Assessing sustainability of innovative solutions for forest berry picking in Sweden



In Sweden we pick a minor fraction of the wild berries grown. Thus, there exists a great potential to pick more. How can we do that sustainably? We developed a model for assessing sustainable solutions tailored for the Swedish forest berry chain and is presented here.

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What's the issue?

The commercial collection of Swedish forest berries corresponds to a few percent of the annual berry production in Sweden's nature. Scarcity of harvesting personnel, challenges in accessing the harvesting sites, and logistical complexities are mostly acknowledged as the reasons for this. The current berry picking value chain is mostly operated by seasonal Thai pickers. There is a need for more efficient and sustainable chains. Some innovative solutions are practiced in an EU innovation project, Fairchain, including developing an app to track berries and spot more probable places to find berries for processing the berries locally into other products in different scales. Are these and such innovations sustainable approaches for more efficient berry picking?

shape the sustainability outcomes of various innovative solutions. Leveraging the Analytical Hierarchy Process (AHP), we systematically assigned relative weights to these indicators, fostering a nuanced evaluation process.

What can we see already?

The preliminary results for the indicators of various dimensions are shown in *Fig.* **1**, **2**, and **3**. Considering relative weights of these dimensions gives us the overall weighting as shown in *Fig.* **4**. As indicated, social indicators (such as *Quality of life* and *Capacity development*) and economic ones (such as *Stability of production* and *Local employment*) gain the highest overall weights.



How to assess innovations?

Sustainability is multi dimensional by definition. We formulated a comprehensive framework tailored to evaluate the sustainability of the proposed innovations within the context of Multi-Criteria Decision Analysis (MCDA). To establish the foundation of this framework, we selected 18 important sustainability indicators (based on The FAO Guidelines: Sustainability Assessment of Food and Agriculture systems (SAFA)) which potentially

Biodiversity Energy use Profitability Atmospheric impacts Stability of market Labour rights and Equity Human safety and health Product information Collective bargaining Food sovereignty

So what?

Insights found in such inclusive holistic assessment hold significant value for decision makers who need to see the big picture before intervention decisions such as small- and large-scale innovations in short and long term. With these weights one can feed the MCDA models to rank the innovative solutions of interest based on these sustainability indicators. This is our research in progress now. You would like to know more and participate in the weighting with your valuable knowledge in the context? Scan the QR code here then:



12%	11%
Capacity developme.	Fair contracts and fair pricing
Human safety and health	Collective bargaining

- Labour rights and Equity
- Quality of life

Food sovereignty

Fig. 1. Indicators' weights in social dimension



Food quality
Local procurement
Local employement
Stability of market
Product information
Stability of supply

Fig. 2. Indicators' weights in economic dimension





Land use	5%	
Fair contracts and fair pricing	6%	
Capacity developme.	8%	
Local procurement	8%	Land use
Food quality	8%	Biodiversity
Local employement	10%	Fig. 3. Indicate
Stability of supply	10%	rig. o. maicate
Quality of life	11%	
	Fig. 4. Indicators' weights in comparison	

Land use Energy use Biodiversity Atmospheric impacts

21%

Fig. 3. Indicators' weights in environmental dimension

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