

Olive production

1.1 Inputs

What are the inputs for your business?

Olive trees, land, soil, machines and equipment, energy, water, diesel (for machinery and transportation), fertilizers (organic and chemical), pesticides, workers, (nets, sack clothes or plastic for the harvesting phase), bottles for bottling, paper for labeling

What raw materials?

Olives

1.2 Outputs

What do you make or what service do you provide?

Olive oil, table olives

Is there any waste generated during your processes? List these things as additional outputs from your business. Do you know where they go?

Pruning Residues (Branches and Leaves, Logs) and Olive Pomace, olive stones, Olive Mill Wastewater (OMWW) comprises of Water, Sugars, Nitrogenous Substances, Organic Acids, Pectins, Mucilages and Tannins, Lipids and Inorganic Substances, emissions to soil, air and water.

1.3 End-of-life

If you're making a product, what is its lifecycle after leaving your care? Where does it eventually end up? Consider when and why it reaches its end-of-life.

Is it discarded? Or recycled? Re-used? Keep asking yourself what happens next.

Think the same way about all your waste streams. What happens to those unwanted materials? Again, what happens to them next? Are there disposal costs?

Olive oil and table olives end to the consumers. Cooking oil usually is collected for re-use.

Logs are used for firewood

Branches and leaves in the production stage are burnt in the field and the generated ash is disposed to the land. These are also used for animal feeding. In the oil industry these end with pomace in evaporation ponds for drying - sometimes it's sold as by-product.

Identify opportunities for change

2.1 Inputs

Could any of your inputs be sourced more sustainably?

Could any of them be swapped for a more sustainable alternative?

Could any of your inputs actually be sourced as an output from someone else's business?

- Irrigation should be applied in moderation, following a specific plan or making use of technology so as to save water use.
- Specific plans could also be applied for fertilizers and pesticides but also for energy management.
- Source for alternatives in the use of other industries by-products for olive harvesting material (nets, sacks, etc), fuel for transportation but also olive oil and table olives packaging maybe is a good idea (and why not making use of olive oil industry outputs)

2.2 Outputs

Could any of your outputs be useful to other businesses? Could your waste streams hold untapped value?

Wastes could be treated as by-products

- Olive Pomace may be the base of an alternative and renewable source of energy in the form of Pomace Wood
- Pharmaceutical and cosmetic products out of olive's leaves or waste's polyphenols extraction
- Bio-fuel out of wasted olive stones
- Animal feeding
- Bio-fertilizers

2.3 End-of-life

How could you make your products last longer? Could you extend their useful life? Could you redesign them to be easier to repair?

Can you design a better end-of-life for your products? May be they could be easier to dismantle, allowing elements to be re-used, repurposed or recycled.

Exhausted cooking oils could be re-used for soap making, or for refined oils (edible or not)