ioras, who was employed by Bucks New University during the whole of this period. He co-ordinated an international team of researchers on a number of linked externally-funded projects, which are summarised below.</p> <p>A project in Bosnia Herzegovina was funded between 2007 and 2011 by the United Nations Development Programme (UNDP), which supported research on employability and business development, and by the World Bank, which supported research on sustainability of resources. Ioras was the Principal Investigator on these projects. This research was in support of the Bosnian population in their desire to return to their homes through the development of activities which would support livelihood and drive income, derived from traditional ways of processing wood. This development required a clear understanding of resource availability and of manufacturing techniques.</p> <p>The research allowed the identification of suitable forest resources to support community livelihood activity within the Srebrenica area. Ioras, in partnership with national researchers, developed a Resources Management Standard to facilitate the provision of sustainable wood resources for Bosnian artisan communities in the Srebrenica area (5). The Standard was published in 2008 by the World Bank in the local language. A best practices volume was published in the local language by the UNDP.</p> <p>Research in Malaysia was funded by the Tropical Resource Network, in conjunction with the International Tropical Timber Organisation, from 2009 to 2013. Ioras investigated productivity in wood processing according to employees' type of contract, permanent or casual, in the largest manufacturing companies in Malaysia, Thailand, Indonesia and Vietnam. The results revealed that productivity was affected due to the use of contract foreign workers, and the skills retention among the workforce was poor, denying the industry of the inherent skills required to produce greater value-added products. The use of contract foreign workers appeared to provide low cost factor inputs but, in reality, it was impairing the industry's ability to move up the value chain in the long-term. The research resulted in a set of recommendations to revise the nature of the contracts (1).</p> <p>Research in Ghana was funded by the Ghana Forestry Commission and was conducted between 2009 and 2013 by Ioras, in partnership with Professor Ratnasingam of Putra University Malaysia and Professor Abrudan of Transilvania University Romania (both former PhD students at Buckinghamshire New University). Productivity in the value-added wood products manufacturing</p> |

Impact case study (REF3b)

industry has been compromised by the over-dependence on contract foreign workers from neighbouring regional countries. Statistics from the Asian Productivity Council (APC) and the International Furniture Research Group (IFRG) confirmed such a scenario in many South East Asian countries, suggesting a grave need to study productivity characteristics in the regional value-added wood products industry. Ioras and his co-researchers investigated how sustainable approaches could be employed for the furniture industry in Ghana, Malaysia and Vietnam in order to attract direct foreign investment. The research allowed an assessment of furniture manufacturing companies and finance investment organisations in producer and consumer countries (2, 4). This identified a clear assessment of the requirements of Foreign Direct Investors (3).

3. References to the research

The research was disseminated in the following peer-reviewed journals:

1. Ratnasingam, J, Ioras F, Abrudan IV (2012) An evaluation of occupational accidents in the wooden furniture industry – A regional study in South East Asia. *Safety Science*, Vol 50 (5), 1190-1195.
2. Attah A, Ioras F, Ratnasingam J, Abrudan IV (2011) Chain of custody certification: an assessment of Ghanaian timber sector, *Holz als Roh-und Werkstoff*, Vol 69 (1), 113-119
3. Ratnasingam, J and Ioras, F (2009) Foreign direct investment (FDI), added value and environmental-friendly practices in furniture manufacturing: the case of Malaysia and Vietnam. *International Forestry Review*, Vol.11 (4) 464-474
4. Attah A, Ioras F, Abrudan IV, Ratnasingam J (2009) The Voluntary Partnership Agreement: the Ghanaian and Malaysian experience. *International Forestry Review*, Vol 11 (3) 311-318.
5. Ioras F, Abrudan I V, Dautbasic M, Avdibegovic M, Gurean D, Ratnasingam J (2009) Conservation gains through HCVF assessments in Bosnia-Herzegovina and Romania, *Biodiversity and Conservation*, 18(13), 3395-3406.

All of the above references are in the public domain. The quality of the underpinning research is indicated by the financial support offered by the following agencies during the assessment period: Erasmus Multilateral Projects Programme (£114,451 awarded to Ioras); Ghanaian Government (£2067 awarded to Ioras); Tropical Timber Network (approximately £30,000 awarded to Ratnasingam, with work sub-contracted to Ioras); United Nations Development programme (awarded to OBF Consulting, Austria, with £21,608 sub-contracted to Ioras).

4. Details of the impact

The researchers aimed to support specific industry employability orientated solutions. The aims were achieved by expert advice on specific assets and research needs in the furniture industry across the world. The portfolio of activity contains examples of applied research for both international relief programmes and international sector assets.

Contribution and Impact in Bosnia Herzegovina

The research conducted in Bosnia Herzegovina, which led to the establishment of a Resources Management Standard formed the basis of training of local Bosniacs in sustainable wood manufacturing processes. This enabled the Bosniac returnees to set-up successful start up traditional furniture making companies using sustainable resources. Prior to this, such artisan work had been dormant for ten years following the war which engulfed the region in the 1990s, leaving only 141 full-time jobs in this sector in the Srebrenica region in 2005. Traditional tooling and

crafting wood can now secure employment and traditional furniture-making techniques maintained through standardisation and regulation on waste management, productivity and carbon footprint. A number of 757 full time and 174 part time jobs were created in the Srebrenica region between 2008 and 2012 (3).

Contribution and impact on Employability in Malaysia

The international market requires that tropical countries, such as Ghana and Malaysia, demonstrate good practice in employee recruitment and contractual design. Foreign investment in the wood processing sector is influenced by competitive pressure of emerging markets as a result of the globalization process. New material resources are also presented to the market for sustainability of employability and diversification of products. The research showed that, in countries such as Malaysia, both manufacturers and exporter need to formulate policies based on creativity and innovation that would pave the way for higher added-value products that would ensure the continued attractiveness for FDI in the sector, and that this strategy would be supported by greater use of permanent contracts. The findings of this research have been communicated to the Department of Employment of the Malaysian Government. The Department has subsequently written a report (1), drawing on the research findings, which proposes changes in employment policy, changing the balance of permanent and temporary contracts in favour of permanents. There is also evidence (2) that there has already been a move toward greater use of permanent contracts, as recommended by the research team's report.

Contribution and Impact in Ghana

Research on the Voluntary Partnership Agreement (VPA), a bilateral trade agreement between the EU and some timber producing countries, has contributed to Ghana's efforts to achieve this. VPA is seen as an enabler to bring the Ghanaian wood processing sector to international standards by demonstrating sustainability for the wood resources. The research gave focus and high resolution information about the process in order to bring about changes in industry practice. This information informed the signature of ministerial documents in Brussels between the EU and Ghanaian government on achieving the required standard (4).

5. Sources to corroborate the impact

1. Letter from Ministry of Employment, 2013
2. Employment by Industry trend, MSIC, 2013, <http://www.statistics.gov.my/>
3. Srebrenica region employment figures (2008-2012)
4. Ghana-EU Aide Memoire, Accra, May 2013-11-19 Voluntary Partnership Agreement between the European Community and the republic of Ghana on Forest Law Enforcement, Governance and Trade of Timber Products into the Community, 2009, CE/GH/en 1 Brussels