SWIM and Horizon 2020 Support Mechanism

Working for a Sustainable Mediterranean, Caring for our Future

Legal and institutional frameworks across the Mediterranean

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Short history lesson

- European Economic Community was established in 1957 and reformatted as European Union in 1993.
- It consists of 27 Member States, 19 of which, are part of the Eurozone.
- Total population 500m people.

E.U. operates various institutions, the most important are:

- The European Parliament (754 MEP elected from each state)
- The European Commission (the center of E.U., legislation, decisions)
- The Council of the European Union (27 ministers of state, meet to discuss policies)

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- Greece entered E.U. in 1980 and at that time, it was considered to be the less developed economy of the totally 10 E.U. countries.

- The Greek government requested from E.U. –and eventually achieved- to be funded, in order to construct major projects and facilities, that would help to bring the Greek economy to the community average.

- Few years later the Integrated Mediterranean Programmes (IMP's) were established, having as main goal to assist southern regions of the Community (France, Italy, Greece, Spain, Portugal)

- The IMP's continued to support Mediterranean economies and they were the base for the design of the Community Support Framework.

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- European Union operates as an unique organization, taking in mind the opinion of every member country.

- The legislation system of E.U. is separated to different categories.

- Laws that are voted in European Parliament and/or are adopted by European Commission should be accepted by the parliament of every E.U. country, while other decisions operate in the sphere of suggested actions, therefore are not compulsory for adoption

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- The financial and economic sector of E.U. correlates directly with the agriculture sector.

- The Common Agriculture Policy defines the path that every E.U. country follows in order to create a more competitive and efficiency agriculture production/market.

- However, there are some aspects that are not fully confront by E.U. as a whole. Every member country is able to deal with certain issues on its own, following the general guidelines of E.U. For example the treatment of Olive Mill Wastes is an issue that every E.U. member that produces olive oil deals separately.

- Olive oil production releases a high volume of waste that has a negative impact on the environment.

- There are three E.U. member countries that produce the majority of olive oil in the Union. Those are Spain, Italy and Greece. There are other countries of the Mediterranean sea that also produce olive oil like Cyprus as an E.U. member, Israel, Syria, other countries of northern Africa.

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- European Commission has funded various programmes in order to demonstrate and inform stakeholders (olive mill owners, public authorities, regional authorities, government officials) that are related to olive oil business, about technologies and methodologies that could be adopted by member countries in order to create a legislative framework that would resolve the problem of OMW treatment.

- Technologies and methodologies were addressed to stakeholders taking in mind either the fact that they have operated and tested in a olive mill and have produced positive results, or have operated in a pilot olive mill producing certain results in a limited time period.

- The target of those programmes was to suggest solutions that were environmentally friendly and satisfied the common feeling doubt regarding the efficiency of each methodology .

- The first step of each programme is to recognize the legislation framework of each olive oil productive country.

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Spanish legislation

- In Spain olive mill owners have adopted the two phase decanter system for the production of olive oil. Evaporation ponds were constructed in order to storage the untreated OMW that was discharged into water bodies.

- The Spanish legislation framework allows application of OMW to agricultural land as soil amendment in a volume that will not exceed $50m^2$/ha/year. The amount of the OMW application to the soil results from a scientific study of the soil that will confirm that there will be no leaching, surface runoff or invasive lesions.

- There are limitations regarding the application to the soil such as a minimum distance of the field from populated areas, water bodies etc. The discharge of OMW into sea water is regulated by royal decree which defines the discharge limits for every industrial unit, including olive mills.

Italian legislation

- In Italy the legislation framework allows the disposal of sewage sludge in the soil, depending on the characteristic of the soil. This kind of use has to be authorized each time by the competent public authority.

- The maximum tolerance limit for soil is 50m^3/ha/year deriving from traditional olive mills (press technology) and 80m^3/ha/year for vegetable water deriving from centrifugal extraction (continuous extraction systems).

- Local authorities are able to modify the upper limits or suspend fertigation in case of environmental risk. There are other limitations such as the distances from water bodies that are used fro human consumption (300m), populated areas (200m), soils that are cultivated vegetable crops, etc.

Greek legislation

- In Greece the vast majority of olive mills are small sized family business and operate a 3 phase decanter (about 85%) while the rest 15% operate a 2 phase decanter.

- The legislation framework allows the creation of evaporation ponds that gather OMW. The operation of evaporation ponds is the most preferred solution. Olive mills owners create ponds with certain specifications -size (taking in mind that the ratio of olive oil to wastewater is about ¼ (m^3/m^3)), depth (max 1,5m), land inclination, distance from water sources (200m) and populated areas 300m etc. The OMW is settled in water tanks for at least 3 hours and then is driven via pipeline to the evaporation pond. In the end of the production period the sediment is removed. It should also be treated in a way that will not create environmental pollution.

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- The fertilization is an alternative that has very recently legally allowed to operate for use. OMW are stored either in lagoons or in closed tanks. In the latter case the wastewaters are stored for no more than 10 days before fertilization.

- The storage capacity must be at least double the daily production capacity for olive mills that process up to 6 tons of olive fruit/8 hours and 4 times the daily capacity for all other mills. The liquid fertilize can be used mainly but not exclusively to olive trees.

- The biotoxicity parameters should be met, in order to avoid problems in the fields. A technical report needs to be issued by an agronomist or geologist that provides information regarding the technical characteristics of the field and amount of OMW that can be disposed (used as fertilizer) to the crops. The maximum quantity of fertilization is 80 m^3/ha/year for olive and other trees.

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Cypriot legislation

- In Cyprus the department of Environment (in coordination with other competent authorities) is responsible for managing the permitting process regarding the operation of olive mills. The waste discharge permits, are granted to olive mills, specifying the way the waste must be treated.

- The Cypriot legislation allows the discharge of OMW, accepting three different options. The 1st is the temporarily storage of OMW in appropriate storage ponds and the distribution as a fertilizer with a maximum ration of 8tn/1000m^2 per year. Pomace could be distributed with a ratio of 5th/1000^2 every 2 years.

- The 2nd option is the storage of the OMW to suitable sealed ponds for evaporation purposes and the 3rd is the delivery of the OMW to licensed waste management facility.

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- The creation of evaporation/storage pond should meet certain criteria such as depth (max 2,50m), sealing, distance from water bodies (300m), populated areas (500m) etc.

- The use of OMW as fertilizer also meets certain criteria. The most important of them is the appropriate scheduling and extends of the land use, to ensure that the distribution will not create biotoxicity to the soil.

- If the disposal occurs in nitrate vulnerable zones the total amount of nitrogen should not exceed 17kg N/hectare. If OMW is used as a fertilizer, chemical analysis should be carried out very six months, measuring the parameters of pH BOD, COD, electric conductivity, total nitrogen, suspended solids, fats and oils and phenols.

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Israeli legislation

- The olive mills in Israel have the obligation to establish a sealed storing container for OMW, with a size at least equal to the volume of OMW produced during three full working days (24 hours) according to the maximum machine production capacity. The container must have a hole in the upper side with a safe cover with diameter suitable for pipe installed in the machine suction.

- When the competent authority, ascertains that an olive mill, has not established a storing container, sends a proclamation to the owner or holder, of the OM, stating that within 120 days from the date on which the proclamation was given, to establish the storage container.

- The process of emptying the storage container should occur from a licensed enterprise. The olive mill should have created the adequate access for the emptying services and fulfill the safety measures.

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- The olive mill and the emptying enterprise should a sign an agreement that describes the coordinated visits, the costs of the services

- Olive mills have the alternative option, to dispose the OMW of the storage container, to agriculture lands or roads that are approved for this action by the Ministry of Environmental Protection.

Portuguese legislation

- OMW can be spread on land with a maximum tolerance limit (80m^3/ha/year

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Thank you for your attention.

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