Assessing health impacts of agrobusiness for energy - Eni’s case

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Eni is committed to achieve carbon neutrality by 2050. Producing vegetable oil to be converted into biofuels is one of the keys to the energy transition in the transport sector.

Biofuels are generated from raw materials (agri-feedstock) produced from degraded, polluted or abandoned land, waste (i.e. used Cooking Oil-UCO and agro-industrial waste).

Production ensures that there is no impact on the food supply chain and forest ecosystems, and products are certified according to the criteria of the relevant European regulations.
ENI AGRIBUSINESS MODEL

SUSTAINABILITY CERTIFICATION THROUGHOUT THE SUPPLY CHAIN

AGRICULTURE PRODUCTION
- Farmer Cooperatives
- Small Farmers
- Agro-Industries
- Large Farmers / Agrobusiness

SUPPLY CONTRACT

SEEDS

OIL EXTRACTION
- Hub for Aggregators and Pressing Seeds
- Mills / Agrihubs

MARKET
- Bio-Feedstock
- Animal Feed & Biofertilizers
- Local Market & Export
- Oil & Pressed Cake

- Great security and continuity in the supply of sustainable biofeedstock (low ILUC)
- Biofeedstock price de-risking compared to market purchase
- Synergy with Company Upstream, Forestry Program and other initiatives

- Great employment impact and creation of socio-economic development opportunities
- Promotion of agriculture development and market access for farmers, through a model known by farmers
- Respect for human rights and protection of food security and access to land

Synergy with Company Upstream, Forestry Program and other initiatives
ADAPTATION OF ENI HEALTH MANAGEMENT MODEL

ACTION PLAN

Setting priorities and timelines

HEALTH IMPACT ASSESSMENT

Broadening EIA / ESHIA Scopes - Identifying New Health Clients
### AREAS OF IMPROVEMENT ACTIONS

<table>
<thead>
<tr>
<th>OCCUPATIONAL - WORKFORCE</th>
<th>COMMUNITY - HEALTH &amp; ENVIRONMENT</th>
<th>STAKEHOLDER</th>
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<tbody>
<tr>
<td>- Health risks evaluation and control</td>
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<td>- Health surveillance</td>
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<td>- Permitting and gaps with local regulation</td>
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<td>- Health impacts evaluation and control</td>
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<tr>
<td>- Primary and secondary data collection</td>
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<td>- Biodiversity and natural resources - including water</td>
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<td>- Proliferation of parasites, wild/poisonous insects and animals - vector borne diseases</td>
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<td>- Waste management - local regulation/local facilities, risks and opportunities</td>
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<td>- Air Quality - pollution (e.g., emissions from facility &amp; trucks, dust generation, etc.)</td>
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<td>- Health and Environmental health monitoring</td>
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<td>- One Health concept</td>
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The definition of 2 stakeholder levels is necessary:

- First level: International and strategic; e.g., research phase, experience sharing, etc.
- Second level: Specific for the project; e.g., when defining training or when doing community needs assessments.
ACTION PLAN TO ADAPT HEALTH MODEL FOR AGribusiness

SEED SELECTION
- Health requirements embedded in the agreement including responsibility boundaries.
- Communities’ nutrition through fertilized soil and the supply of food for livestock farming.

SEED AGREEMENT
- Health requirements for the agreement including responsibility boundaries, health-related human rights.
- Company health support to big and small farmers including awareness and training.

FARMERS AGREEMENT
- Nutritional security best practices.

SEED TRANSPORTATION
- Material Safety Data Sheet (MSDS) for by-products.
- Valorization (e.g., for animal feeding) and re-use.
- Neutralization, final treatment.

BY-PRODUCTS
- Material Safety Data Sheet (MSDS).
- Medical Emergency Response Plan (including provisions and training).

BIO-OIL
- Operational Health Management System including continuous occupational risk assessment and health surveillance.

AGRIHUB OPERATIONS
- Health requirements for ITT Packages OPD Documents including Health Risk and Impact Management, Industrial Hygiene, Medical Facility and Provisions.

AGRIHUB DEVELOPMENT
- Awareness and training.

TOXICOLOGY
- Build a toxicology knowledge by conducting toxicology studies for potential corps/seeds.
- It can be done at HQ or by BUs.

ANTIVENOMS AND ANTIDOTS
- Build a knowledge on anti-venoms and antidots based on the poisoning risks.
- Set contracts for provision and emergency response.
- It should be done at HQ with applicability at Business levels.

EPIDEMIOLOGY
- Build an epidemiology knowledge by conducting epidemiological studies at regular times from the project start-up.
- Study links with “One Health” approach.

IMPLEMENTATION OF TRANSVERSAL AND GLOBAL PROGRAMS

STAKEHOLDERS ENGAGEMENT
- Involving international stakeholders in the definition and implementation of the health mitigation actions, including training and awareness and monitoring and evaluation (G-ILO).

COMPANY SUPPORT IN TERMS OF TRAINING AND AWARENESS PROGRAMS
HEALTH IMPACT ASSESSMENT

OBJECTIVES

• Impact assessment among the industrial activities and the supply chain (Value Chain)
• Assessing health risks simultaneously with impacts
• Set control and monitoring measures to area not fully within the project responsibility boundaries

HEALTH RISK-BASED HIA

HAZARD IDENTIFICATION
What health problems are caused by the environmental factors (e.g., pollutants)?

EXPOSURE ASSESSMENT
How much is the amplitude/threshold of the environmental factor (e.g., pollutant) are people exposed to during a specific time period? How many people are exposed?

DOSE-RESPONSE ASSESSMENT
What are the health problems at different exposures?

RISK CHARACTERIZATION
What is the nature of the risk that generate health problems in the exposed population? What are the extra health risks in the exposed population?

RISK MANAGEMENT DECISIONS
Control options
Legal considerations
Other economic and social factors

UPDATE HIA PROCEDURE
HEALTH IMPACT ASSESSMENT PROCEDURE

**Identify the Value Chain**
- Identify the Value Chain components and boundaries
- Identify interfaces and responsibilities

**Assess Health Risk and Impacts**
- Assess occupational health hazards and risks
- Assess health impacts starting from the context analysis

**Identify Control Measures**
- Identify the control measures through contract/agreement between Company and Farmers/transporters and/or Company and aggregators
- Identify sustainable programs for the Value Chain and the communities based on the context and needs assessment

**Review and Adaptive Management**
- Set monitoring and KPIs for review via audit, inspections program and stakeholders' engagement
- Review and adapt the control measures based on outcomes
HEALTH IMPACT ASSESSMENT TO HELP BUSINESS DECISION

HEALTH IMPACT ASSESSMENT

- Use the result of the HIA to inform the business and to adapt the model

- For the various project:
  - 05 combined HIA-HRA have been launched
Let’s continue the conversation!
Post questions and comments in the IAIA23 app.

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