

---

# Design for social construct & economic growth in the 21st century

## Paulson Letsholo

P.B.Letsholo@tudelft.nl

## Henri Christiaans

H.H.C.M.Christiaans@tudelft.nl

TU Delft, Industrial Design Engineering, Zuid Holland, The Nederland's

## Shorn Molokwane

University of Botswana, Industrial Design & Technology, Gaborone, Botswana  
shornie@gmail.com

## Abstract

This paper is part of an ongoing doctoral research project on titled; Value Creation through Sustainable Design intervention; A case study of Indigenous bamboo cane products in Botswana. Through its practice and manifest, design cuts through the core of human life, and its impact is intricably woven into and reverberates through our daily activities. Whilst there may be an agreed set of definitions and processes for design amongst professionals, there is a plethora of interpretation of design by the everyday person, depending on their context of interaction and understanding. This is more evident in the rural communities of the world, far removed from the glitz of the advanced technological trappings, where simple, but focussed design interventions make a big difference and add substantial value to the everyday life. In this context design manifests itself as a strong economic and social conduit, with a balanced sustainability platform. This paper reflects on and documents the current role of design, through examples of some community based projects and empowerment ventures amongst the world's marginalised communities in the Southern African Development Committee (SADC), in particular Botswana and projects on lessons that may be brought to bear on to the cutting edge technology applications in the industrialised world. The projects will highlight the particular design interventions as well as the engagement strategies employed.

## Keywords

Community/cultural based design, value addition via design, design by the people, design for the people

## Introduction

African designers have lagged behind for a long time and it is high time they emerge as critical intermediary whose functions is to bridge the communication gap between the rural crafts people and the urban clientele. This is more important at time when crafts people are no longer a designer, producer and marketer rolled into one, as practised in the past. The situation needs to change drastically so that crafts people can deal directly with the bulk of users, and be attuned to the needs and desires of consumers. Design in Africa should emerge and play a crucial role of mediating and bridging the gap between traditional producers and the market. In Botswana's case this fact cannot be over-emphasised, because her economy is entirely dependent on diamond exports which were adversely affected by the current world economic downturn. It is for this reason, and in line with Botswana's vision 2016 that this research paper was forged. The paper has the aim of providing insight to actors /stake-holders interested in value added products through sustainable design intervention. Also, this undertaking strives to acquire knowledge of the field of design that is liable to be of great importance for national growth in the future. The goal is to achieve sustainable social and economic development so as to meet both present and future needs of Botswana's aspirations and the challenges of the twenty-first through coordinated and integrated design approach. The anticipation is this endeavour will facilitate the upliftment of the standard and quality of life for local communities in Botswana and put emphases on conservation of the environment. The former Minister of Science & Technology (Hon. Boyce Sebetlela) echoed these sentiments in his official speech to ICSID that: ..."Setting priorities in line with vision 2016 as well as developing strategies that would make Botswana a global competitor in research, science and design and technology. It is envisaged that this endeavour will play an integral part advocating the positive cause in diversification and sustainable development of Botswana's economy. It is an essential component of the intellectual capital that Botswana can export and in the process generate a significant income for the economy. It can bring out the uniqueness of indigenous Botswana products."(2003; 3)<sup>31</sup>

## Industrial Design in Botswana

The country made great strides when design and technology was introduced in secondary curriculum. This laid an important foundation for sustainable product design to flourish. Therefore, it is crucial that latent talent is harnessed and developed to greater heights with outstanding

<sup>1</sup> ICSID African Report -2003:The Strategic Partnership between Design & Sustainable Development

product designs being exported to international markets at the creating the much needed employment in Botswana. It is important to develop the economy, especially given that local industry mainly manufactures products designed elsewhere. Indigenous manufacturers need to add value to local materials to turn them into quality products. Sustainable product design can add value to research, science and technology products and it is crucial that local producers capitalize on it in order to compete globally. To be successful nowadays, local producers and designers need to engage in the innovation process that combines market and technical know-how with the creative talents of knowledge workers to solve a constant stream of competitive problems and with the ability to derive value from product design intervention. Sustainable Design intervention in this study is understood as part of the technological capacity of the traditional production sector (crafts) and an essential tool in helping it to compete successfully in the market place. Existing studies and reports on design have concentrated on technology choice and only peripherally address the problem of design input at the level of traditional production units. Design intervention as an activity which enables the creative sector or individual crafts persons to materialize abstract concepts and embody them in value-added indigenous products which have export potential, thus a crucial activity any business enterprise, independent of its size. This capacity is important because it determines the characteristics of both capital and consumer goods. Within the range of activities involved in indigenous products, design intervention is of particular importance as it matches market and user requirements with production capabilities. Among the wide spectrum of design activities, industrial design therefore occupies a crucial place in production. New Zealand's Design Industry Taskforce points out that; Design is regarded as a process that encompasses every stage of product development, from inception to marketing. As such, design intervention comprises the following distinct elements:

- Research assessment of customer requirements
- Concept development: translation of customer requirements into product or services, utilizing (among other things) innovation
- Concept validation: assessing concepts in the light of customer requirements, competing products, & manufacturing considerations
- Design resolution: testing and refinement of prototypes, with consideration of fitness for purpose, aesthetic appeal, and intellectual property issues.
- Productionisation: maximization of production quality and reliability, while minimizing production & distribution costs.
- Communication: development of marketing and branding to support the underlying product. (2003; 1)<sup>32</sup>

<sup>32</sup> New Zealand Industrial Design Task Force report; (2005) Building a Case for Added Value through Design,

Research, science and technology play a crucial role in achieving these factors provided design is entrenched in them. Advanced countries are now capitalizing on exportable services, where they only design products and services and then have them manufactured in developing countries where labour and production costs are lower. While developing countries could be seen to be benefiting from manufacturing products designed elsewhere, they tend to be relegated to what could be termed "The muscle or physical based" while developed countries remain as the "brain or knowledge based". Allowing this model to prevail could result with what can be called "Eternal leaders" and "Eternal followers". Botswana needs to develop a sound knowledge-based industry if it is to survive the stiff competition stemming from globalization, with its own intellectual capital. Addressing the aspect of value added products by the marginalized communities, a humble and down to earth approach ideal. Design intervention in this research is understood as an activity related to identification, analysis and sustainable solution of problems and attainment of these solutions. It is regarded as an activity related to indigenous bamboo cane production, but not exclusively mass production. Design is perceived as a process which is not the sole domain of professionals, such as engineers, architects or professional industrial designers. In this thesis the term bamboo cane sector refers to small manufacturing units with little capital available, employing few workers, if any, depending mainly on family member. In general the units are managed by the owners/entrepreneurs themselves who also work in them. Often they depend exclusively on the business survival.

### Botswana's indigenous craft sector

Globalization is linking areas spatially but disconnecting pasts and presents everywhere, Botswana is no exception. The informal sector in Botswana remains an activity cast in predominately rural matrix, whereas the market is increasingly urban if not global. In this sector the crafts people are familiar with the aesthetics and socio-cultural requirements of the clients. However, crafts people still practice traditional skills with primitive tools. They experience a myriad of problems with their crafts products. For instance, illiteracy rate is very high hence militates against communication and link to potential markets. This factor does not help their situation because it allows modern competitive cheaper products in local market. This view is supported by the United Nations Environment Programme (UNEP), TU Delft report that; "Developing economies have different attitudes towards product design as compared to developed economies. Some of the observed differences are:

- A tendency to design incremental improvements for existing products

- Concern with product appearance over product function
- Design based on a tradition of technology import rather than a tradition of invention or innovation
- A tendency not to design solutions that have no precedence in the market
- Lack of tools & experience to compare and evaluate design problems
- Difficulty in developing clear project briefs, ( 2006;39)<sup>33</sup>

Development through Sustainable Design Intervention  
Design capacity must be viewed as problem solving endeavour in developing countries like Botswana. Such an intervention can help evaluate past solutions in terms of contemporary needs and help select and reject from tradition and contemporary experience. Despite Botswana's efforts to improve technology in communication, there are still gaps in awareness, information and exposure among crafts people. Crafts people are usually isolated and unaware of each other's ingenuity and skills that have been lost in one district that have revived or still in existence in other parts of the country. Due to limited access to relevant information, crafts people fail to modify or easily develop indigenous products to need new needs. This research attempted to generate awareness among crafts people of methods, techniques, materials, tools and processes that serve to create value through sustainable design capacity. There is a misconception among rural communities that design capacity is an activity for urban communities.

Design has an important role in ushering economic and social change that does not stop at creating a new or better product. Design plays an important role in encouraging environmentally sustainable and economically viable models for the informal sector. The significant role played by design intervention is encapsulated in the following definition offered Swedish Institute for Growth Policy that; .."Design is a creative activity whose aim is to establish the multi-faceted qualities of objects, processes, services and their systems in the whole life cycles. Therefore, design is the central factor of innovative humanization of technologies and the crucial factor of cultural and economic exchange (2005; 22)".<sup>34</sup> It does empower marginalised groups where income generation, social mobilisation and community rehabilitation are greatly needed. Design professional and students triggered this process by collaborating with crafts people. National documents and monographs are crucial sources of references in order to reinvent or revitalise the informal craft sector. In Botswana, there is no or limited recording of crafts work and this has negatively impacted the development and preservation of crafts in Botswana.

Most crafts people are unable to maintain references close at hand and cannot access what the predecessors made before. They rely on memorising and repetitive manual work. If this deficiency is not tackled head on, there is a risk of losing heritage in terms of designs and traditions vanishing due to change and under-utilisation. This problem is compounded by the fact that, a number of craft traditions are oral traditions hence difficulty in documenting them. Therefore, for any design intervention to be implemented effectively, the study of traditions and understanding of constraints and parameters within which Botswana's crafts people operate.

The research established that traditional producers (crafts people) make products targeted at customers remote from their own and selling them in highly competitive markets. To curb these shortcomings, designers and student were assigned to help crafts people in dealing with market situations and reinventing their products to suit local markets. Sustainable design has to seek to regenerate local markets, which seem to be saturated with inexpensive imported goods. African designers need to intervene and provide design advantage to crafts products in order to make them more competitive in local markets. This concept is ideal because, designers exposed to local conditions, could merge design experience and education with the needs of local people, resulting in far more fruitful and long term collaboration. Sensitising customers is a critical aspect of sustainable design intervention. Sustainable design intervention aims at value addition by ensuring better earnings and empowering the crafts producers towards sustainable livelihood.

### **Change and Adaptation: Economic & Cultural Context**

To ensure the economic survival of indigenous products in Botswana, the research focused on crafts preservation as rightly put in Swedish design policy that: "Growth will be dependent on the interplay between the old and new, within and between sectors and technologies, (2005; 16)"<sup>35</sup> The problem that normally arises is seeing economic and cultural viability as discrete options. Culture links indigenous products with crafts people. If the cultural element is taken away the link is broken. According Richie Molaosi: "Culture encourages innovation and experimentation but this likely to fail if the innovation is not accepted by people," (2007; 2)<sup>36</sup>. Therefore, external intervention should be carefully thought through to avoid de-contextualization. Many African designers exhibit weakness of designing products out of context. There is also a problem of copying traditional designs and displace them culturally,

3 Design for Sustainability; A practical Approach for developing Economies, UNEP report

4 Design for Innovation and Growth: A promising competitive concept in the future?, Swedish Institute for Growth Policy Studies

5 Kolmodin A., Pelli A., Design for Innovation and Growth; A promising competitive concept in the future?

6 Richie Moalosi, The impact of Socio-cultural factors upon Human-centred Design in Botswana, PhD thesis 2007

geographically and functionally. De-contextualisation has severe repercussions, and while environments and periods can be mixed, this must be done judiciously and with great care. The problem with most modern designs is that both judiciousness and care are exercised in terms of economics, not creativity. While there are no universal solutions, it should be emphasised that sustainable design interventions need to identify, preserve, and promote what is unique to Botswana indigenous products.

### Conclusion

There are enormous possibilities for the exploration of indigenous craft products for designers and crafts people in Botswana. Integration of research efforts in design for social contract and economic growth requires understanding of culture, crafts people dynamics and utilisation of local available renewable materials such as bamboo, cane and reed. Designers and crafts people in Africa should collaborate and employ design intervention to envision new scenarios for economic diversification and sustainable development. This will go a long way in re-inventing the informal sector to boost local economy and meet global challenges. Design workshops and seminars helped create and visualise new products range. These presented opportunities from the rich fabric of crafts sector.

### Bibliography

- Ahmedabad Declaration on Industrial Design for Development, UNIDO, 1979
- Crul, M. Dehiel J.C. (2006), Design for Sustainability; A practical Approach for developing Economies, Craft Industries Development Strategy, Newfoundland & Labrador, 2002
- Creative Industries & Micro & Small Scale Enterprise Development, UNIDO, 2002
- Kolmodin A., Pelli A. (2005), Design for Innovation and Growth; Swedish Institute
- Moalosi R., (2007), The impart of Socio-cultural factors upon Human-centred Design in Botswana, Building a Case for Added Value through Design, New Zealand Industrial report, 2005
- The Strategic Partnership between Design & Sustainable Development: ICSID, 2003
- Success by Design; Report & Strategic Plan, New Zealand, 2003

## Design programmes' responsiveness to economic, ecological and social imperatives: the case of University of Botswana

**S. Molokwane**  
**S. Khumomotse**  
**R. Moalosi**

Department of Industrial Design and Technology,  
 University of Botswana, Gaborone, Botswana.  
 molokwaneb@mopipi.ub.bw

### Abstract

Having been established as one of the tools for economic and social development, design is instrumental in shaping the form of many epochs, economies, and cultures. The new emerging economies have an important part to play and would stand to benefit more from the design strategies that are more contextual to their circumstances, as well as addressing the world's economic, social and ecological problems. This paper analyzes, as a case study, Botswana's design context. It looks at how the University of Botswana design programmes respond to these dynamics. The authors argue that any programme that only satisfies the economic imperatives while ignoring the ecological and social dynamics cannot justify its existence in the modern world. The paper concludes by proposing strategies to make the programmes more responsive to the modern day sustainability challenges.

### Keywords

Design programmes, Botswana, economic, social, ecological, development

### Global and Local Factors that Shape Design Curriculum

There are many factors that influence the development of the curriculum including; economic, social and ecological imperatives. In case that some might be tempted to dismiss the above facts as mere 'rhetoric' devoid of