



Co-funded by
the European Union



WG descriptive paper - Italy

PONZA PRIMA MED

October 2020 – August 2021

Deliverable 2. Capitalization and visibility actions¹

To ensure the proper development of the project's specific objectives

The selection and promotion of at least 3 best practices that can be easily carried out in the Mediterranean region in the following areas: circular water management, agro-food and farming.

the partners are invited to take capitalization and visibility actions; therefore, they should draft a descriptive paper in which they define and explicate the best practices individuated on their territory.

Guidelines for the descriptive paper

Each Partner is required to fill in the following descriptive paper, paying a particular attention to the description of the source of such practices, providing as detailed information as to making the practices replicable.

Partners (please choose one):

- X RIDE-APS
- JERUSALEM CENTER FOR WOMEN
- PARTNERS FOR TRANSPARENCY

Best practice

Name of the best practice: **Local composting**. This practice was chosen after an in depth analysis of different methodologies in favor of the sustainability. In particular, two other alternative practices were taken into account:

- **Natural Polyculture Method**, that combine traditional harvesting system with agroforestry approach and that consists in the cultivation of several species in the same plot at the same time, planting native wood species in wooded strips and hedges on the cultivated fields. The method is focused on the process of re-naturation of the agricultural ecosystem, and wild species are left to self-reproduce and, when necessary, are controlled with mechanical methods. This method has contributed to the improvement of both floristic and fauna diversity and promotes a better management of water resources, reduction of soil erosion, providing a shelter habitat for useful insects, including pollinators and predators of harmful insects.
- **Sustainability Rating Method “Envision”**, a holistic sustainability rating system aimed at assessing sustainability and resilience for all types and sizes of both public and private infrastructure. A wide range of sustainability indicators are considered in the assessment methodology, such as: consultation with the community, improving quality of life, resilience with respect to the risks arising from climate and social change, stakeholder involvement, effectiveness of project management skills. Finally, also the efficiency in the use of resources, such as construction materials, energy, and protection of water resources, is considered. A key value of Envision is its universal applicability to all infrastructure, so it could be applied extensively throughout the Mediterranean to prioritize and carry out the most valuable and sustainable projects.

The Italian team decided make the choice of Local Composting, also in relation to the synergy with the other best practices promoted by the Palestinian and Egyptian partners. In fact, the three best practices refer to the framework of **agroecology**, and, in this regard, there is a common effort aimed at raising awareness on this type of good practices and at presenting a package of measures that can be applied together.

Scope

1. Which of the following areas, namely circular water management, agro-food and farming does the bestpractice (1) refer to?

The best practice of local composting can be mainly referred to farming, in relation to the opportunities linked with the agricultural sector and the development of urban vegetables garden. Moreover, it is referred to the waste management and the community involvement in its system.

2. Description / summarization / information of the content of the best practice (1)

Local composting is applied with a circular economy approach to the organic waste produced by a community, which directly manages and treats it individually (a family or a professional) or collectively (a group of family and professionals together), to generate compost, using manual or electromechanical composters.

The best practice refers to a set of alternative methodologies for sustainable agriculture, the so-called **agroecology**. Agroecology is the application of ecological principles to the interactions between human beings and their environment, with the goal of minimizing the negative effects of certain human activities.

Composting is an acceleration of the natural decomposition process for organic waste. Intense bacterial activity is primarily responsible for decomposition; it requires oxygen and releases heat. The resulting compost acts as a supplement and fertilizer.

Composting, introducing the oxygen as part of the organic materials decomposition process, creates the ideal environment for naturally occurring microbes to break down organic materials, expediting decomposition, while maximizing the nutrients in the resulting soil, which is crucial to the reduction of methane output. Methane is a greenhouse gas that can trap 30 times the amount of heat in the atmosphere as CO₂. The aerobic process of composting does not produce methane, because methane-producing microbes are not active in the presence of oxygen.

The decentralized community composting is a best practice that could effectively contribute, not only to reduce the output of greenhouse gases, but also to restore the planet's natural processes, to feed future generations of plants, and ultimately, humans.

Local composting can be implemented in different background: urban, peri-urban or rural contexts and even in remote and spread areas with different climate conditions.

The product of the natural process of degradation of the organic matter can be used for several scopes, as a new resource. In connection with the amount and the quality of the compost, it can be applied to: private garden, urban vegetable garden (even in apartment buildings), public green areas or agriculture sector at a higher scale.

This solution has the potential to substitute the waste collection system dedicate to organic waste, or, where not implemented, to reduce the stream of unsorted waste. Moreover, it allows the creation of virtuous networks, between the community and the local farming sector.

3. Description / summarization / information of the approach of the best practice (1). Is there used a bottom-up or a top-down approach? Why?

This practice can be implemented using both approaches.

Especially in rural areas, local composting is often spontaneously carried out by families, that make compost for private use. Even in the cities, there are examples of projects of home local composting in

apartment buildings to generate compost for the urban vegetable gardens. This is an example of bottom-up approach for this best practice.

On the other side, local composting can be defined as an institutional choice and strategy, by the consortium or the municipality in charge of waste management, using a top-down approach to involve the population and applying it as a structured and organic system for waste management.

Anyway, the involvement of the territory and the citizens is fundamental for a correct implementation of the practice, which has a lot of potentialities if correctly declined on the reference context.

In the European transboundary project **In.Te.Se.**, which represents an example of application of the best practice, a **top-down approach** was used, starting the dialogue with the local municipal institutions, thanks to the consortia, partners of the project.

¹ The deliverable's number refers to the activities set out in the project's full documents.

4. Description / summarization / information of the traditional and historical references. How long has the practice been in force?

Composting is an ancient and spontaneous practice in rural areas, because it is a simple natural process and it does not need specific knowledge or equipment when applied to small quantities (at a private level).

In terms of application in the domestic context considering the European regulation, the home composting is regulated since 20 years, the community composting is a more recent application of the same method but developed by a community instead of a single and a related regulation is available since 10 years in France and 5 years in Italy.

Target group

1. Who is your main target group?

Citizens of municipalities in urban, peri-urban, or rural areas.

2. Do you plan to involve any precise ethnic subgroup?

No specific ethnic subgroup is considered, but the community as a whole.

3. Do you wish to address any specific vulnerable group (e.g., elderly, youth with disabilities, women in rural areas, etc.)?

All the community is involved, to participate for a common scope, to recover and transform independently a valuable matter (biowaste). The use of the product of the process (compost) can be destined to several applications and can even enter in virtuous networks with social scopes (social urban vegetable garden) or it can enhance local agriculture, even in terms of collaboration with little and medium farmers managed by any specific group, including vulnerable groups.

4. Description / summarization / information of the features of the target group (gender, age, and type of education)

There are no specific features for the target group involved in the application, because it can be practiced individually or in collective system at any age, by any person and even with no specific education.

The needed knowledge is basic and simple, because the process is natural, and it does not need complex equipment. The electromechanical composters, which represent the more structured type of equipment, can be easily managed, with basic training and they are mainly automatic.

In the case of collective composting often the national/regional regulation defines the necessity of reference figures in charge of the management of the process and simple authorizations, in relation to the amount of treated waste and connected produced compost.

Stakeholders

5. How many stakeholders the WG intends to involve in the best practice (1)?

The best practice can be implemented at a municipal or a higher level (e.g. consortium), the possible stakeholders are:

- Citizens (families and professionals)
- Municipalities
- Municipal solid waste management referents
- Local farmers, agricultural and botanical sector
- Social projects/associations/cooperatives

Representative organizer

6. Who is the main person/representative or organizer who takes decisions and oversees the best practice(1)?

The practice can be carried out at an institutional level (municipality or group of municipalities), considering the involvement of the overall community, or implemented by defined areas or limited target (e.g. only peri-urban areas or apartment buildings).

Considering the scale of application and the scopes of the practice, the decision maker can change.

7. How were the rules of maintaining the practice defined? Who defined them and how?

For the correct implementation, municipal waste regulation or integration of municipal waste regulation were made (e.g. creation of an institutional register for who practices composting). Dedicated training sessions were organized and additional material for the population and the referent of the community composting were prepared.

In the case of community composting specific indications and quality parameters are defined by national regulation.

Representative of a vulnerable group

8. Is there a representative of a vulnerable group? Please explain the role.

A representative of a vulnerable group is not present.

Representative of the Municipality

9. Is there a key person from Municipality/decision-maker, who is taking decisions and care for the practice at the Municipality level? Please explain the role.

Yes, when the best practice is applied at a municipal level it is fundamental the role of an internal person, for the definition of final decisions and for a easy communication with the population.

In the **In.Te.Se.** project, there are representatives of the municipalities in some cases and usually they are the major or the deputy-major, because the involved communities are represented by small and spread realities.

Anyway, where the municipality is part of a consortium, even the upper level has to be involved to promote and discuss about the decisions, in relation to its global view on the territory.

Other stakeholders

10. Is there a person from the most relevant other stakeholders (Universities, Consortium, NOGs)? Please explain the role.

Yes, there are references from the territorial Consortia, because they are in charge of the waste management system for the territory and they are partner of the European project that implemented the best practices. The references are mainly operative technical figures.

Location

11. In which part of the country the best practice (1) will be adopted? Are there any specific geographical characteristics needed?

The best practice in the **In.Te.Se.** Project, which is an example of implementation of local composting, was adopted for small alpine and disperse municipalities.

However, the application of local composting can be easily performed in any geographical area and urban context, because the process can be carried on with any climate condition. For each background specific and simple corrections can be applied to allow and facilitate the process. The Mediterranean region is certainly suitable for this practice.

12. Description / summarization / information of the place, explain if there is any cultural, historical, social connection to the main aim of the best practice (1)

Composting is a natural degradation process of organic matter, already spontaneously applied especially in rural areas since ancient times. Vegetable scraps often were, and still nowadays, are used for gardens and cultivations after their natural processing in simple pit or pile on the ground.

13. How is Climate Change predicted to modify the context of the practice? Will this affect the best practice(1)?

The best practice can actually act against Climate Change, because it reduces/avoids the negative environmental impacts related to the implementation of a dedicated organic waste collection and treatment systems and it promotes the production of a natural soil improver, suitable for agriculture even in more sensible areas, which can be easily enhanced.

Agriculture accounts for 33% of human-originated greenhouse gas emissions, nearly half of which, 14%, results from unsustainable farming practices, particularly using chemical fertilizers, a source of nitrous oxide, one of the most powerful greenhouse gases.

Currently, industrialized agriculture is rapidly destroying the ecosystems on which it depends, and it has developed dependence on energy sources destined to become increasingly rare and whose future prices will be both more volatile and higher.

By gradually eliminating the use of chemicals, the best practice proposed strives toward implementing organic farming, thus contributing to improving the health of farmers and consumers alike.

Moreover, it aims at protecting the environment, ensuring the sustainable renewal of the natural resources (water, soil, biodiversity, etc.) necessary for production, and making sparing use of non-renewable resources. It combines technical solutions reconciling productivity, reduced pressure on the environment and the sustainable management of natural resources. All this is a question of ensuring a balance between human beings, farming, and nature.

Climate Change does not affect the practice, because it is applicable in different climate contexts and simple solutions are available to improve the process in critical conditions.

Period

14. How much time is necessary for the implementation of the best practice (1)? When will the benefits (in terms of sustainability and development) start appearing?

The period of implementation depends on the scale of the application and on the selected model. Parameters to be considered are:

- Limited selected areas (small scale) or the application to a municipal/consortium/regional level (large scale)
- Implementation of individual/collective composting or both together
- Use of manual/electromechanical composters
- Compost destination, for a private use or to the farming/botanical sector
- Correct stakeholders engagement

In the case of the **In.Te.Se.** Project the best practice was implemented for steps in different Italian and French areas, in general, in one year, it was achieved and it obtained the first results, in terms of produced compost, after some months. The application previewed individual and collective composting by households and professionals, carried on with both manual and electromechanical composters, at the current stage for private use, but with the aim to involve in the next years local realities of the agricultural sector especially in connection with the collective systems with a larger production of compost.

On the side of the economic point of view, the results can be tangible after some months (six months), considering for example the amount of waste excluded from unsorted waste stream or the absence of a dedicated collection, transportation and treatment system for biowaste.

15. How does the WG see the future of the best practice (1)?

The best practice can be a useful and simple solution for various context of the Mediterranean region thanks to its simplicity and replicability. The high involvement of the civil society and the possibility to create a virtuous network with the local production sector represent an added value and a concrete possibility to increase people awareness and sensibility about waste management, circular economy and local farming.

Methods

16. Description / summarization / information of the roots of the best practice (1), please explain how the WG is planned to develop the practice and if any explain the methodology

If the top-down approach is used, the first step is a dialogue with the consortia and municipalities of the territories and the stakeholder's engagement, to define the best model to implement.

The definition of the context of application, the target and number of users and involved actors and the scale is fundamental and represent the second achievement, together with the analysis of the regulatory background referred to composting.

The design of the overall system depends on the overmentioned parameters, which affect the technical and the economic analysis. This can be accomplished with: the definition of the flow of organic waste to treat, the dimensioning of the output, in terms of produced compost, which is linked with the definition of the more suitable equipment to use and with the potential destination of the output and related monitoring system to apply for the executive phase.

After the feasibility stage and the evaluation of different possible scenarios, it is possible to select the definitive system to apply and the implementation process can start. Training sessions for the users and information and communication campaign are relevant for the correct realization of the best practice.

A constant monitoring system has to be organized with different levels of complexity, considering the aim of the process. In the case of instauration of collaboration with the farming sector more detailed chemical and physical analysis are necessary for verifying the quality of the compost.

17. What means would be necessary for its replicability (natural capital, human capital, social capital, manufactured capital, and financial capital)

The main means are represented by the human and social capital, as the civil society is the first actor of the process, in quality of producer of the recoverable materials for the creation of the new resource. The financial capital depends on the complexity of the system, and especially on the selected equipment, which can be homemade (wooden composters) or automatic (electromechanical composters), but even in the second case the costs can be quickly amortized thanks to the economies obtainable and the quite low cost of the machines, considering the larger scale of implementation.

In terms of personnel, for the training sessions or for the monitoring phase, the costs can be considered limited.

18. What difficulties could be encountered during its implementation?

No specific difficulties in technical terms are individuated, because the simplicity of the process and because of the easy solutions applicable to possible critical circumstances (e.g. critical climate conditions) and the predictability of them, which is considered already in the design stage.

The stakeholder engagement is a fundamental factor, if absent, the process does not proceed, but even this risk is simply controllable.

Motive

19. Why do you think your practice is good? What does it bring (e.g., local development,

social cohesion, feeling of belonging, economic benefits, tourism development, networking, sustainable development, circular economy, etc.)? Why is it considered to be relevant?

This practice is a relevant one because it provides:

- **Sustainable development**, thanks to the reduction in the negative impacts related to the collection, transportation and treatment in industrial plant of biowaste, often disposed with unsorted waste and thanks to the enhancement of a new resource (compost) which can restore local soil conditions. Moreover, a complete **circular economy** approach is obtained, while waste becomes new resource to be used locally for private use or even destining it to a production sector.
- **Economic benefits**, thanks to the reduction in costs, because of the limited expenses for the implementation of the system and the economies related to the potential absence of a dedicated municipal management system for organic waste.
- **Social cohesion and feeling of belonging**, thanks to the application of community composting (both in rural area and in apartment buildings in the cities), which join families and professionals in a shared activity with common scopes and creating virtuous **networks** and connection with local farming realities or for shared application, like social urban vegetable garden.
- **Civil engagement and awareness**, related to circular economy approaches, waste management and agricultural sector.
- **Other networks**, linked with the related themes like waste prevention, food loss and food waste prevention, agro-food chain.

20. Why do you think your practice is replicable and sustainable? Can the best practice be considered an adaptation or mitigation strategy?

The practice is replicable because it is based on a simple and natural process (organic degradation), implementable even in critical climate conditions (e.g. alpine context or aride zones), with simple solutions for each specific context. It can be realized with different levels of complexity, starting from basic and economically sustainable and minimal solutions (e.g. wooden homemade composters) and with basic knowledge, until it develops in more structured and organic scheme, at a larger scale.

This best practice can be defined as an adaptation strategy, for example against climate change (compost is a soil improver). In parallel, composting, as a sustainable application on a larger scale, limits the emissions generated by the implementation of a system for organic waste collection, which can be substituted by the local practice; from this perspective, it can be considered even a mitigation strategy.

Finally, there is a close connection in terms of synergies for replicability with the best practices proposed from the other two partners, Palestine and Egypt, in the framework of the Ponza Prima Med Project.

The Palestine example, called “**swath composting**”, consists of placing a mixture of raw materials in long narrow piles called “swaths.” The method provides for composting large quantities of organic matters. This practice has been primarily implemented in Niger (dry areas) and Madagascar (wet areas). Objectives of this technique are:

- Develop a high-quality organic fertilizer with locally available raw materials

- Making nutritional elements easily available to plants after humification and mineralization
- Limit the risks of propagating weeds, pests, bacteria, and other mould contained in the manure and straw.

Finally, the Egyptian best practice is an experience that could lead the way in agritourism, promoting a new form of **educational tourism**, based on transforming the farms and farmhouses into vacation homes where tourists could stay and experience farming. As more than 90 percent of Egypt's land is covered by deserts, there is enormous potential to invest in this idea, including also learning centers, holding seminars and workshops, issuing internationally recognized certificates, and replicating the model in the Country. Moreover, the analysis of the Egyptian team focused on the water scarcity, which has a huge impact on food production. In this regard, the **agritourism** could constitute a way to raise awareness on the irrigation management practices, as well as groundwater irrigation, rainfed agriculture, etc. This best practice supposes knowledge transfer; stimulating dialogue between farmers, it sets them up as experts – instead of best practices coming from laboratories, it is sourced in field experiments. In this, agroecology is a source of emancipation for farmers: instead of receiving advice, they become co-actors in adopting the best practices in agriculture.



Co-funded by
the European Union



This document was produced with the financial support of the European Union. Its contents are the sole responsibility of RIDE-APS and do not necessarily reflect the views of the European Union