HUMANITARIAN ACADEMY · HUMANITAIRES JOBS

Mini MBA Humanitarian Logistics and Supply Chain: supplying fast, well and fairly

Course handout · Week 1 : The humanitarian supply chain: actors, flows and costs

A programme of exactly 3 months (12 weeks, 144 hours) to lead a humanitarian supply chain: mapping and landed cost, demand forecasting and safety stocks, procurement and competitive bidding, Incoterms and contracts, transport, warehouses and inventories, fleet and fuel, customs and exemptions, prepositioning and distributions, health products and the cold chain, performance, costs and the environment, constrained contexts and data protection. Corrected numerical exercises, three monthly exams with case studies, and a verifiable diploma from the Humanitarian Academy.

https://humanitairejobs.org/en/academy/mini-mba-logistique-supply-chain/semaine-1/

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Week 1 : The humanitarian supply chain: actors, flows and costs

Objectives

- Describe the stages and flows (physical, information, financial) of a humanitarian supply chain.
- Place the role of logistics in the cost and success of a response, and identify its main actors and coordination mechanisms.
- Map a real supply chain and spot its bottlenecks and risks.

Why logistics decides the response

Logistics and procurement often account for **60 to 80% of the expenditure** of a humanitarian operation, counting the goods purchased, transport, storage and the staff who manage them. A distribution that arrives three weeks late, a broken cold chain or expired stock have direct consequences for the people being assisted.

The **supply chain** goes beyond logistics in the strict sense. It covers the whole: identification of the need, planning, procurement, international and local transport, customs clearance, storage, distribution to the beneficiary, and feedback. It links three flows:

- **Physical flow**: goods, from the supplier to the beneficiary, sometimes in the opposite direction (returns, disposals).
- **Information flow**: needs, orders, stock levels, shipment tracking, proof of delivery.
- **Financial flow**: budgets, commitments, payments, transport and storage costs.

> A supply chain is never faster than its slowest link: often customs clearance, internal approval or the last mile, rarely international transport.

The stages of the supply chain

A typical humanitarian supply chain follows seven stages:

- **1. Need**: assessment, technical specifications, quantities (with the programme team).
- **2. Planning**: supply plan, schedule, budget, choice of buying locally, regionally or internationally.
- **3. Procurement**: competitive bidding, contract, quality control.
- **4. Transport**: international (sea, air, road), then national and local.
- **5. Customs clearance**: documents, exemptions, inspections.
- **6. Storage**: main warehouse, field warehouses, stock management.
- **7. Distribution**: last mile, handover to beneficiaries, proof of delivery and post-distribution monitoring.

The **total lead time** is calculated by adding up the stages in series. **Example:** specifications 1 week, international tender 5 weeks, production 4 weeks, sea freight 5 weeks, customs clearance 2 weeks, inland transport 1 week, distribution 1 week = **19 weeks**. A regional purchase by road can bring this lead time down to 8 or 10 weeks, often at a higher unit cost but with lower transport and storage costs.

Actors and coordination

The humanitarian supply chain involves many actors:

- **Operational organisations**: NGOs, United Nations agencies, the Red Cross and Red Crescent Movement, each with its own procedures.
- **The Logistics Cluster**, led by WFP: coordination, information (access maps, status of roads and airports), common services (transport, shared storage) where gaps exist.
- **Common services**: UNHAS (United Nations Humanitarian Air Service), the UN Humanitarian Response Depots (UNHRD), shared storage platforms.
- **Government**: customs, the disaster management authority, line ministries, port authorities.
- **Private sector**: suppliers, freight forwarders, transporters, banks, mobile network operators.

Common services are an option, not an obligation: their cost and reliability are compared with those of the market. They are valuable when the market does not work (air access, insecure areas) and for pooling information.

The full logistics cost

The purchase price of an item does not tell you its true cost. The **landed cost** adds everything needed to bring it to the point of use:

- purchase price and packaging;
- international transport and insurance;
- duties and taxes (if not exempted), customs clearance and freight forwarder fees;
- inland transport, handling, storage;
- losses, damage and expiry;
- the cost of time: delay to an activity, cost of the capital tied up in stock.

Example. Plastic sheeting: international offer at 9 USD per piece, freight and insurance 2.40 USD, customs clearance 0.60 USD, inland transport 1.20 USD, storage and handling 0.30 USD, losses 2%: landed cost = (9 + 2.40 + 0.60 + 1.20 + 0.30) / 0.98 ≈ 13.78 USD. Regional offer at 11.50 USD with road transport 1.10 USD, customs clearance 0.40, inland 0.80, storage 0.30, losses 1%: (11.50 + 1.10 + 0.40 + 0.80 + 0.30) / 0.99 ≈ 14.24 USD. The international offer is 0.46 USD cheaper per piece, but arrives 9 weeks later: if the rainy season starts in 8 weeks, the regional offer is the only useful one.

Emergency, recovery, development

The supply chain does not have the same priorities in every phase:

Phase	Priority	Typical practices
Acute emergency	Speed, availability	Prepositioned stocks, air freight, emergency procedures, local purchases without a lengthy tender
Protracted crisis	Cost, reliability	Framework agreements, road or sea transport, demand planning, stable warehouses
Recovery	Local markets, sustainability	Local procurement, cash transfers, strengthening of local suppliers

A common mistake is to keep emergency practices (air freight, direct purchases) long after the acute phase: costs soar and controls weaken. Another is the reverse: applying heavy procedures on the first day of a disaster. Emergency procedures must be planned in advance, time-limited and documented.

Mapping your supply chain

Supply chain mapping is the logistics manager's first tool. It shows, on one page: suppliers, entry points (ports, airports, borders), warehouses, transport corridors and distribution points, with the lead time, capacity, cost and risk of each link.

Reading example. Port A → main warehouse (2 days, 600 t/week) → field warehouse (5 days in the dry season, 12 in the rainy season, 150 t/week) → distribution points (1 day). Need: 220 t per week in the rainy season. The bottleneck is the main warehouse → field corridor: 150 t/week is not enough. Options: preposition before the rainy season (220 − 150 = 70 t shortfall per week, i.e. 70 × 16 = 1,120 t for 16 weeks of rain), hire additional suitable trucks, or use another mode (barges, occasional airlifts).

> Mapping means asking "where is the bottleneck?" before it blocks the response.

Exercise: choosing a source of supply

Situation. You must supply 20,000 hygiene kits before the start of the rainy season, in 10 weeks. Two options: 1) international supplier: 14 USD per kit, sea freight and insurance 3 USD, customs clearance 0.50 USD, inland transport 1.50 USD, losses 2%, total lead time 16 weeks; 2) regional supplier: 17 USD per kit, road transport 1.20 USD, customs clearance 0.30 USD, inland transport 1 USD, losses 1%, lead time 7 weeks. The budget provides 21 USD per landed kit.

Tasks. 1) Calculate the landed cost of each option. 2) Total cost for 20,000 kits and variance against budget. 3) Recommendation.

Answer. 1) International: (14 + 3 + 0.50 + 1.50) / 0.98 = 19 / 0.98 ≈ 19.39 USD. Regional: (17 + 1.20 + 0.30 + 1) / 0.99 = 19.50 / 0.99 ≈ 19.70 USD. 2) International: 20,000 × 19.39 ≈ 387,800 USD (saving of about 32,200 USD on a budget of 420,000); regional: 20,000 × 19.70 ≈ 394,000 USD (saving of about 26,000 USD). 3) The international option is about 6,200 USD cheaper but arrives 6 weeks after the start of the rains: it does not meet the need. Recommendation: regional purchase, documenting the justification (lead time) in the procurement file; consider an international framework agreement to replenish the contingency stock before the next season.

Key takeaways

- Logistics and procurement often account for 60 to 80% of an operation's expenditure.
- Three flows to manage together: physical, information, financial.
- Total lead time = sum of the stages in series; the bottleneck is rarely international transport.
- Compare offers on landed cost, including losses and lead time, never on purchase price alone.
- Map the supply chain to find the bottleneck before it blocks the response.

Quiz

1. Specifications 1 week, tender 4, production 3, freight 6, customs clearance 2, inland transport 1. The total lead time is:
   A. 6 weeks
   B. 17 weeks
   C. 12 weeks
   D. 15 weeks

2. Item at 10 USD, landing costs 3 USD, losses 5%. The landed cost is approximately:
   A. 13.00 USD
   B. 12.35 USD
   C. 13.68 USD
   D. 13.65 USD

3. The Logistics Cluster is led by:
   A. UNICEF
   B. UNHCR
   C. OCHA
   D. WFP

4. Corridor capacity 150 t/week, need 200 t/week for 12 weeks. Quantity to preposition:
   A. 600 t
   B. 2,400 t
   C. 50 t
   D. 1,800 t

5. Keeping air freight six months after the acute phase is generally:
   A. A good practice for speed
   B. A source of excessive costs to be corrected
   C. Mandatory
   D. Without effect

Quiz answers : 1. B · 2. C · 3. D · 4. A · 5. B