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## Case Study

# Against All Odds:

## The World Food Programme's Use of Amphibious Vehicles in Humanitarian Logistics Operations



Credits: WFP/Nobuyoshi Kida

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This case study was written by Paul Dettmer, WFP Logistics Officer, Boas Meijer, Research Associate, and Luk Van Wassenhove, the Henry Ford Chaired Professor of Manufacturing and Academic Director of the Humanitarian Research Group. It is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

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*Ganyiel, Unity State, South Sudan, 10 July 2017*

*The sun was blazing. Lucy, WFP Logistics Officer, and her team were informed that the Ilyushin 76 aircraft had left Juba airbase 20 minutes earlier for the second **airdrop**, and would soon be flying over Ganyiel. As the team approached the drop zone, her mind was still on the **budget**. Funds were running low and the latest needs assessment revealed an increase in food-insecure communities in the area. "If only we could have **prepositioned** more food during the dry season, our **transport costs** wouldn't have skyrocketed," she said to herself. Compared to the overland rate of US\$30 per ton by truck, she now had to budget US\$2,400 per ton via air: "At this rate, we'll not be able to provide sufficient rations to the local population for long," she calculated. A minute later, the Ilyushin appeared over the drop zone and hundreds of small parachutes tumbled from the back of the aircraft. The earth shuddered as 32,000 kg of urgently needed pulses hit the ground.*

*Tshikapa, Kasai region, Democratic Republic of the Congo, 3 September 2017*

*"There's not much we can do for the communities in this situation," Didier sighed as he looked at the update on demand for food and the **access constraints** map for the Central Kasai region. There were communities on the list that **could not be reached** by any means of transportation: road access was impossible as the only bridge in the area was damaged, and barges to cross the Kasai River were in short supply. Earlier attempts to load sacks of food from trucks onto local fishing boats had resulted in looting and had to be suspended. He'd have to report to the programme officer that the rations requested couldn't be delivered. He tried not to think about the impact this would have on the starving children, but he had been in DRC for too long to be in any doubt.*

*WFP headquarters, Rome, 17 December 2017*

Nenad hung up the phone after speaking to Lucy, deep in thought. They had been friends for over seven years, since starting careers as logisticians. As head of WFP's Global Fleet unit, Nenad understood Lucy's problems only too well. He had heard the same story – about lack of road infrastructure, constraints on overland transport, and costly air transportation – countless times from humanitarian logisticians around the world. "Sometimes you can see the villages from the other side of a riverbank, but just not reach them. Having to turn round is one of the most frustrating things you can experience in an operation," he admitted.

*WFP headquarters, spring 2018*

Out of the blue, Nenad received a mail from a colleague with just a link and one line: "Thought you might like this. These can go ANYWHERE!" Since most of the videos from his "loggie" friend were either about incredible trucks or gags that reflected his great sense of humor, he opened the link. What he saw was clearly the former type of content: "amphibious all-terrain vehicles". He had heard of them before – landing boats with wheels, trucks with a boat-shaped substructure, and various other models – yet none were suitable for WFP operations. But this was different. These might actually work.

Following a trip to the supplier's plant in Ukraine, Nenad was certain that the WFP needed all-terrain vehicles (ATVs). After numerous elevator pitches via video on his phone, he got approval: a waiver for the procurement of six ATVs for two pilot trials. Three were now on their way to South Sudan and three to the DRC.

### *Global Fleet unit, July 2018*

When reassignments and duty station rotation came round, as happened every four years, Nenad left for Iraq. Jeff, a mechanic by training and WFP logistician for over 10 years, took over as head of Global Fleet. He was convinced right away that the ATVs would be a great addition to WFP's truck fleet and help to increase last-mile transportation capacity. Having spent two months collaborating with the WHO on the response to the Ebola outbreak in eastern DRC, Jeff was eager to not only establish ATVs in WFP operations but to make the Global Fleet unit a **transport service provider in the wider humanitarian sector**, with ATVs enabling the critical last-mile access. He started work on a long-term agreement with the supplier to speed up procurement. The pilot projects started at the end of 2018.

### *Beira, Mozambique, 30 March 2019*

*Nobu, regional fleet manager for East Africa, arrived at Beira airport. The arrival hall was crammed with people. Laptops and a few desks served as provisional offices. Cyclone Idai had struck central Mozambique on March 14th and the airport was one of the few buildings that still had electricity and an internet connection. Two weeks after the tropical storm devastated Mozambique's coastline and left widespread flooding, **communications remained one of the biggest obstacles** to the coordination of relief efforts.*

*Two ATVs had been airlifted from a UNHR depot in Dubai to Beira the day before and were parked on the airfield.*

*"How am I supposed to do everything at once?" Nobu asked Mohammed, the Emergency Logistics Coordinator, at the daily briefing. He had interrupted a drivers' training for the newly designated ATV operators to attend. He was **awaiting orders from logistics coordination** regarding when and where to start deliveries. The plans changed almost every hour as new information from the assessment teams reached the logistics base at Beira airport. Nobu was keen to start deliveries by ATV as soon as possible, but the cargo had not yet been allocated. He suspected the drivers were not ready yet to be sent alone as they had never operated such vehicles before.*

*"Sorry Nobu. We would have had 30 tons to be delivered to the town of Buzi, 150km from here. But since we still don't know how to get the ATVs there, we had to send a heli," Mohammed said sharply, before rushing off to another briefing.*

*While Nobu had initially thought that the ATVs would contribute to the response by adding transport capacity, he now felt they were more of a burden.*

### *Fontainebleau, France, September 2019*

The World Food Programme has procured their first all-terrain vehicles to overcome inaccessibility. But in which situations can they actually use this vehicle effectively? How do they fit into WFP's operations? And what changes need to be made to their existing supply chains?

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