Picture of terrace in the Loess Plateau

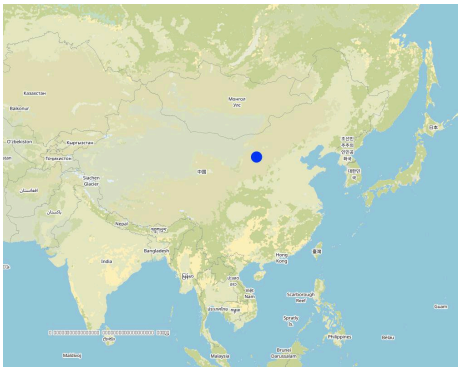
Terrace (China)

DESCRIPTION

Terraces are built on a slope land which as a raised bank made up of earth or stone with vertical or sloping sides and an approximately flat top to control soil erosion and preserve and enhance soil fertility.

Aims / objectives: A terrace has a raised bank made up of earth or stone with vertical or sloping sides and a flat top. It can reduce slope angle and length, wrap runoff, increase infiltration and reduce soil loss. Crops can grow well because water increases in the soil. The ground cover is improved. Terraces can be constructed by manual labor or machine. Firstly, surveying the slope hills and determining width of terraces according to the slope angle and soil texture. Secondly, leveling up the slope and constructing the banks. Thirdly, maintaining. The terraces are implemented together by state, local A terrace has a raised bank of earth or stone with vertical or sloping sides and a approximately flat top. It can reduce slope angle and length, retain runoff, increase infiltration and reduce the soil loss. Crops can grow well because water increases in soils. Meanwhile, ground cover is improved. Terrace can be constructed by manual labor or machine. Firstly, determining the width of the field according to the slope angle and soil texture. Secondly, putting the topsoil aside. Thirdly, leveling up the slope and constructing banks. At last, putting the topsoil to the top of the flat surface.

LOCATION



Location: Shaanxi, Shanxi, Gansu, Henan, Inner Mongolia, China

Geo-reference of selected sites

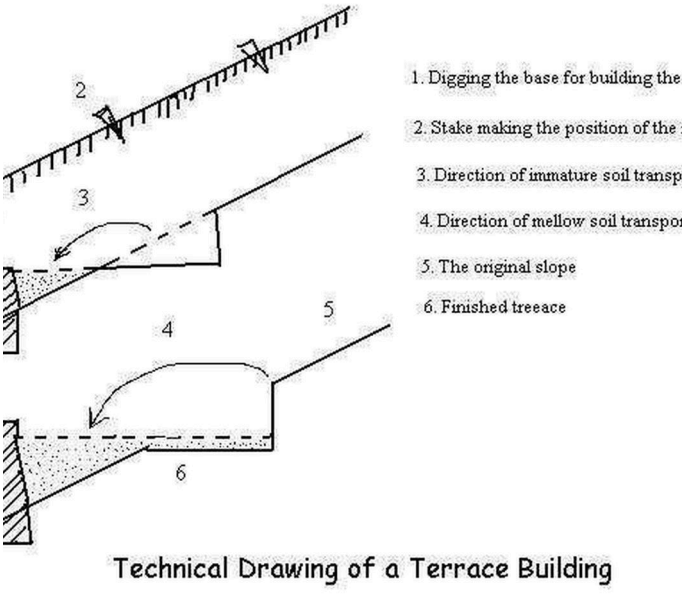
- 109.125, 39.122

Initiation date: 1950

Year of termination: n.a.

Type of Approach

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



Technical drawings of a terrace in the Loess Plateau

Picture of terrace in the Loess Plateau

APPROACH AIMS AND ENABLING ENVIRONMENT

Main aims / objectives of the approach

The Approach focused mainly on SLM with other activities (Increasing crop yield.)

The main objectives of the approach were conserving soil and water on slope land and enhancing soil fertility.

The SLM Approach addressed the following problems: Soil loss and land degradation, lack of fund and technology.

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

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

- **Availability/ access to financial resources and services**: No enough money Treatment through the SLM Approach: The national government partly fund, individual partly invests, local government partly invests.
- **Legal framework (land tenure, land and water use rights)**: The existing land ownership, land use rights / water rights hindered a little the approach implementation The ownership of the land resources belongs to state and communities, land users can only lease the land for a period of time, they worry about their land would be transferred to others.
- **Knowledge about SLM, access to technical support**: Poor knowledge for how to reduce the soil loss Treatment through the SLM Approach: Ehancing SWC specialists guidance
- **Other**: Peasant worry about that they can not own the use right. Treatment through the SLM Approach: The national government advocates whose who invest labors who get the benefits.

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	Working land users were mainly men (Men are the main force for field work.) Existing groups of land users Experienced peasant may be involved in introducing the local situations.	Men know much more technical knowledge and skills than women. If a terrace is constructed by machine, men and women are not different. If a terrace is constructed by manual labor, men can do more work.
SLM specialists/ agricultural advisers		
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	✓					rapid/participatory rural appraisal; The approach is a traditional way to harvest water and wrap soils, SWC applied land users easy to understand and accept it if some subsidy being obtained.
planning		✓				interviews/questionnaires; Being involved in the planning.
implementation					✓	responsibility for minor steps; Being involved in the planning.
monitoring/ evaluation		✓				reporting; No participating.
Research	✓					

Flow chart

Decision-making on the selection of SLM Technology

Decisions were taken by
- 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
- ✓ Capacity building/ training
- ✓ Advisory service
- ✓ Institution strengthening (organizational development)
- ✓ Monitoring and evaluation
- ✓ Research

Capacity building/ training

Training was provided to the following stakeholders
- ✓ land users
- field staff/ advisers
- ✓ extensionists/trainers, politicians/decision makers

Form of training
- on-the-job
- ✓ farmer-to-farmer
- ✓ demonstration areas
- public meetings
- ✓ courses

Subjects covered

Teaching them how to design and build terraces on a slope land etc.

Advisory service

Advisory service was provided
- ✓ on land users' fields
- at permanent centres

Local government and SWC division.; Key elements: Demonstration, Visiting, Visiting; 1) Advisory service was carried out through: government's existing extension system 2) Advisory service was carried out through: government's existing extension system; Extension staff: mainly government employees 3) Target groups for extension: land users; Activities: Explain and demonstrate

Advisory service is quite adequate to ensure the continuation of land conservation activities; At each government level, there is a SWC division which is in charge of SWC activities including extension.

Institution strengthening

Institutions have been strengthened / established
- no
- yes, a little
- ✓ yes, moderately
- yes, greatly

at the following level
- ✓ local
- regional
- national

Describe institution, roles and responsibilities, members, etc.

Type of support
- ✓ financial
- capacity building/ training
- equipment

Further details

Monitoring and evaluation

bio-physical aspects were regular monitored by 0 through measurements; indicators: None technical aspects were regular monitored by 0 through measurements; indicators: None socio-cultural aspects were ad hoc monitored by 0 through observations; indicators: None economic / production aspects were regular monitored by 0 through measurements; indicators: None area treated aspects were regular monitored by 0 through measurements; indicators: None no. of land users involved aspects were ad hoc monitored by 0 through measurements; indicators: None management of Approach aspects were ad hoc monitored by 0 through observations; indicators: None There were few changes in the Approach as a result of monitoring and evaluation: None

Research

Research treated the following topics

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

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 - fund): 100.0%

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

	partly financed	fully financed
equipment: machinery	☐	☑
equipment: machinery: tools hand tools	☐	☑
agricultural: seeds	☐	☑
agricultural: seeds: fertilizers	☐	☑
seedlings and biocides	☐	☑
community infrastructure	☐	☑

Labour by land users was

- ☐ voluntary
- ☐ food-for-work
- ☑ paid in cash
- ☐ rewarded with other material support

Credit

Conditions: Interest rate charged: 0.5% Interest was lower than market rate.
Credit providers: n.a.
Credit receivers: n.a.

IMPACT ANALYSIS AND CONCLUDING STATEMENTS

Impacts of the Approach

	No	Yes, little	Yes, moderately	Yes, greatly
Did the Approach help land users to implement and maintain SLM Technologies? Subsoiling and applying more manure and compost.	☐	☐	☐	☑
Did the Approach improve issues of land tenure/ user rights that hindered implementation of SLM Technologies? Persuading them to accept The problem is likely to be overcome in the near future. The relationship between land ownership and use rights can be properly dealt with by government and managers.	☐	☐	☑	☐
Did other land users / projects adopt the Approach? According to the local situation, pits and check dam etc. also adopted in the approach.	☐	☐	☑	☐

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)?

- [x] no
- [ ] yes
- [ ] uncertain

CONCLUSIONS AND LESSONS LEARNT

Strengths: land user's view
- increase in production
- Easier to till

Strengths: compiler's or other key resource person's view
- Reduction of the slope angle (How to sustain/ enhance this strength: Raising terrace bank.)
- reduction of the slope length (How to sustain/ enhance this strength: Protecting terrace banks by planting trees or others.)
- Harvest of the runoff and increase in infiltration (How to sustain/ enhance this strength: Protecting the banks)
- increase in soil fertility and organic matter (How to sustain/ enhance this strength: Applying manure and fertilizer)
- improvement of ground cover (How to sustain/ enhance this strength: no till with mulching.)

Weaknesses/ disadvantages/ risks: land user's viewhow to overcome
- Cost much.

Weaknesses/ disadvantages/ risks: compiler's or other key resource person's viewhow to overcome
- Decrease in production in the first1-2 year(s) Fertilizering plenty of manure.
- The ridge of the terrace is possible to be destroyed by storms and rats Repairing and maintaining in time.

REFERENCES

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Full description in the WOCAT database
https://qcat.wocat.net/af/wocat/approaches/view/approaches_2394/

Linked SLM data
n.a.

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Project
- n.a.

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