

## Chapter 52

# The Application of Value Chain Analysis for the Evaluation of Alternative Supply Chain Strategies for the Provision of Humanitarian Aid to Africa

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### ABSTRACT

*The study reported in this chapter was commissioned in 2009 by the charity Advance Aid in order to provide an independent evaluation to compare conventional methods of supplying humanitarian aid products to Africa from outside the continent, with a proposed model of locally manufactured and pre-positioned stocks. The evaluation was carried out using “value chain analysis” techniques based on “lean” concepts to provide a strategic evaluation of alternative supply models. The findings show that a system of local manufacture and pre-positioned stockholding would offer significant advantages over conventional humanitarian supply chains in terms of responsiveness, risk of disruption and carbon footprint, and that delivered costs would be similar to or significantly better than current non-African supply options. Local manufacture would also have important benefits in terms of creating employment and economic growth, which in the long run would help African states to mitigate and/or respond to future disasters and thus become less dependent on external aid.*

*The chapter also gives a more general consideration to the potential of value chain analysis concepts and techniques to the measurement, evaluation, and improvement of humanitarian supply chain operations in locations and scenarios beyond that described in the current case study.*

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## INTRODUCTION

Currently it is estimated that over 90% of products supplied in Africa for humanitarian purposes are sourced outside the continent primarily from Europe, North America and South East Asia. In 2007, a new charity called Advance Aid was established in the UK with the objective:

*to implement more effective humanitarian response and bring economic benefits to Africa through a lower cost, more timely supply of basic relief items, which have been manufactured, stored and pre-positioned in strategic locations around Africa.<sup>1</sup>*

In many respects this objective has a strong intuitive appeal not only because it reduces the time, cost and risks involved in lengthy international aid supply pipelines, but also because of the potential to stimulate employment and economic growth in Africa. Indeed at a more general level the need for Africa to become less dependent on external aid has been powerfully advocated in the book 'Dead Aid' by Dambisa Moyo (2009).

The study reported in this paper was commissioned in 2009 by Advance Aid in order to provide an independent and systematic evaluation to compare typical conventional international supply models with an alternative strategy of African manufacture and local stockholding. Subsequently the research was used by Advance Aid in building a case to obtain financial support for the establishment of a pilot project in Africa.

Whether aid is required in response to rapid onset disasters or ongoing humanitarian development work, there are a variety of supply chain strategies that can be adopted by aid agencies. As in other industry sectors, humanitarian supply chains have evolved in response to customer needs (beneficiaries in this case) and the characteristics and objectives of the provider organizations (aid agencies). With a growing number of humanitarian needs to be met and an ever increasing number of aid agencies responding, it is not surprising that

many different supply chain solutions have been developed. It is also understandable that once particular agencies have established a supply chain strategy and a modus operandi that works, they are inclined to persist with it and perhaps make incremental changes and improvements as time progresses. However, an issue that seems to have been less well developed in many agencies both large and small is the development of appropriate methods to measure the performance of their supply chains. Without such Key Performance Indicators (KPI's), it is difficult to comprehensively evaluate alternative supply strategies or indeed to evaluate the performance of existing chains with a view to improving their performance.

The approach adopted in the study was to use 'Value Chain Analysis' (VCA) techniques to provide a top level comparison of alternative supply strategies. One of the most important features of VCA is that it provides a consistent and holistic set of performance measures for supply chain activity. KPI's are developed both for individual elements of the supply chain (e.g. transport, warehousing, manufacturing) and importantly for the supply chain as a whole. In recent years there has been an increasing recognition of the need for appropriate KPI's to monitor and evaluate humanitarian aid supply chains. (Moxham *et al.* 2007; Beamon *et al.* 2008, Whiting *et al.* 2009). It is suggested that VCA provides metrics that not only facilitate comparison of alternative supply strategies as reported here, but importantly, also provide a rigorous method with which to evaluate the performance of existing supply chains as a starting point for their systematic improvement.

The objective of the chapter is thus twofold. Firstly to highlight the key features and comparative performance of some typical supply chains that have developed for supplying aid to Africa and compare these to the local-for-local supply model proposed by Advance Aid. Secondly to demonstrate the applicability and potential of VCA in evaluating and improving humanitarian supply chains be they in Africa or elsewhere.

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