

SOIL CONSERVATION: CONNECTING THE PIECES – ROGER CROFTS

Abstract

There is no single solution to soil conservation. A six-fold package will be outlined in the paper as follows. First, perceptions of the importance of soil have to be changed to achieve common recognition that soil is a critical element in human survival, essential natural capital, part of healthy ecosystem function and essential for biodiversity conservation. Second, methods for placing a monetary value on soil are needed in order for it to be included in economic accounting systems. Third, knowledge needs to be improved, including soil sensitivity to erosion, and practical soil conservation measures. Fourth, means of knowledge transfer should exist from laboratory to field. Fifth, incentives to stimulate soil stewardship are required. Sixth, a legal framework should encapsulate the package of measures.

Introduction

No single solution to soil conservation, rather a package delivered in integrated manner nationally and globally

1. Changing perceptions about soil

Common perceptions of soils are that they are infinite and self replenishing, that erosion does not occur, that additives will maintain productivity. Identify these eg in Scotland as attitude of ministry and its agricultural college advisers in early 1990s and more generally held view as soil conservation does not figure in perceptions of environment and need for better stewardship.

Therefore need to explain importance of soil for

- food and fibre production
- carbon storage
- ecosystem function
- biodiversity conservation
- societal dependence on it and its careful stewardship

Through education programmes in schools and through popular media.

2. valuing soil as a societal resource

many natural resources are not recognised as economic and social assets and are not accounted for in evaluation mechanisms. Action is needed to

- measure the value and importance of soil as natural capital and as societal goods and services
- ensure that measures are feed into assessments of resource base of countries in national accounts alongside economic and social factors

3. developing knowledge about soil conservation

Great deal of knowledge about soil erosion and its causes and also about measures for conserving soil. But more is needed particularly in relation to

- measuring soil sensitivity to erosion
- Rates and causes of soil erosion
- Soil treatment in terms of fertilisers and other artificial inputs
- Soil cultivation in terms of ploughing regimes, fallows etc

4. transferring knowledge to soil managers

technical knowledge needs to be transferred to those undertaking use and management of soil and those who own it, especially farmers. Package should comprise:

- methods of outreach and extension in rural areas so that technical knowledge is accessible to users, is locally based and advisers are credible to users
- translation of technical material into understandable advice using text messaging, web, tractor cab cards etc
- identification of demonstration and monitor farms to show good practice achieved by farmers and arrange for visits from other farmers

5. stimulating soil stewardship

package of measures embracing good practice codes, 'sticks and carrots' as follows:

- develop and implement basic soil stewardship code
- all soil managers to implement code and penalty for not doing so is withdrawal of any incentives
- provide incentives for combating erosion and developing conservation measures. Nb need to watch GATT subsidy and level playing field issues
- longer term plan for soil conservation in geographical units that make sense locally with financial, technical and hardware support provided. Stakeholders must play leading role in process

6. providing a legal framework

A legal framework at national level should be developed as part of the incentive package and also to encapsulate the range of elements required in a soil care package as follows:

- defining the resource in terms of critical natural and social capital
- defining soil stewardship and attaching as a schedule a code of practice
- providing the statutory basis for soil protection areas where special measures are necessary to combat erosion
- allow soil preservation sites to be established where soils should be preserved for posterity and for research and education, eg palaeosoils, ecological history sites
- allow for research, development and demonstration projects
- allow for incentives for exemplary management
- allow for specific authority/agency to be established to foster soil conservation

Conclusion

Strategy for combating soil erosion and stimulating the ethic and practice of soil conservation should encompass all of the 6 elements identified. They should be developed with full stakeholders input and delivered in an integrated manner.

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