Typical vineyards around Lake Biel: traditional small-scale plots with terraces and improved plots, with terraces removed for ease of mechanisation

Farmer initiative within enabling environment (Switzerland)

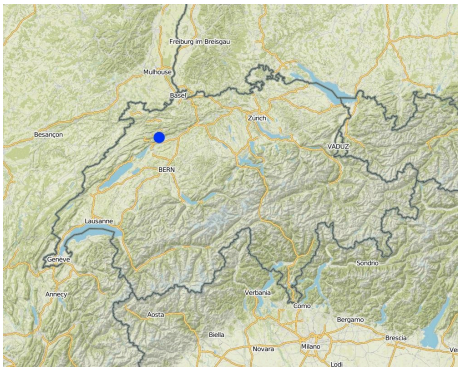
DESCRIPTION

Initiative and innovation of land users, stimulated by government's technical and financial support.

Aims / objectives: The application of green cover (a ???living mulch??? between vine rows) in viniculture within the case study area has been developed and spread, primarily, by experimentation and exchange of knowledge between winegrowers. Individual initiatives and personal contacts have been the most important elements. Other channels are: (1) higher education and specific training courses (the majority of winegrowers have undergone at least 3 years of agricultural college, including both applied and theoretical training); (2) participation in conferences and meetings; (3) self-teaching using the internet and national and international journals or books; and (4) extension services. Disseminated results from national research institutions also play an important role - over and above individual knowledge and experimentation. The approach is thus characterised by responsiveness of winegrowers to the various information sources listed above. This should be seen in the context of national agricultural policy which provides an ???enabling environment??? including payments to farmers: the production quotas of the 1950s were replaced in 2001 by direct grants (subsidies) based on area grown and/or other specific criteria, eg ecological services such as green cover. However, the technology of green cover spread spontaneously before direct incentives were tied to ???ecological production???. Government policy supports agriculture as a weak sector of the national economy, and guarantees, through subsidies, a high percentage of the overall national production. Subsidies in Swiss agriculture are amongst the highest in the world. These subsidies effectively keep wine production going. Vineyards are seen as an important part of the rural cultural heritage and as a characteristic feature of the landscape.

Methods: Recently, with this type of production system, there has emerged a further opportunity - to market wine under a label of controlled ecological production (???vinatura???). A step further is the label of ???organic production??? which, in addition to green cover, requires a range of other criteria to be strictly fulfilled (eg no use of chemical fertilizers/biocides). Customers are increasingly willing to pay a premium for such products. This is an example of a win-win situation: the environment is protected and simultaneously farmers are rewarded with a higher value for their output. Within the framework of subsidies to farmers and information availability, the ???approach??? to improved viniculture can therefore be viewed as an enabling environment for land users to take initiatives themselves. The diffusion of innovative technologies is also largely left to the land users.

LOCATION



Location: Switzerland, Swiss viniculture area, Switzerland

Geo-reference of selected sites

- 7.364, 47.213

Initiation date: n.a.

Year of termination: n.a.

Type of Approach

- [x] traditional/ indigenous
- [ ] recent local initiative/ innovative
- [ ] project/ programme based

Typical vineyards around Lake Biel: traditional small-scale plots with terraces and improved plots, with terraces removed for ease of mechanisation (bottom and left).

Winegrower cutting grass with portable motor scythe.

APPROACH AIMS AND ENABLING ENVIRONMENT

Main aims / objectives of the approach

The Approach focused mainly on other activities than SLM (viticulture as whole and its basic conditions (production of wine, financial questions, economy, technical aspects, equipment, ecology, viticulture and tourism))

The overall objective of national policy is, within a framework of subsidies, to allow farmers to develop and spread solutions themselves through access to sources of knowledge and information. The objectives of the farmers themselves are to improve their production systems through ecologically sound conservation.

The SLM Approach addressed the following problems: - initial technical problem of soil degradation within vineyards: no off the shelf solutions - slow spread of technical solutions (such as green cover which requires fundamental changes in land users attitudes)

Conditions enabling the implementation of the Technology/ ies applied under the Approach

Conditions hindering the implementation of the Technology/ ies applied under the Approach

- **Social/ cultural/ religious norms and values**: In a community of winegrowers who are used to either clean tillage (traditional method) or chemical weeding, green cover implies a change of values and priorities. This can cause conflicts especially between neighbours and within families Treatment through the SLM Approach: First, rising awareness of advantages and possible disadvantages of green cover by (further) education, literature, meetings / conferences and internet by research institutions and extension services. The second step is conflict resolution on a one-to-one
- **Knowledge about SLM, access to technical support**: The implementation of green cover is strongly dependent on factors on farm or parcel level (available infrastructure / equipment, age of vines, planting system (density and distance of vines, characteristics of supporting elements, poles, wire system...)) Treatment through the SLM Approach: Individual consultation with extension service where specific advice required
- **Other**: Natural environment: Climatic (drought, frost) and pedological (soil depth) factors can intensify water and nutrient competition to the vine, danger of frost and therefore hamper the implementation of green cover. Treatment through the SLM Approach: Information provided by mentioned sources. Examples of possible solutions: Green cover on every second interrow; green cover only in winter; agronomic measures to temporarily eliminate competition of cover vegetation (by cutting / mulching vegetation or r

PARTICIPATION AND ROLES OF STAKEHOLDERS INVOLVED

Stakeholders involved in the Approach and their roles

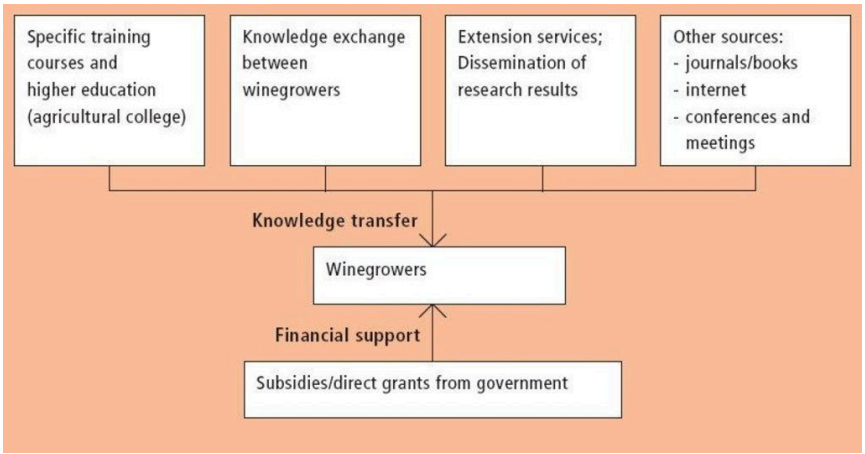
What stakeholders / implementing bodies were involved in the Approach?	Specify stakeholders	Describe roles of stakeholders
local land users/ local communities	land user themselves (their network, exchange of knowledge, implementation) Existing groups of land users	Working land users were mainly men (because the majority of Swiss winegrowers are men) The integration of women is a key element of the approach. Nevertheless, there are moderate differences due to cultural factors: men are mainly in charge of agricultural activities, whereas women work in the household.
local government	Districts, communities, villages	
national government (planners, decision-makers)		

Involvement of local land users/ local communities in the different phases of the Approach

	none	passive	external support	interactive	self-mobilization	
initiation/ motivation					✓	
planning				✓		the basic idea was further enhanced by planning based on available information from various sources
implementation					✓	responsibility for major steps; Responsibility of winegrowers of all steps
monitoring/ evaluation					✓	Mainly: measurements/observations; partly: workshop/seminars, public meetings, reporting; Observation by land user. Some indicators are evaluated by extension services or research institutions.
Research				✓		on-station; Both on-farm and on-station

Flow chart

Enabling environment: Factors facilitating winegrowers to implement green cover.



Decision-making on the selection of SLM Technology

Decisions were taken by

- [x] land users alone (self-initiative)
- [ ] mainly land users, supported by SLM specialists
- [ ] all relevant actors, as part of a participatory approach
- [ ] mainly SLM specialists, following consultation with land users
- [ ] SLM specialists alone
- [ ] politicians/ leaders

Decisions were made based on

- [ ] evaluation of well-documented SLM knowledge (evidence-based decision-making)
- [ ] research findings
- [ ] personal experience and opinions (undocumented)

TECHNICAL SUPPORT, CAPACITY BUILDING, AND KNOWLEDGE MANAGEMENT

The following activities or services have been part of the approach

- [x] Capacity building/ training
- [x] Advisory service
- [ ] Institution strengthening (organizational development)
- [x] Monitoring and evaluation
- [x] Research

Capacity building/ training

Training was provided to the following stakeholders

- [ ] land users
- [ ] field staff/ advisers

Form of training

- [x] on-the-job
- [x] farmer-to-farmer
- [x] demonstration areas
- [x] public meetings
- [x] courses

Subjects covered

There are various possibilities which include green cover as one of several topics: (1) agricultural college (three years, including both practical and theoretical knowledge); (2) further education (full time or short courses) at agricultural universities; (3) attendance at regional, national or international meetings/conferences, organised by research institutions, extension services, or

Advisory service

Advisory service was provided

- [x] on land users' fields
- [ ] at permanent centres

Adoption; Key elements: palette of information sources, informal contacts, discussions, observations of different systems under personal trials.1) Advisory service was carried out through: non-governmental agency, government's existing extension system 2) Advisory service was carried out through: non-governmental agency, government's existing extension system; Extension staff: mainly government employees

Advisory service is very adequate to ensure the continuation of land conservation activities

Monitoring and evaluation

bio-physical aspects were ad hoc monitored by land users, other through observations; indicators: rate of erosion, organic matter content, soil moisture, water potential in vine leaves, compaction, soil structure, soil temperature, biodiversity, chemical analysis of wine, nutrient elements in soil and vines technical aspects were ad hoc monitored by land users, other through observations; indicators: change of attitude towards green cover, knowledge about SWC and awareness of natural environment, change of appearance of man-made landscape socio-cultural aspects were ad hoc monitored by land users, other through observations; indicators: costs, production, quality, manual labour, machine hours etc. Often data are not specifically gathered for green cover but total establishment and annual recurrent costs for different winegrowing systems can give some insight into the economic status of green cover economic / production aspects were ad hoc monitored by land users through observations; indicators: diffusion of green cover (visual impression of the current status, time-series photos, descriptions from past) area treated aspects were ad hoc monitored by 0 through observations; indicators: number of households involved (with a questionnaire, personal estimation, visual impressions), Number of farmers receiving direct payments no. of land users involved aspects were ad hoc monitored by other through observations; indicators: None There were few changes in the Approach as a result of monitoring and evaluation: Few changes to the technology or the approach have resulted directly from formal monitoring and evaluation.

Research

Research treated the following topics

- ☐ sociology
- ☐ economics / marketing
- ☐ ecology
- ☐ technology

Especially ecological and technical aspects are important elements of the research institutions concerning SWC: e.g. management of green cover such as dealing with competition of water and nutrients to the vine or promoting living space for animals (especially insects) beneficial to grape production (e.g. promoting predators of pests as a possibility of biological pest control). But also economic

Research was carried out both on station and on-farm

FINANCING AND EXTERNAL MATERIAL SUPPORT

Annual budget in USD for the SLM component

- ☐ < 2,000
- ☐ 2,000-10,000
- ☐ 10,000-100,000
- ☐ 100,000-1,000,000
- ☐ > 1,000,000

Precise annual budget: n.a.

Approach costs were met by the following donors: government (national): 70.0%; local community / land user(s) (-): 30.0%

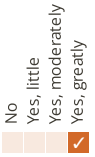
The following services or incentives have been provided to land users

- ☑ Financial/ material support provided to land users
- ☐ Subsidies for specific inputs
- ☐ Credit
- ☐ Other incentives or instruments

Financial/ material support provided to land users

IMPACT ANALYSIS AND CONCLUDING STATEMENTS

Impacts of the Approach



Did the Approach help land users to implement and maintain SLM Technologies?
The approach (with all its elements) has led to greatly improved soil and water management.

Main motivation of land users to implement SLM

- ☑ n.a.

Sustainability of Approach activities

Can the land users sustain what hat been implemented through the Approach (without external support)?

- ☐ no
- ☑ yes
- ☐ uncertain

Within the framework of the existing national policies the approach is sustainable.

CONCLUSIONS AND LESSONS LEARNT

Strengths: land user's view

Strengths: compiler's or other key resource person's view

- Very bottom-up oriented. The interest, the own initiative and the generation of own experience and knowledge is the dominant motor (How to sustain/ enhance this strength: Maintain the enabling environment put in place by the government which is the framework for this approach.)
- Many information sources and ways of receiving information are available and used frequently.

Weaknesses/ disadvantages/ risks: land user's viewhow to overcome

Weaknesses/ disadvantages/ risks: compiler's or other key resource person's viewhow to overcome

- Winegrowing as a whole is highly dependent on financial incentives. Without direct payments, continuation of Swiss winegrowing and therefore green cover would be threatened ??¡§ at least under marginal conditions Continue the incentive policy (though this may conflict with international efforts to reduce farm subsidies worldwide).

REFERENCES

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Full description in the WOCAT database
https://qcat.wocat.net/af/wocat/approaches/view/approaches_2623/

Linked SLM data
Technologies: Green cover in vineyards https://qcat.wocat.net/af/wocat/technologies/view/technologies_1018/
Technologies: Contour small bench terraces with permanent green cover in vineyards
https://qcat.wocat.net/af/wocat/technologies/view/technologies_1011/
Technologies: Green cover in vineyards https://qcat.wocat.net/af/wocat/technologies/view/technologies_1018/
Technologies: Contour small bench terraces with permanent green cover in vineyards
https://qcat.wocat.net/af/wocat/technologies/view/technologies_1011/

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Key references
- Guedel N (2003) Boden- und Wasserkonservierung in Schweizer Rebbergen. Ein Beispiel im Rahmen von WOCAT. Unpublished: Centre for Development and Environment, University of Berne