



Sustain Water MED: Network of demonstration activities for sustainable integrated wastewater treatment and reuse in the Mediterranean

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- Since January 1, 2011 **GIZ**, merger out of **DED**, **GTZ** and **InWEnt**.
- **GIZ's purpose** is to promote **international cooperation for sustainable development and international education**.
- **GIZ** is 100% federally owned, public-benefit enterprise, we support the **German Government** to achieve its objectives in the field of **international cooperation**.
- **GIZ** operates in more than **130 countries**, employs more than **17,000 staff** members worldwide.





Objectives of SWIM-Sustain Water MED

- **To promote sustainable water policies and practises**
- **To support integrated approach of sustainable water resources management based on WDM and sustainable use of non conventional water resources**
- **To support adequate and low cost technologies**
- **To develop planning and management skills at local and national level**

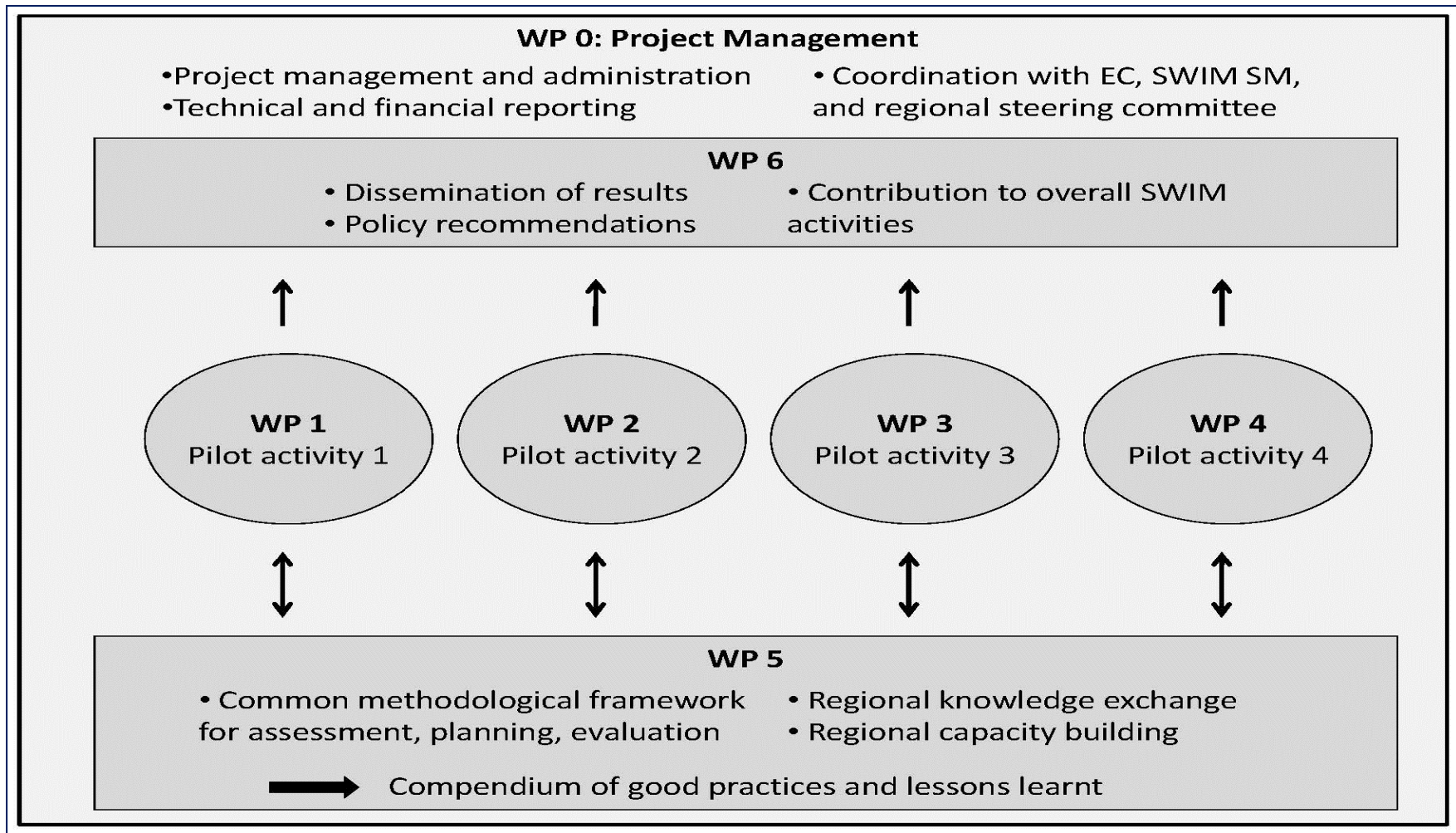


Partners of SWIM-Sustain Water MED

1. **GIZ:** *Germany, Lead*
2. **Adelphi Research:** *Berlin, Germany*
3. **ENEA:** *Bologna, Italy*
4. **IUCN:** *International Union for Conservation of Nature, Belgium*
5. **BAU:** *Al Balqa Applied University, Jordan*
6. **NRC:** *National Research Centre, Egypt*
7. **ONAS:** *Office National de l Assainissement, Tunisia*
8. **ABH-SMD:** *Agence du Bassin Hydraulique Souss-Massa et Draa, (State Secretary of Water and Environment, Morocco)*

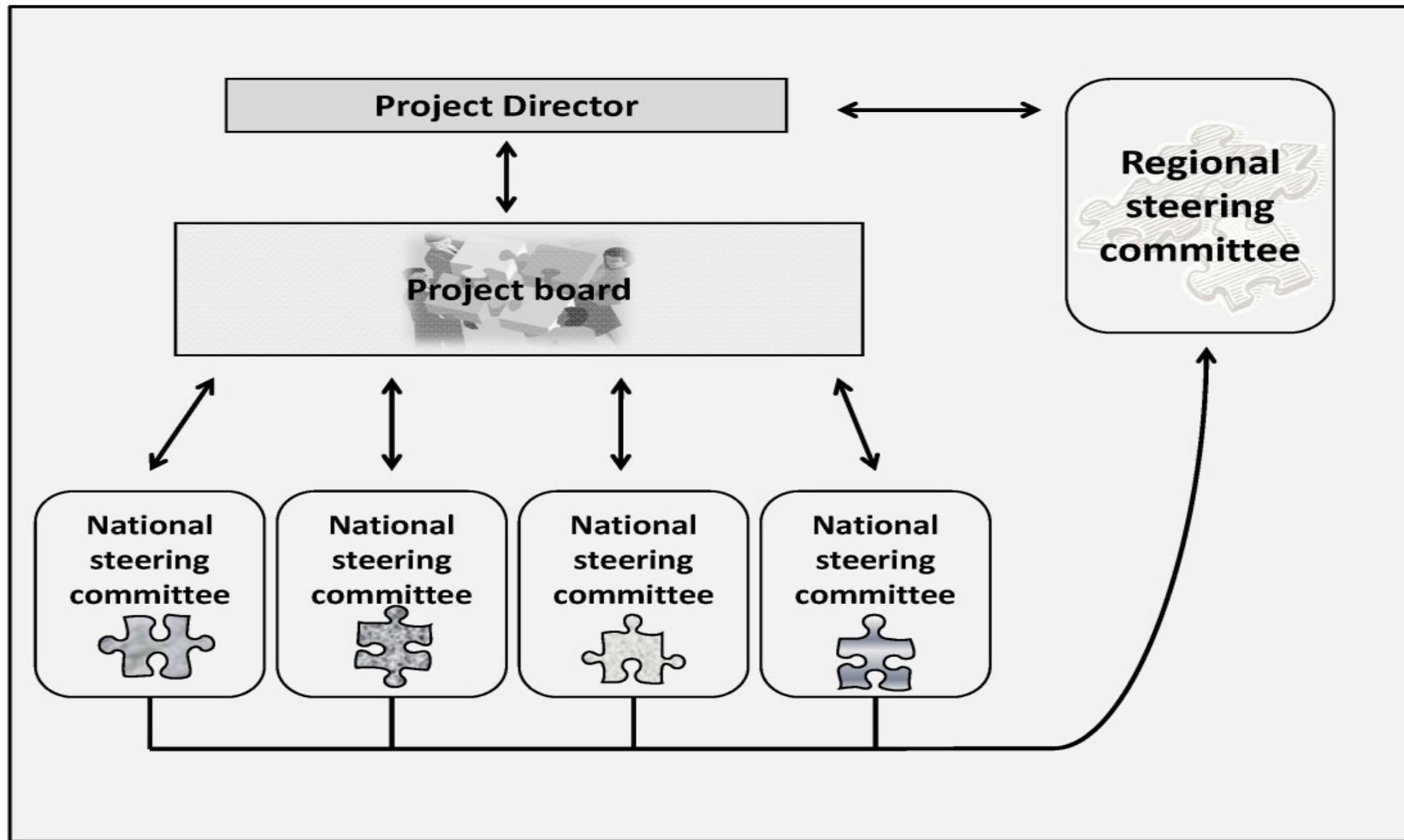


Overview of Work Packages of SWIM-Sustain Water MED





Organisational structure of SWIM-Sustain Water MED

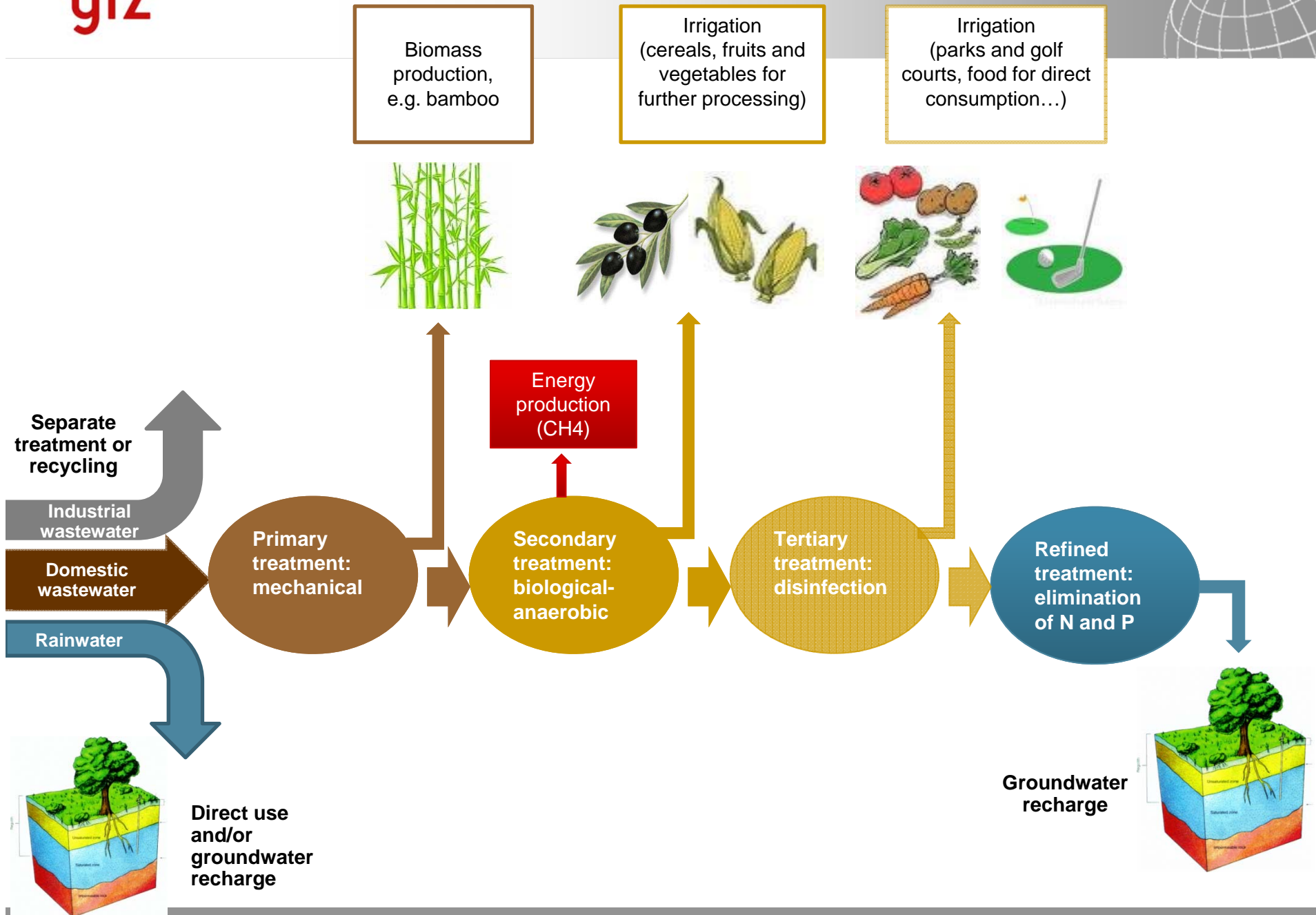




Common approach of pilot activities

- **Establishment of national steering committees that will advise on all steps of the pilot activity and include relevant stakeholders from different interest groups and levels of administration**
- **Baseline assessment and final adjustment of pilot activity incl. detailed analyses of stakeholders, social acceptance, legal frameworks, environmental conditions, env. and health risks**
- **Implementation of pilot activity together with local stakeholders**
- **Action oriented capacity development and awareness raising incl. on-the-job-training, establishing information center at pilot site**
- **Accompanying study of social, environmental and economic effects of pilot activities according to a common framework**

Integrated vision of wastewater treatment and reuse





Pilot activity Morocco

Objective: a sustainable concept of locally adapted wastewater /human excreta management

Location: rural oasis community in Dades Valley (Tanghir Province Southern Morocco)

Treatment approaches: Source separation and reuse-oriented decentralised treatment

Innovative aspect: ecosan concept, incl. energy generation from biogas, combination with rainwater harvesting and production of artificial soil

Expected outcome:

- improvement of ground water quality**
- improvement of sanitation infrastructure and life conditions of local population.**
- contribution to the resilience measures against climate change impact**



Pilot activity Jordan

Objective: Demonstrate potential for agricultural irrigation of wastewater effluents from different treatment technologies

Location: Zarqa River Basin

Treatment approaches: Central conventional treatment and decentralised alternative technologies like constructed wetlands , grey water recycling and modified septic tanks

Innovative aspect: Proven applicability of decentralised alternative wastewater treatment for reuse in agriculture

Expected outcome:

- improvement of sanitation infrastructure of rural population**
- support the decentralised approach of WWT in Jordan**
- improvement of safe irrigation**



Pilot activity Egypt

Objective: economic benefits of secondary WWT through selection of (1) optimal crops, (2) appropriate agricultural practices and irrigation techniques.

Location: Abu Rawash Village (Giza Governorate)

Treatment approaches: Decentralised secondary treatment of primary effluents (Abu Rawash WWTP)

Innovative aspect: Additional secondary treatment and innovative agricultural practices

Expected outcome:

- improvement of safe irrigation**
- improvement of farmers income**
- encourage the reuse of treated secondary effluents**



Pilot activity Tunisia

Objective: Demonstrate a system of water quality monitoring, control and early warning for water supply to enhance acceptance and security of reuse

Location: Oueljet El Khodher in the province Medenine

Treatment approaches: Conventional tertiary treatment

Innovative aspect: Joint monitoring through water provider and end-user, quality based effluent supply contracts

Expected outcome :

- set up an efficient and applicable water quality monitoring system (WQMS)**
- increase capacity of regional partner (CRDA) to run WQMS**
- increase acceptance of reuse of non conventional water resources.**



Conclusions

- the actions of SWIM-Sustain Water MED will strongly contribute to the objectives of the SWIM- Programme
- demonstrate solutions for local problems which are applicable in the region
- continuous base line assessment and evaluation
- improvement of sanitation and safe irrigation
- stakeholders involvement
- decentralised, low cost, low maintenance
- build up on existing and successful conducted programmes (EMPOWER, EMWATER, Zero M, SMART)



Thank you for your attention

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