

## **Application of the Social Hotspot Database to the Orange Juice Supply Chain: A Methodology for Social Scoping of Consumer Products**

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Social and socio-economic Life Cycle Assessment (S-LCA) is a technique that aims to measure the potential impacts of production and consumption on the workers, local communities, consumers, society and all value chain actors. New Earth, a non-profit organization fostering innovative strategies and tools to help achieve sustainable development on a global level, is developing a solution to acquire greater supply chain visibility using both environmental and social LCA. The Social Hotspots Database (SHDB) designed by New Earth offers an overarching, global database that eases the data collection burden in S-LCA studies by prioritizing unit processes for which site-specific data collection will be desirable. The UNEP SETAC Guidelines for S-LCA of products recommended the development of such a resource [1]. Currently, the SHDB incorporates more than 100 references that were used to develop data tables for nearly twenty social themes.

This presentation offers an example of the methodology and applications of the SHDB through a pilot study of orange juice (OJ) produced in the U.S. Social impacts are determined by country and sector according to two separate models of the OJ supply chain. One model is based on the share and distribution of worker hours in the production of US\$1M of vegetables and fruits in the U.S. Worker hours were determined for over 6,000 country-specific sectors (CSS) from an economic input/output database and recognized average wages per hour. A second list of CSS modeled was compiled via an extensive literature review of the supply chain of orange juice, including the most important exporting countries for the necessary materials and resources. Both lists of CSS were analyzed using the SHDB to determine the CSS that are most at risk for or offer the greatest opportunity to affect social impacts in the supply chain. Results are compared alongside social issues identified in the literature, as well as relevant media campaigns, initiatives, and certification programs.

The methodology and the key findings of the social scoping assessment study will be presented. Results indicate that while social issues do occur in the OJ supply chain, they have the capacity to be improved since there are a small number of ingredients and the production steps are mostly occurring within the country of sale. In summary, shedding light on the CSS most impacted in the life cycle of OJ creates transparency in the OJ supply chain by identifying unit processes where social conditions should be assessed and improved.

[1] Benoît C, Mazijn B (eds). 2009. Guidelines for Social Life Cycle Assessment of Products. UNEP/SETAC.