Green Logistics

Introduction

Green logistics is quickly gaining importance throughout logistics and supply chain management. Donors and host nations are becoming more aware of "green" issues. Simultaneously, international "green" legislation is being introduced and applied world-wide to all aspects of business including humanitarian supply chains.

Aim of this topic

This topic aims to introduce logisticians to green logistics and encourage them to think in "green" terms, to highlight the challenges and to indicate some advantages of thinking "green."

What is Green Logistics?

Green logistics, in the context of humanitarian logistics encourages all stakeholders to consider the impact of their actions on the environment. The main objective of Green logistics is to coordinate the activities within a supply chain in such a way that beneficiary needs are met at "least cost" to the environment. It is a principle component of reverse logistics. In the past "cost" has been defined in purely monetary terms, whereas "cost" can now also be understood as the external costs of logistics associated with: climate change, air pollution, dumping waste (including packaging waste), soil degradation, noise, vibration and accidents.
Green or sustainable logistics is concerned with reducing environmental and other negative impacts associated with the movement of supplies. Green supply chains seek to reduce negative environmental impact by redesigning sourcing/distribution systems and managing reverse logistics to eliminate inefficiencies.

For example, logistics deals with packaging of materials. Packaging represents one of the greatest challenges to environmental friendly logistics while at the same time being vital in shipping and storage.

Correct or incorrect packaging has consequences on the transportation, storage and volume of materials in a given space. This can increase to the unit cost if the packaging hinders optimization of storage space. Many industries have developed forms of packaging that do all that is required of them in transit but do not justify the expense of returning them to the point of origin. This packaging is only used once and then discarded.

It is this type of packaging that presents the greatest challenge to logisticians, increasingly, there is a responsibility for the supplier and the buyer to recover and recycle or effectively dispose of packaging.

Logistics and Environmental Best Practice

This topic will provide some basic guidelines to help reduce costs and achieve a more sustainable balance between economic, environmental and social objectives.

Environmental issues are often complex and they have the ability to generate intense donor and public interest. For these reasons, this topic should be only seen as an introduction to the subject.

Environmental Management Systems (EMS)

Logistics and transport activities have been identified as having a major impact on the environment in which we all live. Consequently logistics and transport have attracted significant legislation at both national and international level. Targets for improving environmental performance have been set by the international community via the Rio, Kyoto and the Copenhagen summit meetings.

The International Organization of Standards (ISO) 14000 series of standards provides a formal system for the management of environmental matters. The ISO 14000 family addresses various aspects of environmental management. The very first two standards deal with environmental management systems (EMS).

- ISO 14001:2004 provides the requirements for an EMS.

The other standards and guidelines in the family address specific environmental aspects, including:

- labelling.
- performance evaluation.
- life cycle analysis.
- communication and auditing.

This standard provides a framework for managing environmental issues rather than establishing performance requirements. It is seen as a process that starts with the creation of an environmental policy and leads on to:

- planning how legal obligations and targets will be met;
- implementation (including operational controls) and operation of the plan;
- training and communicating with staff; and
- control of relevant documentation.

Monitoring

Once an EMS is set up, it is then formally monitored through an auditing process, which will identify corrective action that will need to be carried out. Top management are required to engage in this process and to review the performance of the system formally on a regular basis. This review may lead to the policy or objectives being changed or updated in the light of audit reports or changes in circumstances. This process should encourage a commitment to continuous improvement in environmental management as well as ensuring that the organisation is not exposed by failing to meet its legal and moral obligations.

Performance Measurement

Organisations with environmental management systems will attempt to monitor their performance, and simple measures might include:

- miles per gallon of fuel;
- average life of tires (in miles);
- amount of waste lubrication oil generated by the operation;
- utilisation of vehicle load space (expressed as a percentage);
- percentage of miles run by vehicle empty; and
- targets for reducing waste packaging.
Minimising Negative Environmental Impacts

Methods of improving the sustainability of logistics work:

- Avoid wasting water by using simple water recycling methods;
- Use interceptor tanks to avoid the run-off pollution from fuel dispensing areas.
- Careful management and monitoring of other hazardous chemicals on site;
- Keep pallet stacks tidy; and
- Take steps to better manage the production, collection and disposal of waste.

For vehicles, consider the following:

- driver training reduces accidents and improves fuel consumption;
- monitor fuel consumption;
- monitor vehicle utilisation in terms of both payload and empty running;
- follow preventative maintenance programmes as a poorly serviced vehicles use more fuel; and
- dispose of used tyre casings responsibly.

Environmental Checklist

In a series of questions, this check-list highlights questions asked of the commercial sector. The questions will help focus attention on the key areas for consideration in the humanitarian sector:

- what environmental risks do your organisation’s activities pose?
- do the materials you use pose any danger?
- do you know what impact the material that you supply (including its disposal) and services you provide have on the environment?
- do you know the quantity or type of waste you produce?
- do you know how this waste is disposed of or what the cost is?
- is your organisation operating the most cost-effective method of controlling or eliminating pollution risk?
- are there hidden benefits such as greater efficiency, or even straight forward business opportunities (for example, commercial utilisation of waste) from adopting alternative methods of controlling or eliminating the pollution risk?
- are you aware of existing environmental standards and legislation in the country in which you are operating?
- what arrangement do you have for monitoring compliance with environmental legislation?
- is senior management actively engaged in ensuring that proper weight is given to environmental considerations in your organisation?
- could you improve your environmental image to the donors and employees?
- are you highlighting your environmental performance to donors?

Conclusion

Green logistics is no longer an option or a fantasy; it is reality and everyone has a clear and present responsibility to promote it.

Reference

This document is inspired by the collaborative works of the Universities of Cardiff, Heriot Watt, Lancaster, Southampton, Leeds and Westminster. These universities are undertaking research into the sustainability of logistics systems and supply chains – [http://www.greenlogistics.org](http://www.greenlogistics.org).

Links

- Forest Certification Resource Center: for businesses and consumers seeking accurate, objective information about forest certification
- Legambiente: (League for the Environment) is the most widespread environmental organization in Italy
- Sustainable Event Management: A Practical Guide: a practical, step-by-step guide leading readers through the key aspects of how to understand and manage the impacts of events of any type and scale.
- Earthscan: The world’s leading publisher on climate change, sustainable development and environmental technology.
- Fleet Forum: the first independent knowledge centre, focused on issues surrounding humanitarian fleets within the aid and development community.