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Social Evaluation of Aircraft

Purpose – This project investigates social impacts of aircraft with a life-cycle approach using the example of the Airbus A380 program (Figure 1).

Methodology – Social impacts are analyzed by conducting a Social Life Cycle Assessment (S-LCA) based on the "Guidelines for Social Life Cycle Assessment for Products" from the United Nations Environment Programme (UNEP) and the Society of Environmental Toxicology and Chemistry (SETAC). Stakeholder and subcategories are chosen, and data is collected by conducting qualitative interviews and web searches. An impact assessment is performed using the Subcategory Assessment Method (SAM). The results are interpreted and generalized.

Findings – During its life span, an aircraft or aircraft program has an impact on different stakeholders. The life cycle stage "raw material extraction" could lead to human rights violations, but also local communities near main manufacturing sites face social implications, both positive and negative. The economic importance of the aeronautic sector influences society, political decision makers, local communities, and workers. All this was evident also in the A380 program.

Research Limitations – Data availability limited the investigation partially. The project does not cover all life cycle stages and stakeholder groups. Instead, emphasis is given to selected stages and groups.

Practical Implications – The study can help aviation decision makers to provide a product, which improves the well-being of its stakeholders.

Social Implications – Performing an S-LCA in aviation puts social implications of the aircraft program into focus and provides a foundation for a general discussion about its social sustainability.

Originality – This seems to be the first research on the topic of S-LCA of an aircraft or aircraft program.

This informative poster is based on a project with the same title. Details here: <u>https://nbn-resolving.org/urn:nbn:de:gbv:18302-aero2021-12-16.012</u>



Figure 1: The Airbus plant in Hamburg-Finkenwerder changed substantially to accommodate the production facilities for the Airbus A380. The runway was extended on both sides; farmland was needed for the southwest extension. Hangars were built on tidal mudflats declared a nature reserve. All this caused a lot of protest. But new jobs meant income for many and interesting work. (https://perma.cc/3WPQ-NYUF)

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