Traditional 'Pomona' type turbine water pump and pumping station

Cooperative for Drilling and Exploiting a Private Water Well (希腊)

Συνεταιρισμός με Σκοπό την Εγκατάσταση και Λειτουργία Ομαδικής Γεώτρηση

描

A cooperative of land owners and at least one water rights owner established to jointly establish and manage a private freshwater well.

Aims / objectives: The approach is implemented for deep water wells where installation costs are high. It provides an option for land owners to abandon their low quality shallow wells (such as those on coastal aquifers) for a better quality well (e.g. inland) located in a remote property. The objective of the cooperative is to share costs and risk while securing a sustainable water quality for its members.

Methods: A cooperative is formed with interested land users and shares are distributed depending on individual financial contribution to the drilling cost. Additional costs are either apportioned to coop members (e.g. common buffer tank) or managed individually depending on agreement. Apart from actual value, shares also represent the fraction of water rights of each member. Therefore, every member can consume up to their rights fraction or lease from other members who have consumed less that their rights fraction. Water consumption is usually measured indirectly through power consumption at the pump and a common log is kept to split bills power bills when issued.

Stages of implementation: Initially, a land owner secures a well installation permit from the Water Authority. If it is a requirement to form the cooperative as a legal entity then an advocate is requared. The coop elects 5 members to serve as president, treasurer, secretary and alternates. During the installation phase, members of the cooperative share costs according to their agreement. During the operation phase, costs are covered according to user consumption.

Role of stakeholders: The Water Managing Authority needs to provide a permit for the drilling and a geologist needs to oversee and sign for the drilling. Cooperative members need to be timely in their financial obligations in order to cover bills and maintenance costs on time in order to avoid interruptions of the water service for the entire group.

Other important information: This approach was documented within the scope of FP7 RECARE Project, funded grant agreement no 603498.

地点

地点: Timpaki, Heraklion, 希腊

选定地点的地理参考

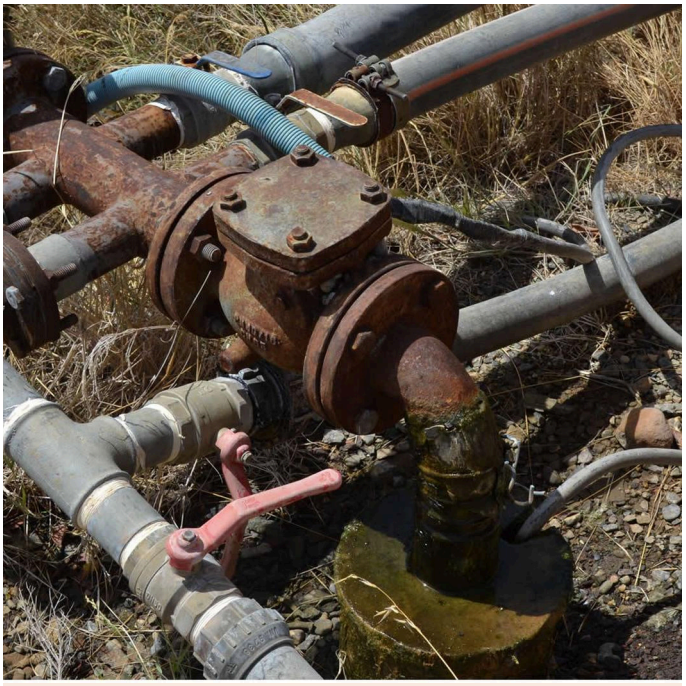
- 不 用

启动日期: 2005

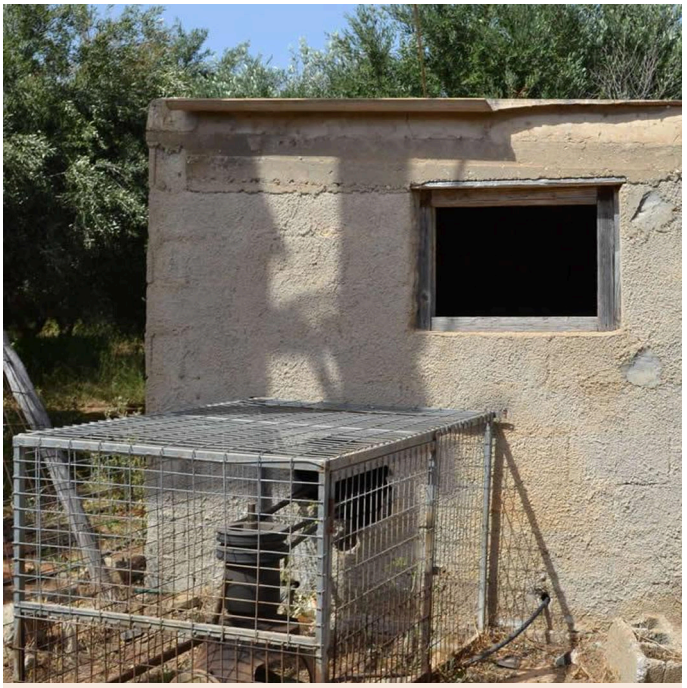
终止年份: 不 用

方法的类型

- [ ] 传统/本土
- [x] 最 的本地倡/创新
- [ ] 基于 方案



Submersible pump and distribution network (I. Daliakopoulos)



Traditional 'Pomona' type turbine water pump and pumping station (I. Daliakopoulos)

方法目标和有利环境

该方法的主要目的/目标

The Approach focused mainly on other activities than SLM (Securing good quality water at adequate quantities, reduce costs per capita)

The objective of the Approach are to share costs and risk while securing a sustainable water quality for its members. This way land owners have additional options for usign good quality water at an affordable cost.

The SLM Approach addressed the following problems: Lack of cash to invest

推动实施本办法所应用技术的条件

阻碍实施本办法所应用技术的条件

- **财务资源和服务的可用性/可得性**: High cost of a good quality (deep) well at a sufficient distance from the sea to prevent saltwater intrusion. Treatment through the SLM Approach: Group of land users share the cost of drilling and become shareholders of the well. The amount of shares of each shareholder is proportional to the assets invested in the installation.
- **法律框架（土地使用权、土地和水使用权）**: New regulations discourage or ban the installation of new wells in order to regulate the quality and quantity of groundwater in the area. Also selling water without a permit lays at a legally gray area. Treatment through the SLM Approach: Well shares (representing water rights) can be exchanged or rented among shareholders and sold to new shareholders. Therefore water rights can be distributed without new wells being drilled. The existing land ownership, land use rights / water rights hindered a little the approach implementation At least one of the members of the cooperative needs to own land and user rights at a location suitable for drilling.
- **了解SLM，获得技术支持**: Water wells require an intermediate buffer water tank. Treatment through the SLM Approach: In the case of a collective installation can be single (rather that each shareholder installing a separate water tank) thus reducing costs due to the economy of scales and saving space.

相关利益相关者的参与和□ □

该方法涉及的利益相关者及其职责

该方法涉及哪些利益相关者/执行机构？	指定利益相关者	说明利益相关者的角色
当地土地使用者/当地社区	Farmers, agriculturalists	
SLM专家/农业□ □	Water well drilling specialists	
国家政府□ □ 划者、决策者□		Water permits are eventually issued by the Water Authority

当地土地使用者/当地社区参与该方法的不同阶段

	无	被动	咨询	互动	合作伙伴	自我动员
启动/动机					✓	
规划					✓	
实施					✓	
监测/评估					✓	
Research	✓					

Land users forming the cooperative
The board of the coop adjusts pricing and plans distribution networks in cooperation with the members.
Construction work by land users who might have the resources to help.
The board monitors water quality, water level and user consumption.

流程图

有关SLM技术选择的决策

决策是由……做出的
- 仅土地使用者 主
- ✓ 主是土地使用者，SLM专家提供支持
- 所有相关参与者作为参与式方法的一分
- 主是M专家咨土地使用者之后
- 仅SLM专家
- 政治家和

决策是基于
- 对充分录的M知估基于据的决策
- 研究结果
- 个人经和意无录

技术支持、能力建和知管理

以下活动或服务是该方法的一部分
- ✓ 能力建/培
- 咨服务
- 机构强化组织发展
- ✓ 监测和估
- 研究

能力建设/培训

向以下利益相关者提供培训
- ✓ 土地使用者
- 现场工作人员/

培训形式
- ✓ 在职
- 农民对农民
- 示区域
- 公开会
- 程

涵盖的主题

Use of the pumping system, pricing system, sustainable water use, legal issues.

监测和评估

bio-physical aspects were monitored by land users through measurements; indicators: water salinity, pH, pollutants, level of the water in the well economic / production aspects were monitored by land users through observations; indicators: consumption of water/power by each shareholder There were no changes in the Approach as a result of monitoring and evaluation There were no changes in the Technology as a result of monitoring and evaluation

和外物支持

SLM组成部分的年度预算，以美元计算
- ✓ < 2,000
- 2,000-10,000
- 10,000-100,000
- 100,000-1,000,000
- > 1,000,000

Precise annual budget: 不用

Approach costs were met by the following donors: local community / land user(s) (Establishing the cooperative as a legal entity): 100.0%

已向土地使用者提供以下服务或激励
- 为土地使用者提供物支援
- 特定投入的
- 信用
- 其它激励或手段

影响分析和结性

方法的影响

	否	很少是	中等是	支持力度很大是
方法是否帮助土地使用者实施和维护SLM技术	✓			
方法是否有助于社会和经济弱势群体	✓			
方法是否改善了SLM技术实施的土地使用权/用户权				✓

Did other land users / projects adopt the Approach?

土地使用者实施SLM的主要动机

- [x] 增加生产
- [x] 增加利润 能力 提 成本效益比
- [ ] 减少土地 化
- [ ] 低灾害
- [ ] 减少工作
- [ ] 支付/
- [ ] 章制度 罚款
- [ ] 声望、社会压力/社会凝聚
- [ ] 加入 劝 团体/网络
- [ ] 环境意
- [ ] 习俗和信仰 德
- [ ] 提 SLM知 和技能
- [ ] 美学改
- [ ] 冲突缓

方法活动的可持续性

土地使用者能否维持 方法实施的措施 无外 支持的情况下

- [ ] 否
- [ ] 是
- [x] 不确定

结 和吸取的教

长处: 土地使用者的观点

- Reduces start-up costs for well construction and subsequent risks, allows for deeper wells far from the salt intrusion zone thus providing a more sustainable water quality.

长处: 编制者或其他关键资源人员的观点

- Provides the financial means to drill wells far from the salt intrusion zone, thus reducing the risk of enhancing salt intrusion. It is also a indirect way of reducing illegal pumping by consolidating water users to a more easily manageable and accountable entity. (How to sustain/ enhance this strength: Imposing pumping limits so that water use is sustainable. Provide motives to join cooperatives.)

弱点/缺点/风险: 土地使用者的观点如何克服

弱点/缺点/风险: 编制者或其他关键资源人员的观点如何克服

- Once the well has been drilled, water quantities pumped are difficult to control. This can create tension among users but also lead to over-pumping. A more transparent way of measuring can be implemented (e.g. metering per farm). This of course includes additional costs. Another option is to allow the Water Authority to take control of distribution within the private network and thus impose pumping limits (or at least be aware of the extent of the exploitation).

参考文献

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WOCAT数据库中的完整描述
https://qcat.wocat.net/zh/wocat/approaches/view/approaches_2619/

链接的SLM数据
不 用

文件编制者

机构
- Technical University of Crete (Technical University of Crete) - 希腊

目
- Preventing and Remediating degradation of soils in Europe through Land Care (EU-RECARE)